





FINAL REPORT – VOLUME II DETAILED SERVICE RECOMMENDATIONS

April 2017









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OVERVIEW

This document is the second of two volumes that comprise the Final Report of the Comprehensive Service Analysis (CSA) of CT*transit*'s Hartford Division. The aim of the CSA study was to inventory the transit needs and transit potential of the Capitol Region, and to assess the effectiveness and efficiency of existing transit services. Volume I provides an overview of the study process and presents a series of service recommendations designed to accomplish the following:

- Improve transit service for the vast majority of current and prospective transit riders in the Capitol Region
- Complement recent and planned transit investments including CTfastrak and the CTrail
 Hartford Line
- Ensure that CT*transit* operates as efficiently as possible by addressing under-performing routes and service redundancy

Volume II offers a more detailed look at how each service recommendation was developed. Each chapter in this document makes the case for a specific set of recommendations for each route by first presenting an overview of the existing service, including strengths and weaknesses, and then concluding with service recommendations that are aimed at addressing the issues and opportunities identified for each route.

The recommended service scenario features five service categories (not counting commuter express service):

- **Radial Service:** Local routes operating to and from downtown Hartford.
- Crosstown Service: Local routes linking together key corridors and key regional destinations, without forcing passengers to travel through downtown Hartford.
- Connector Routes: Local routes providing "first mile / last mile" connections to and from regional transit hubs.
- Regional Loop Service: Local route linking together key destinations on the periphery of the service area and forming a continuous loop around the region.
- CTfastrak Service: Bus Rapid Transit service operating exclusively or primarily along a dedicated guideway, HOV lane, or limited-access highway.

Figure 1 shows a system map of the final recommended service scenario, followed by additional sub-area and corridor maps, and a reference table showing how each proposed route corresponds geographically to the current route network.

A complete set of route profiles is included in the appendix to this volume. The route profiles represent an initial diagnostic assessment of each route, and key elements of each profile also form the nucleus of each service recommendation chapter.









FIGURE 1 | PROPOSED SYSTEM MAP

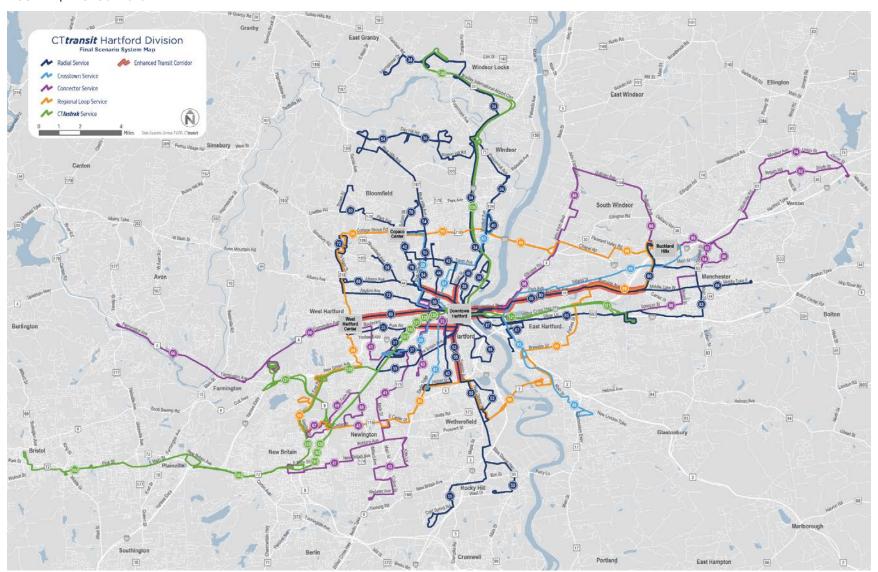










FIGURE 2 | PROPOSED CORE AREA SERVICE MAP

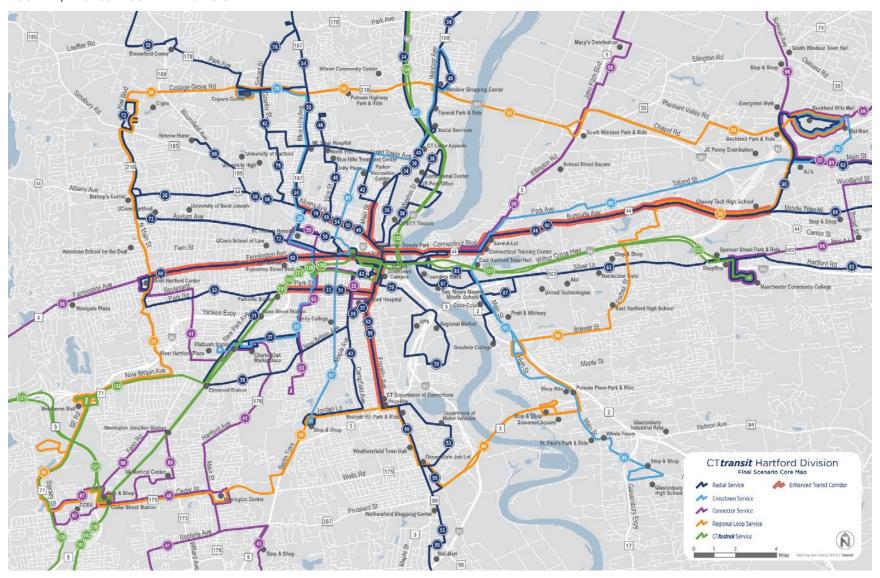










FIGURE 3 | ALBANY AVENUE ENHANCED TRANSIT CORRIDOR MAP

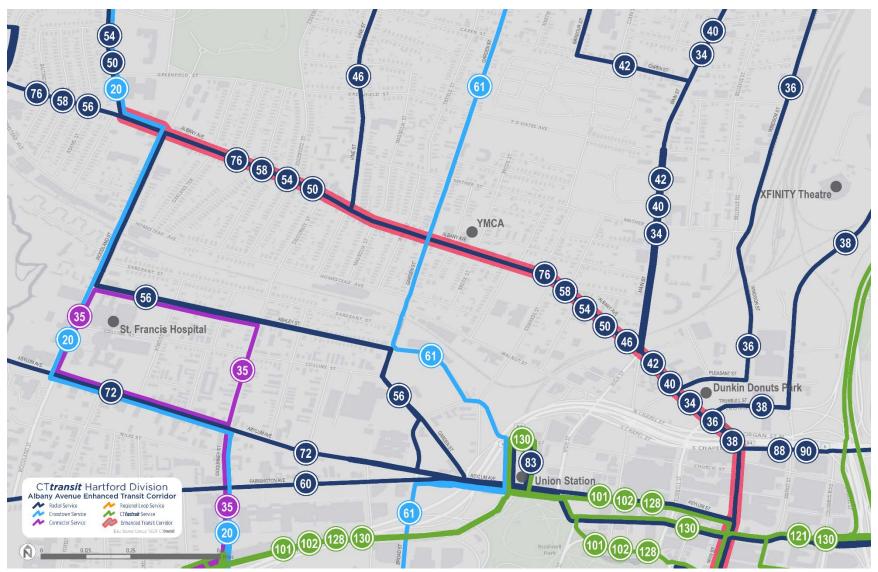










FIGURE 4 | BURNSIDE AVENUE ENHANCED TRANSIT CORRIDOR MAP

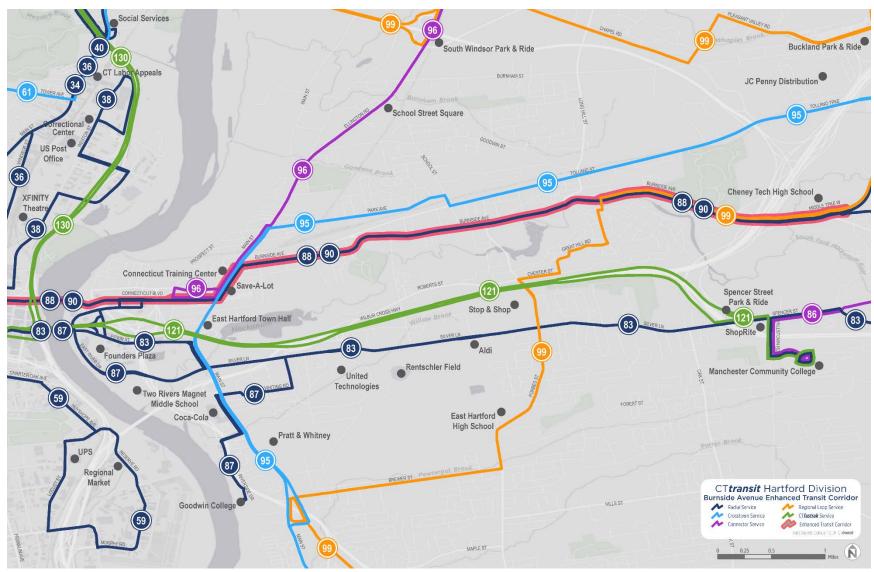










FIGURE 5 | FARMINGTON AVENUE ENHANCED TRANSIT CORRIDOR MAP

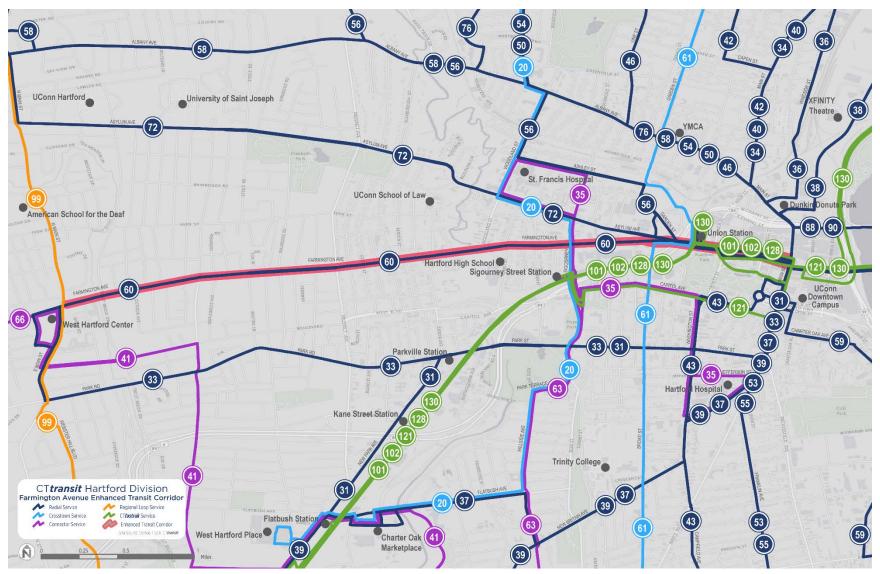










FIGURE 6 | FRANKLIN AVENUE ENHANCED TRANSIT CORRIDOR MAP

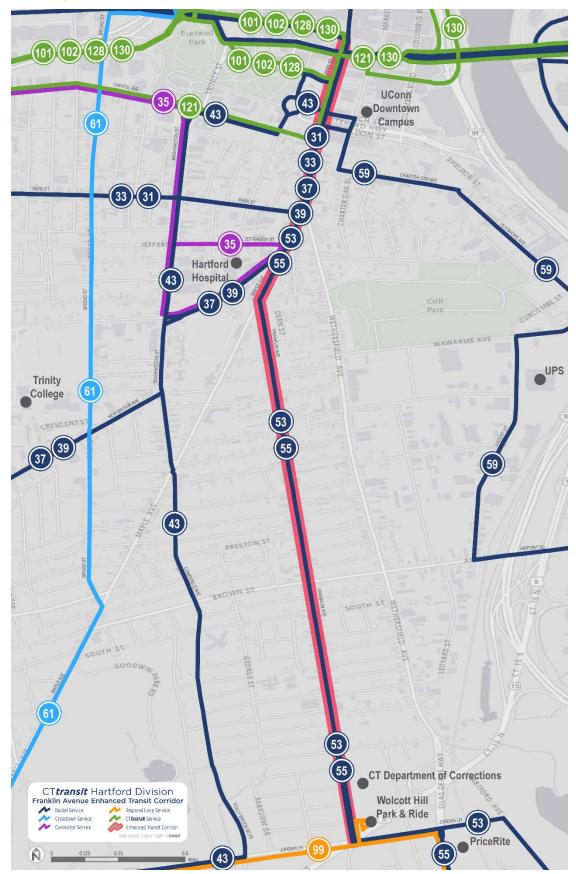








FIGURE 7 | MAIN STREET ENHANCED TRANSIT CORRIDOR MAP

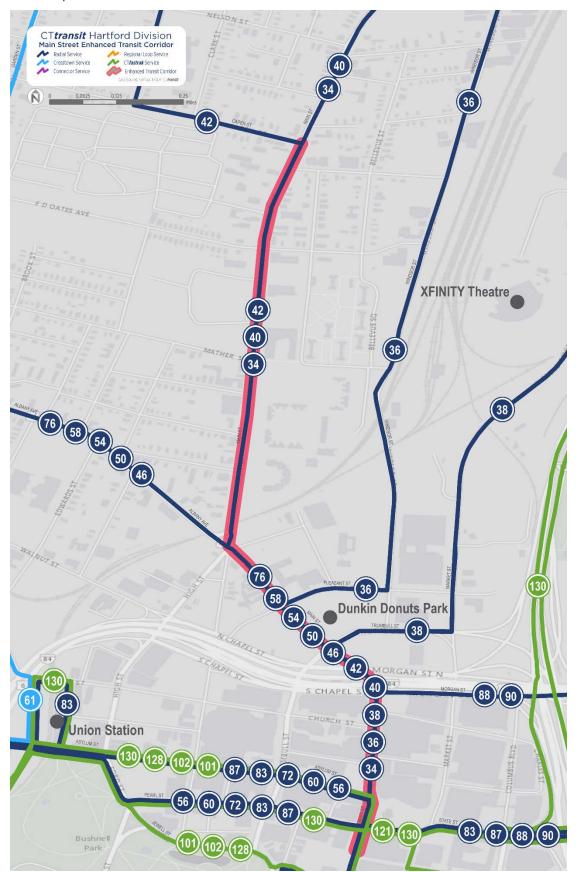










FIGURE 8 | PARK STREET ENHANCED TRANSIT CORRIDOR MAP

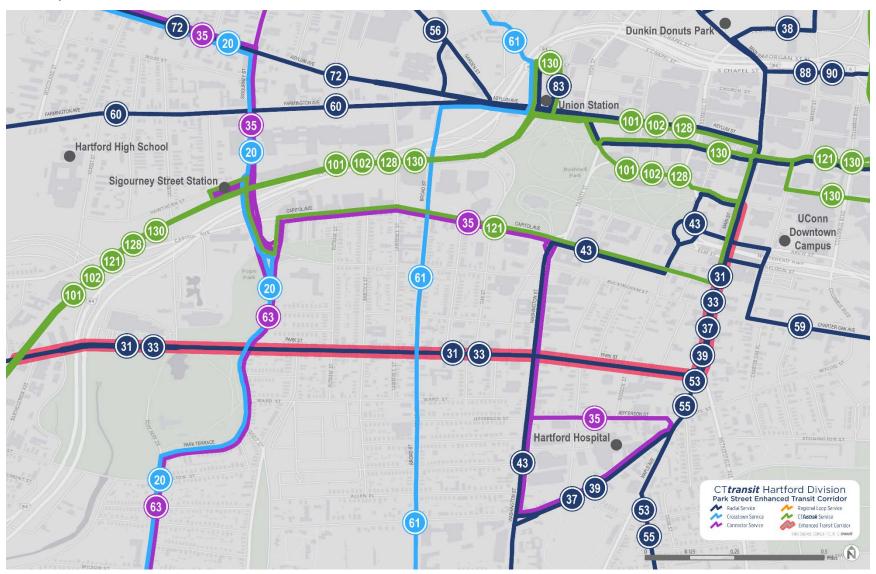










FIGURE 9 | PROPOSED BUCKLAND HILLS AREA SERVICE MAP

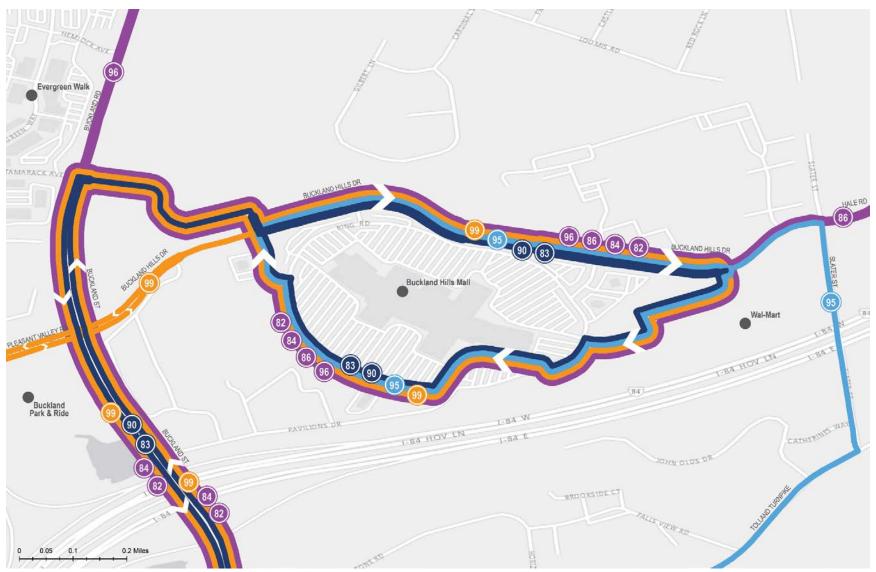










FIGURE 10 | PROPOSED COPACO AREA SERVICE MAP

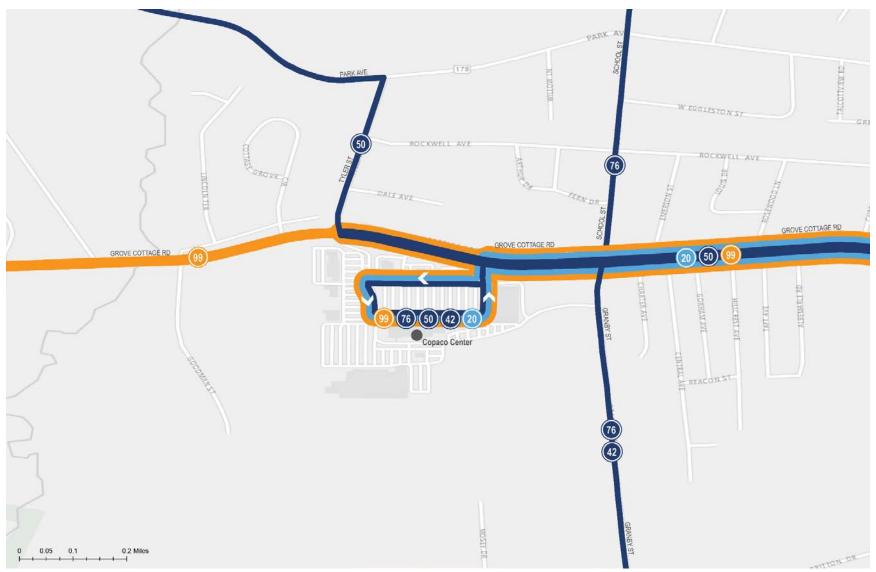










FIGURE 11 | PROPOSED WEST HARTFORD AREA SERVICE MAP

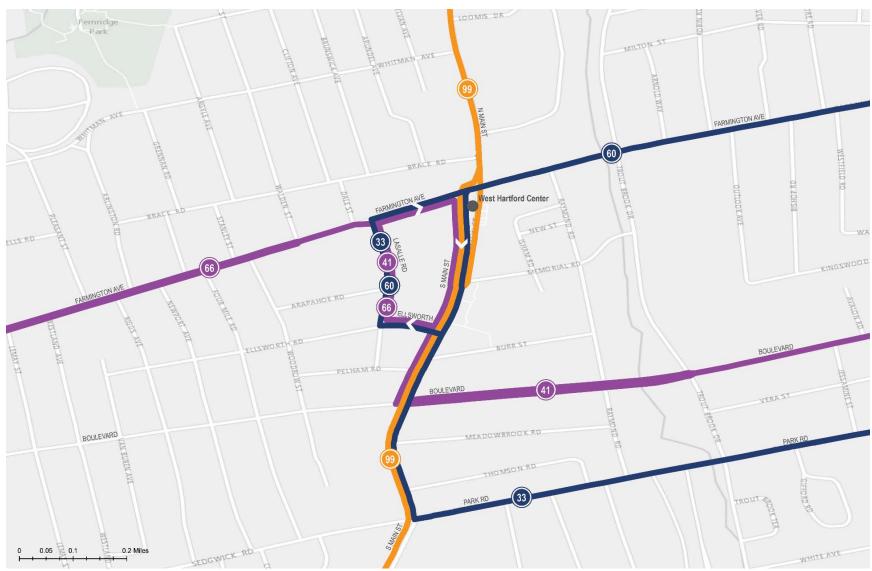












FIGURE 12 | PROPOSED ROUTES AND EXISTING DONOR ROUTES

ROUTE	DONOR ROUTES
20	37, 39, 50, 52, 54, 63, 76
31	31, 33
33	31, 33
34	30, 32,34,36
35	161
36	32, 34, 36
37	37, 39, 43, 63
38	38
39	37, 39, 43
40	32, 34, 36, 40, 42
41	41, 69, 153
42	40, 42, 44, 74, 92
43	43
45	41, 45, 47, 144
46	44, 46, 56, 58
50	44, 50,52, 54, 56, 58
53	47, 53, 55
54	44, 50, 52, 54, 56, 58
55	47, 53, 55, 91
56	56, 58, 74, 76
58	44, 56, 58
59	59
60	60, 62, 64, 66

ROUTE	DONOR ROUTES
61	40, 42
63	63
66	60, 62, 64, 66, 72
67	140
69	69, 140
72	72
76	44, 74, 76
82	82, 84
83	83
84	82, 84
86	83, 86, 88
87	83, 87
88	86, 88
90	82, 84, 86, 87, 88, 94, 96
95	94, 95, 96
96	92, 94, 96
99	43, 60, 62, 64, 66, 72, 91, 92, 144, 153
101	31, 33, 41, 69, 101
102	102
121	85, 121
128	37, 39, 128
130	30, 101

















1 BRADLEY FLYER

30X | Bradley International Airport via I-91

30N | Bradley International Airport via North Main Street

SERVICE OVERVIEW

Route 30 Bradley Flyer connects Union Station, downtown Hartford, and Bradley International Airport. The route includes two services: Route 30X and 30N. Route 30X trips travel express from downtown via the Convention Center and Interstate 91 to Kennedy Road. Route 30X then makes local stops on Kennedy Road and the Ella Grasso Turnpike before terminating at the airport; Route 30N operates locally along North Main Street to I-91 to Kennedy Road and the airport. Most trips on both services also stop at the Poquonock Park-and-Ride Lot off I-91 in Windsor.

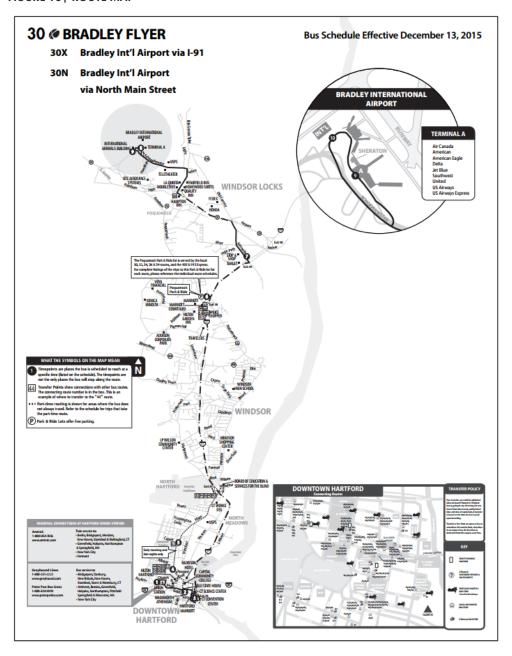








FIGURE 13 | ROUTE MAP



Service Schedule

Bradley Flyer service operates seven days a week, with outbound trips beginning at 4:05 AM daily and inbound trips departing until midnight. Buses generally operate every 60 minutes, with less frequent service later in the evening. Almost all trips operate as Route 30X. On weekdays and Saturdays, five trips operate as Route 30N including the first two outbound trips, the first early morning inbound trip, and the last two inbound trips. On Sundays, there are 10 Route 30N trips that provide local service; these trips are scheduled in the early morning and late night.











FIGURE 14 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:05 AM – 12:49 AM	60/60 (irregular)	20/20
Saturday	4:05 AM - 12:35 AM	60	14/14
Sunday	4:05 AM – 12:35 AM	60-120	14/14

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Together, Route 30X and 30N carry 703 daily passengers, or about 17.6 passengers per trip. This average is consistent with other local routes in the CT*transit* Hartford Division. On Saturday, the combined routes carry 371 passengers, or about 13.3 passengers per trip, which is somewhat below the division average. Sunday's ridership of 287 daily passengers, or 11 passengers per trip, falls farther below the division average.

FIGURE 15 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 30	ROUTE 30	DIVISION AVG
Weekday	703	17.6	17.7
Saturday	371	13.3	16.3
Sunday	287	11.0	17.6

Source: CTtransit performance data

Ridership by Trip

Demand is strongest heading outbound to the Airport during the morning peak period and is fairly strong in both directions during the afternoon peak periods (see Figure 16 and Figure 17). Ridership is generally above 10 passengers per trip, with the exception of some early AM and late night trips after 10:00 PM.

Weekend ridership activity is shown in Appendix B.











FIGURE 16 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

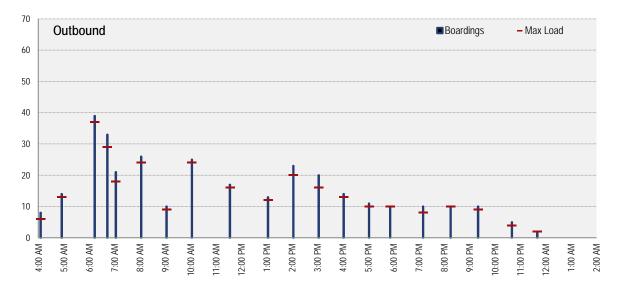
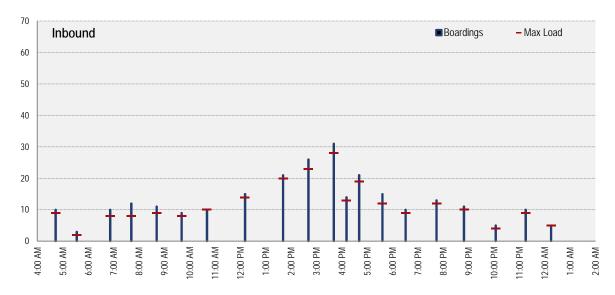


FIGURE 17 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stop on Route 30X/30N is the downtown Hartford stop at Central Row and the Old State House, where the majority of inbound passengers disembark. Outside of the downtown, there are only two stops, the Bradley Airport stop at Terminal A and the Kennedy Road/Stop & Shop stop, that generate more than 50 boardings or alightings per day (see Figure 18).

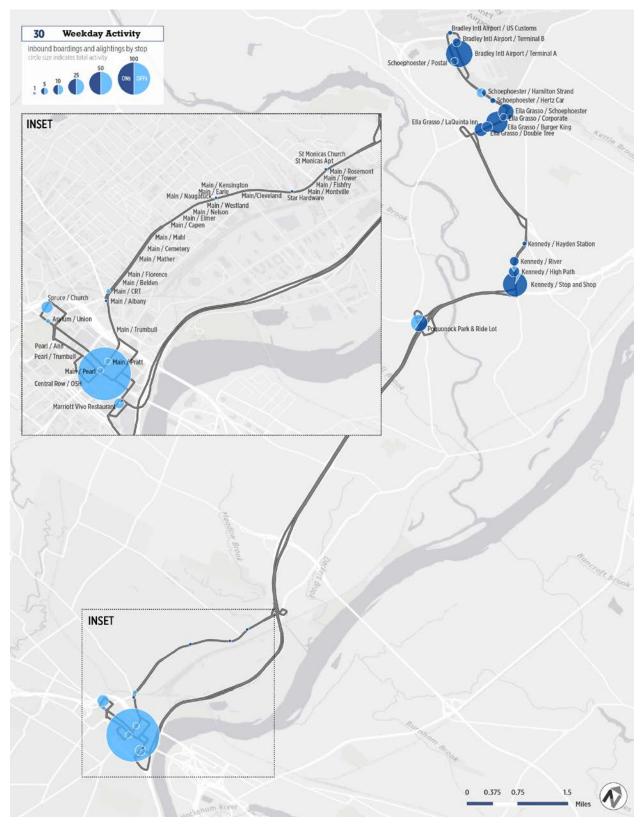








FIGURE 18 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 30 performs somewhat below the Hartford Division average for all CT*transit* routes in terms of average weekday passengers per revenue vehicle hour (see Figure 19). For all other measures, including weekend passengers per revenue vehicle hour and passengers per revenue vehicle mile, Route 30 performs well below the division average.

In terms of overall on-time performance, Route 30 is consistent with the average for the Hartford Division (Figure 20).

FIGURE 19 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SATU	JRDAY	SUNE	DAY
	ROUTE 30	DIVISION AVG	ROUTE 30	DIVISION AVG	ROUTE 30	DIVISION AVG
Operating Cost per Passenger	\$5.05	\$4.84	\$7.61	\$6.37	\$8.22	\$6.66
Passengers per Revenue Vehicle Hour	25.3	28.9	16.8	27.0	15.6	29.7
Passengers per Revenue Vehicle Mile	1.1	2.6	0.8	2.4	0.7	2.9

Source: CTtransit performance data

FIGURE 20 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 30	DIVISION AVG
Early	0.0%	0.2%
Late	20.4%	18.9%
On-Time	79.6%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 30N/30X serves Bradley Airport, which is located about 15 miles north of downtown Hartford. Bradley Airport is the second largest airport in New England, with approximately 350 daily flights; this compares with Logan Airport in Boston, which has approximately 925 daily flights¹.

Route 30X operates almost entirely on I-91, while early morning and late evening trips are operated locally as Route 30N via Main and North Main Streets to I-91 in Windsor. The route was originally funded as a jobs access route and was designed to ensure access to employment at Bradley Airport. It also serves visitors to the area headed downtown for business or conferences. However, it has limited appeal and a limited capture area for local residents heading to Bradley Airport for their own travel. Numerous

¹ Massport Logan Airport website; Bradley International Airport website









stakeholders interviewed as part of this study expressed an interest in seeing this route modified to better serve local residents going to and from the Airport.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 30 and Route 34:

Route 130

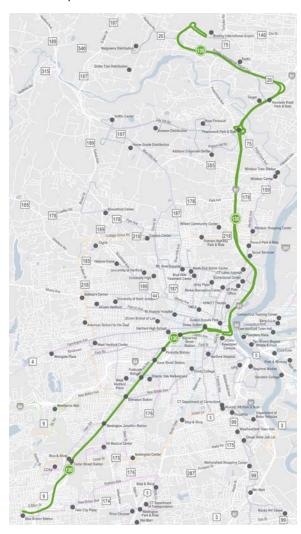
Service Design

The proposed Route 130 would be a CTfastrak branded service operating between downtown New Britain and Bradley International Airport in Windsor Locks. From downtown New Britain, the route would use the CTfastrak guideway, serving all stations, and then continue through downtown Hartford, and north on I-91 and CT-20 to Bradley Airport (see Figure 21). Buses traveling between Union Station and I-91 could operate eastbound on Pearl Street, Central Row, and Bob Steel Street: and westbound on State Street. Central Row, and Asylum Street. However, the exact downtown alignment for this and every other proposed route must be field-tested by CTtransit safety and operations staff to ensure suitability for bus operations.

The proposed Route 130 would offer fast airport service for more Hartford-area residents, while continuing to serve passengers traveling between the airport and downtown Hartford. The route would also serve the Poquonock Park-and-Ride Lot to facilitate connections to local service in the Day Hill Road corridor.

While parts of Route 130 serve highly transitsupportive environments with high population and employment density and good pedestrian infrastructure (i.e. downtown New Britain and Hartford, and along the CT**fastrak** guideway), other segments operate in less supportive environments (see Figure 22). However, this is a unique route tailored to provide fast, frequent service to Bradley Airport for both employees and travelers from throughout the region.

FIGURE 21 | ROUTE 130 ALIGNMENT



To reclassify the route as a CTfastrak service, local segments along North Main Street (30N), Kennedy Road, and Ella Grasso Turnpike would be served by Route 34. Riders on Route 130 could make connections to the Day Hill Road area and other Windsor locations via Route 36 at the Poquonock Parkand-Ride Lot.

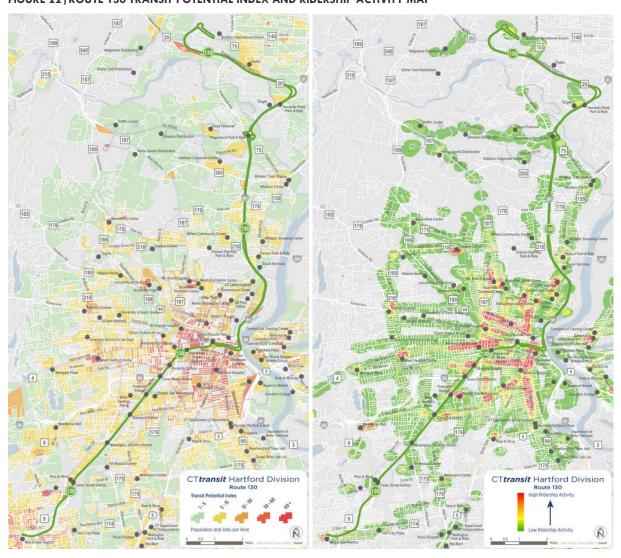








In addition to rebranding this as a CT fastrak route, Bradley flyer branding and signage should be installed at CTfastrak stations, at Union Station, other downtown Hartford locations and at the Airport. FIGURE 22 | ROUTE 130 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 130 would operate between New Britain and Bradley Airport. Trips would be scheduled every 60 minutes to provide convenient and predictable airport access. Some departures times may need to be adjusted slightly to facilitate connections with future CTrail service at Union Station in Hartford, but delaying departures by more than ten minutes is not recommended as this would inconvenience non-rail passengers and detract from the predictability of the proposed service.

Additional parking needs that could be generated by instituting the Bradley Flyer as a CTfastrak service is a point of concern given the limited parking availability along the CTfastrak guideway. This issue is addressed in Chapter 3.2, Airport Transit & Related Parking Concerns.









FIGURE 23 | PROPOSED ROUTE 130 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	60
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	60
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	To Be Determined	
Sunday	To Be Determined	

KEY DESTINATIONS
Downtown New Britain
Flatbush Station
Union Station
Downtown Hartford
CT Convention Center
Poquonock Park-and-Ride Lot
 Bradley International Airport

Route 34

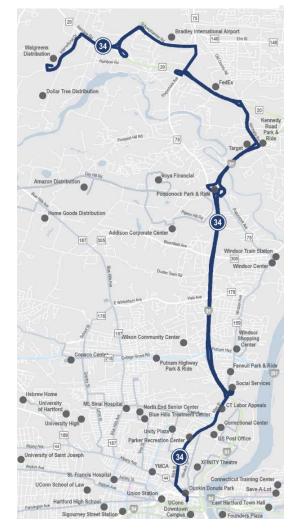
Service Design

The proposed Route 34 would operate as a radial route between downtown Hartford and International Drive in Windsor via North Main Street, I-91, Kennedy Road, and Bradley Airport (see Figure 24).

The route would offer local connections between downtown, the North End, and employment areas along Kennedy Road, Ella Grasso Turnpike, and Rainbow Road in Windsor and Windsor Locks, as well as at Bradley Airport. By using Route 34 to serve these local destinations in the Airport area, the Route 130/Bradley Flyer can become a faster, limited stop, "airport-focused" service.

By using I-91 for a portion of the route (instead of traveling through Windsor Center), Route 34 would provide faster service to the areas near the Airport with a high concentration of jobs (see Figure 25), and an extended service span would help support second shift and weekend workers in this area (see Figure 26). Figure 26). The route would also stop at the Poquonock Parkand-Ride Lot, providing connections to the Day Hill Road area. Service would still be available through Windsor Center on Routes 36.

FIGURE 24 | ROUTE 34 ALIGNMENT









CTtransit Hartford Division

FIGURE 25 | ROUTE 34 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP

Proposed Interlining

Route 34 is proposed as a stand-alone route without any interline partners.

Service Characteristics

Route 34 would operate at 60 minute frequency all day, offering additional local connections from downtown Hartford and the North End to the Airport and other employment activities in that area. Service span would be extended and would include weekends to better serve shift workers at the Airport, as well as along Kennedy Road, Rainbow Road, and International Drive.









FIGURE 26 | PROPOSED ROUTE 34 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	60
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	60
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	To Be Determined	
Sunday	To Be Determined	

KEY DESTINATIONS
Downtown Hartford
Poquonock Park-and-Ride Lot
■ FedEx, Kennedy Road
 Bradley Airport
 Dollar Tree & Walgreens distribution centers











2 PARK STREET

- 31 | West Hartford Place
- 31A | West Hartford Place via Kane Street
- 31B | West Hartford Place—Charter Oak Marketplace
- 33 | South Quaker Lane
- 33W | Westfarms

SERVICE OVERVIEW

Routes 31 and 33 provide radial service between downtown Hartford and key retail destinations in West Hartford. From downtown, both routes operate along Main Street and Park Street to New Park Avenue. Route 31 then turns southwest along New Park to West Hartford Place. Some trips also serve Kane Street, while others continue past West Harford Place to Charter Oak Marketplace. Route 33 continues along Park Street and terminates either at South Quaker Lane or at Westfarms Mall, depending on the variant.

Route 31 and Route 33 both serve the Parkville CT*fastrak* station. Route 31 also serves the Kane Street and Flatbush Stations, with occasional service to Elmwood Station.











FIGURE 27 | ROUTE 31 MAP

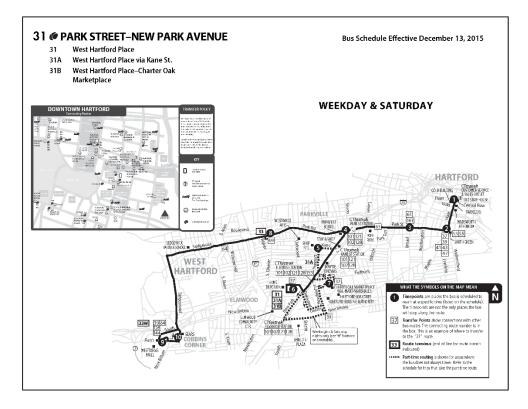
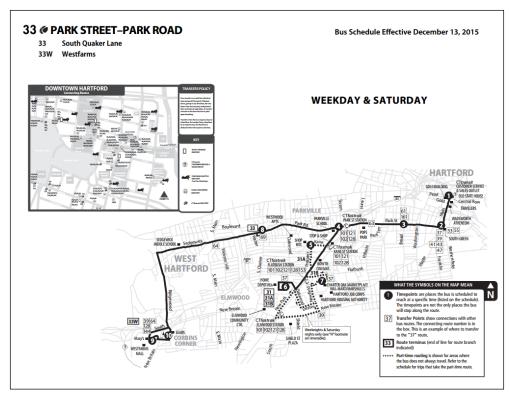


FIGURE 28 | ROUTE 33 MAP













Service Schedule

Route 31 and 33 operate seven days a week. There are 81 outbound and 84 inbound trips per weekday, operating every 10 minutes on the common segment from approximately 6:00 AM to 5:00 PM. After 5:00, service frequency gradually declines to every 15, 20, 30, and ultimately 60 minutes.

On Saturdays, service operates every 15 minutes until 6:15 and then gradually declines after that. Most Sunday trips operate at 70-minute intervals.

FIGURE 29 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:31 AM – 1:04 AM	10/20	81/84
Saturday	4:46 AM – 12:45 AM	15	51/55
Sunday	4:45 AM – 12:45 AM	70	16/16

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

CT*transit* tracks ridership for Route 31 and Route 33 together, so the following discussion of ridership and productivity treats the two routes as a single service. Route 31/33 carries 4,766 daily passengers or 29.1 passengers per trip on an average weekday, which is nearly 65% higher than the Hartford Division average of 17.7 weekday passengers per trip.

Saturday and Sunday ridership per trip are also high relative to the division average (see Figure 30). This is a reflection of the retail destinations served by both Route 31 and 33, which are popular weekend destinations.

FIGURE 30 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY			
	ROUTE 31/33	ROUTE 31/33	DIVISION AVG	
Weekday	4,766	29.1	17.7	
Saturday	3,051	29.3	16.3	
Sunday	715	23.8	17.6	

Source: CTtransit performance data

Ridership by Trip

Route 31/33 carries an average of 29.1 passengers per trip on weekdays. This is among the highest passenger per trip figure in the Hartford division, and is particularly impressive given the very high service frequency of Route 31/33 for much of the day. Nearly every trip between 7:00 AM and 11:00 PM carries at least 20 passengers (see Figure 31 and Figure 32). However, maximum loads never exceed 40 passengers, indicating a high degree of passenger turn-over along the route, particularly between Park and Hazel Street and downtown.









Passengers per trip and maximum loads do not significantly change after service frequency is reduced in the evening. This suggests that the level of service being provided at all times of the day is in line with the demand for service. Weekend ridership activity is shown in Appendix B.

FIGURE 31 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

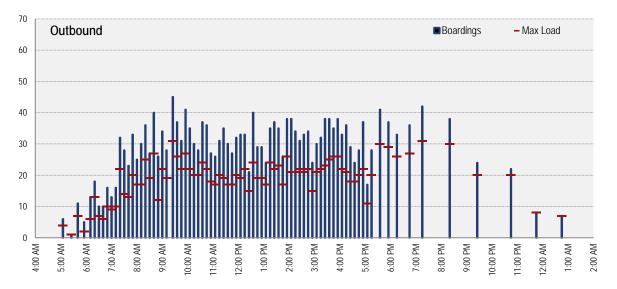
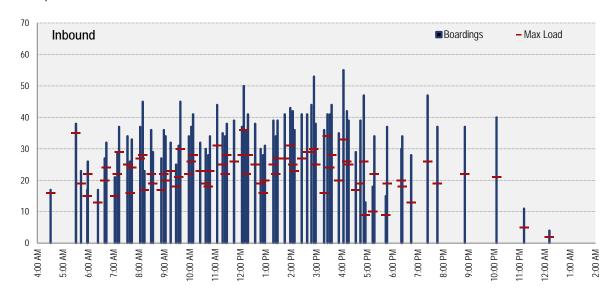


FIGURE 32 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stop on Route 31/33 is at Main Street and Atheneum Square in downtown Hartford. Outside of the downtown, there are several stops that generate 50 or more boardings or alightings per day (see Figure 33 and Figure 34). However, with the exception of Westfarms Mall, ridership activity along the 33W branch of Route 33 is very light.









FIGURE 33 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

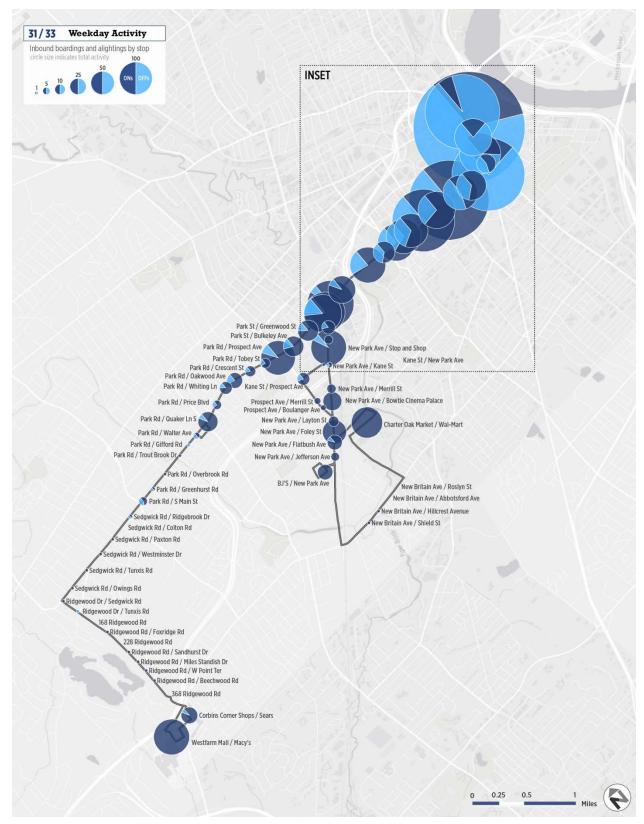


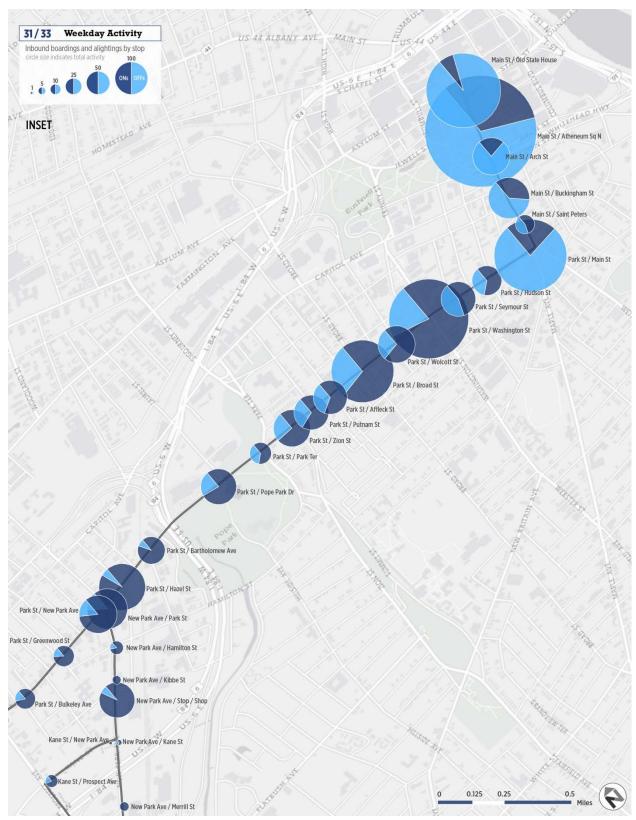








FIGURE 34 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET 2)











Productivity and On-Time Performance

Route 31/33 has the lowest weekday operating cost per passenger and the highest weekday ridership per revenue hour and revenue mile among all CT*transit* Hartford Division routes (see Figure 35). The route performs significantly better than the division average for all three metrics on weekends as well (see Figure 36).

FIGURE 35 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 31/33	SYSTEM AVG	ROUTE 31/33	SYSTEM AVG	ROUTE 31/33	SYSTEM AVG
Operating Cost per Passenger	\$2.45	\$4.84	\$2.41	\$6.30	\$2.92	\$6.66
Passengers per Revenue Vehicle Hour	52.3	28.9	53.1	27.0	43.9	29.7
Passengers per Revenue Vehicle Mile	6.0	2.6	5.4	2.4	4.6	2.9

Source: CTtransit performance data

Route 31/33 has a 78.8% on-time arrival rate, which is slightly lower than the Hartford Division average. More than 20% of Route 31/33 trips finish more than 5 minutes late (see Figure 36). The route's high passenger turn-over is likely a contributing factor to its below-average on-time performance.

FIGURE 36 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 31/33	DIVISION AVG
Early	0.1%	0.2%
Late	21.1%	18.9%
On-Time	78.8%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 31/33 is the most productive route operated by CTtransit's Hartford Division. Service in the common segment of the route between downtown and Park Street at New Park Avenue includes at least 12 stops with 50 or more boardings per day. The route's heavy ridership can be attributed to a number of factors including high service frequency, supportive land-use with a mix of neighborhood retail and highdensity residential areas, and strong anchors such as Westfarms Mall and West Hartford Place. The route also serves some of Hartford's most transit dependent corridors and neighborhoods.

Despite the over-all high ridership on the route, there is very little ridership generated along a long stretch of Route 33W, between Park Road at Quaker Lane and Ridgewood Road at I-84. The route also struggles with relatively poor on-time performance. The poor on-time performance can be attributed to a combination of high passenger volumes, high passenger turn-over and congested travel conditions along Park Street.









Parts of Route 31/33 operate parallel to CT**fastrak**, but much of the route's ridership is local to the Park Street corridor. Passengers traveling between downtown Hartford and destinations near Parkville, Kane, Flatbush, and Westfarms Mall stations now have the option of using CT**fastrak** service. Passengers traveling to Westfarms Mall can now use CTfastrak Route 128 from downtown Hartford or Flatbush Station.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 31 and 33:

Route 31

Service Design

The proposed Route 31 would operate as a radial route between downtown Hartford and Charter Oak Marketplace, via Park Street and New Park Avenue. The route would serve several CT fastrak stations from on-street stops adjacent to each station.

FIGURE 37 | PROPOSED ROUTE 31 ALIGNMENT



Together with Route 33, Route 31 would help establish an enhanced transit corridor along Park Street, where the two routes overlap. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes can be provided along Park Street, between Main Street and New Park Avenue. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 31 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 38). To simplify the service, part-time variants such as the Kane Street alignment would be eliminated and service would be concentrated where ridership is highest (see Figure 39). This includes ending all trips at Charter Oak Marketplace instead of West Hartford Place. Connections to West Hartford Place could be made via the proposed Route 20 at Charter Oak Marketplace.



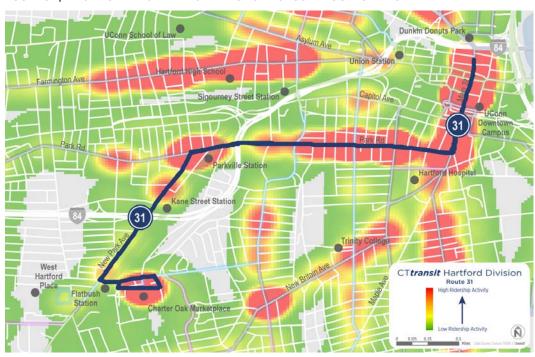




FIGURE 38 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 31 ALIGNMENT



FIGURE 39 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 31 ALIGNMENT



Service Characteristics

Route 31 could be interlined with proposed Route 33 in order to create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 31







service and Route 33 service every other trip. Drivers would change headsigns on Main Street near State House Square.

FIGURE 40 | PROPOSED ROUTE 31 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	_
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
■ Downtown Hartford
Hartford Hospital Dayly the Chatter
 Parkville Station Super Stan & Shan
Super Stop & ShopKane Street Station
Flatbush Station
Charter Oak Marketplace
charter can marketplace

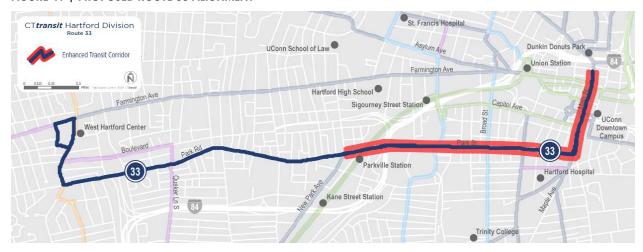
Route 33

Service Design

The proposed Route 33 would operate as a radial route between downtown Hartford and West Hartford Center, via Park Street and Park Road. The route would serve the Parkville CT fastrak station from an on-street stop adjacent to the station.

Together with Route 31, Route 33 would help establish an enhanced transit corridor along Park Street, where the two routes overlap. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes during the peak would be provided along Park Street, between Main Street and New Park Avenue. Over the long-term, enhanced passenger amenities and transit-priority treatments could be added to the corridor.

FIGURE 41 | PROPOSED ROUTE 33 ALIGNMENT









With the introduction of Route 128 service to Westfarms Mall, Route 33 could be realigned to serve West Hartford Center instead. This would provide a strong outer anchor for the route, while also reducing the route's exposure to areas of low ridership and low transit potential (see Figure 42 and Figure 43).

FIGURE 42 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 33 ALIGNMENT

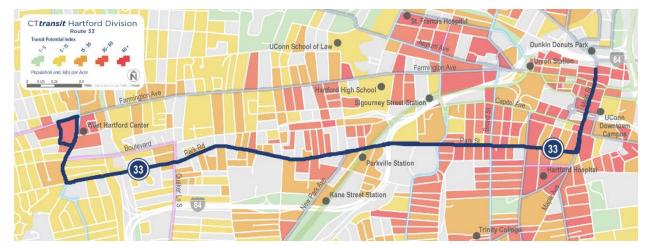


FIGURE 43 | | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 33 ALIGNMENT



Service Characteristics

Route 31 could be interlined with proposed Route 33 in order to create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 31 service and Route 33 service every other trip. Drivers would change headsigns on Main Street near State House Square.











FIGURE 44 | PROPOSED ROUTE 33 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm - 11:00 pm	60
Owl	_	-
Saturday	6:00 am – 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford
Hartford Hospital
Parkville Station
 West Hartford Center









3 WINDSOR AVENUE

- 32 | Windsor Center
- 32A Windsor Center via Weston Street
- 32B Windsor Center-Bloomfield Av via Weston St
- 32M | Windsor Center via Matianuck Av and Weston St
- 34 International Drive
- 36 | Griffin Center
- 36X Voya-Griffin Center via I-91

SERVICE OVERVIEW

Routes 32, 34, and 36 are radial routes that travel north from downtown Hartford to Windsor Center and points north and west. Although they are scheduled as independent routes, they travel the same corridor for much of their alignment. As a result, they are evaluated as a package of routes rather than independent routes. Route 32 ends in Windsor, while Route 34 continues to East Granby and Route 36 ends at the Griffin Center Office Park in Bloomfield. See Figure 45 for Route 32, Figure 46 for Route 34, and Figure 47 for Route 36. There are several Route 32 variants, operating via Bloomfield Avenue, Matianuck Avenue and Weston Street. In addition, certain Route 36 trips operate via I-91 as Route 36X.









FIGURE 45 | ROUTE 32 MAP

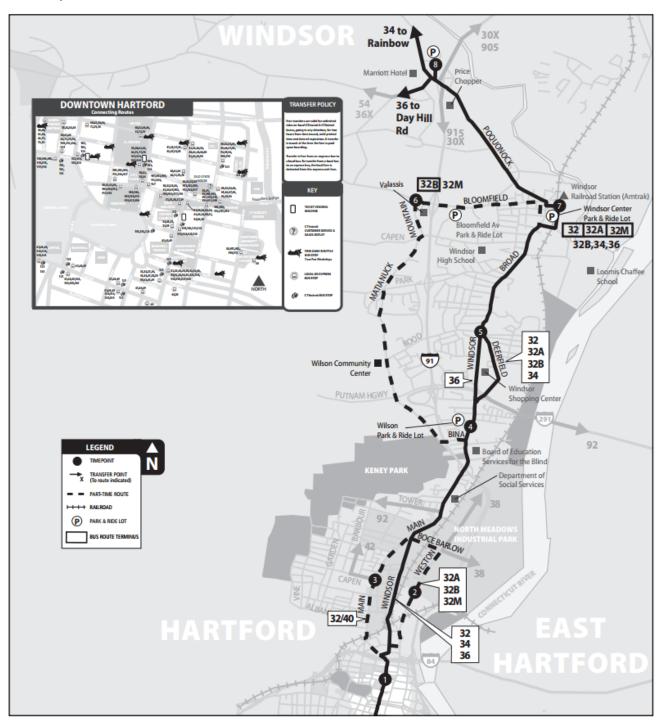










FIGURE 46 | ROUTE 34 MAP

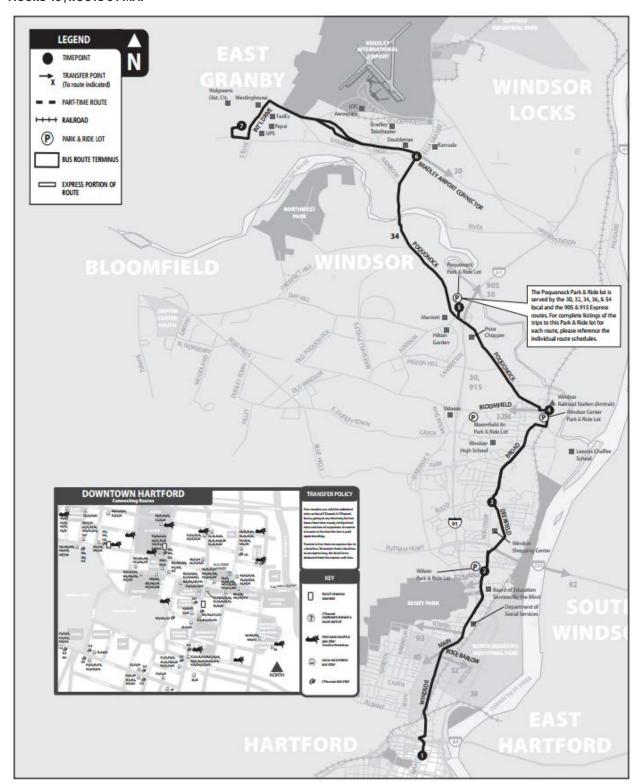


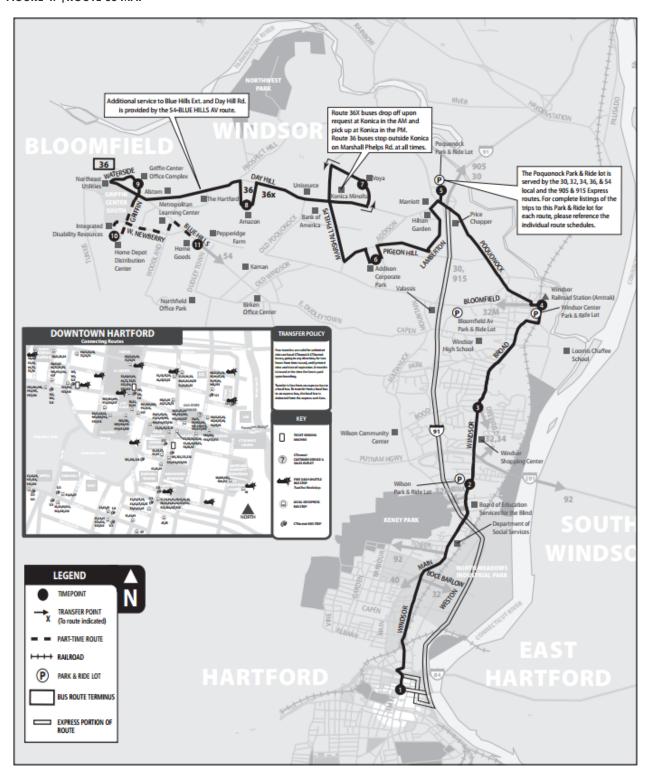








FIGURE 47 | ROUTE 36 MAP













Service Schedule

Route 32 operates seven days a week, while Routes 34 and 36 operate on weekdays only (see Figure 48). The services are coordinated so that on weekdays a bus travels along the primary alignment (Windsor Avenue) every 15 minutes during peak periods and every 30 minutes during off-peak times. The unique portions of the routes, however, have much reduced service levels, with some corridors served once or twice per weekday.

Combined, weekday service on Routes 32/32A operates roughly on an hourly headway all day, with some additional peak period trip service. Routes 32B and 32M operate only during peak periods. On weekdays, Route 34 operates eight peak period roundtrips and one midday round trip. Route 36X operates peak period reverse commute service (from downtown to Day Hill Road) with three morning outbound trips and three afternoon inbound trips.

On Saturdays, hourly service is operated as Route 32A via Weston Street to the Poquonock Park-and-Ride Lot. In addition, there are two evening trips operated as Route 32/40 via Main Street to the Windsor rail station.

On Sundays, the first two outbound trips and first inbound trip operate as Route 32A to Windsor Center via Weston Street. After 8:30 AM, trips operate as Route 32/40 via Main Street until 7:30 PM. Service departs roughly every 70 minutes all day.

FIGURE 48 | SCHEDULE OVERVIEW (ALL ROUTES 32, 32A, 32B, 32M, 34, 36, AND 36X)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:25 AM – 12:07 AM	15/30	40/35
Saturday	6:58 AM – 8:00 PM	60	24/23
Sunday	6:50 AM – 7:30 PM	70	11/11

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Combined, Routes 32, 34 and 36 carry about 1,541 passengers per weekday or about 20.8 passengers per trip. This is above the Hartford Division average of 17.7 passengers per trip (see Figure 49). On weekends, only Routes 32 is in operation. Saturday service carries about 13.2 passengers per trip, and Sunday service carries about 15.2 passengers per trip, both of which are somewhat below the division averages.

FIGURE 49 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 32/34/36	ROUTE 32/34/36	DIVISION AVG
Weekday	1,541	20.8	17.7
Saturday	356	13.2	16.3
Sunday	334	15.2	17.6

Source: CTtransit performance data









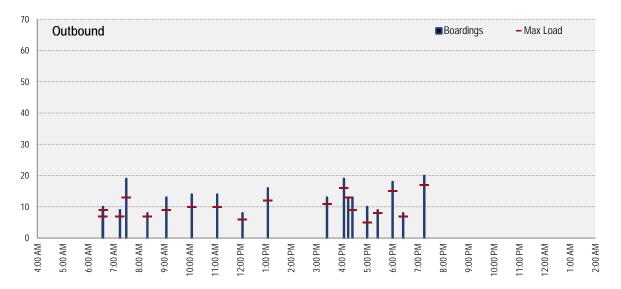


Ridership by Trip

Weekday - Route 32

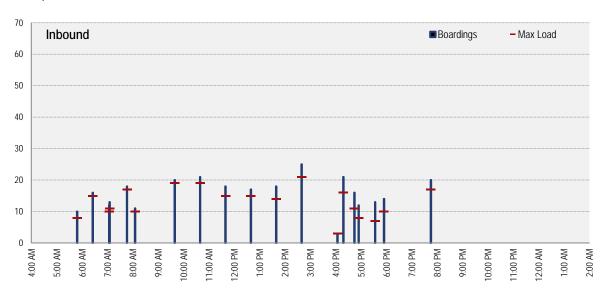
Ridership by trip for Route 32 is shown in Figure 50 and Figure 51. Ridership on Route 32 is well balanced throughout the day. Demand is slightly higher on the inbound service, with trips generally carrying between 10 and 20 riders. Ridership on the outbound service carry around 10 and 15 riders, with a handful carrying 20 people. Passenger activity remains steady until the last evening trips, indicating later service may be warranted. Weekend ridership activity is shown in Appendix B.

FIGURE 50 | ROUTE 32 WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: Both Routes 32 and 32B have a 6:35 AM outbound trip.

FIGURE 51 | ROUTE 32 WEEKDAY INBOUND RIDERSHIP BY TRIP



Note: inbound trips operate as Route 32M.











Weekday - Routes 34 and 36

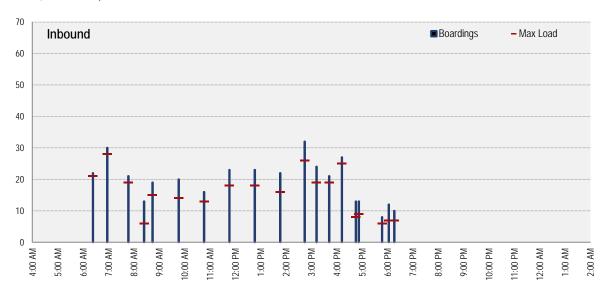
Demand on Routes 34 and 36 has a strong peak period orientation, with stronger demand in both directions (see Figure 52 and Figure 53). This is likely due to both the peak period focus of Route 34 trips, as well as both first and second shift workers traveling to employment sites along Day Hill Road and International Drive. Early morning service on Route 36/36X also has very strong demand; the 6:20 AM trip has peak loads of 32 passengers, suggesting more morning outbound service may be warranted. Weekend ridership activity is shown in Appendix B.

Outbound ■ Boardings - Max Load 60 50 40 30 20 10 4:00 AM 1:00 PM 3:00 PM 4:00 PM 1:00 AM 2:00 PM 6:00 PM 10:00 AM 11:00 AM 12:00 PM 12:00 AM

FIGURE 52 | ROUTE 34/36 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

Note: Both Route 34 and Route 36X have 6:55 AM outbound trips.





Note: No data available for the 9:15 PM inbound trip.











Ridership by Stop

The most heavily used stops on Routes 32, 34 and 36 are in downtown Hartford. Together these stops generate about 506 daily boardings and alightings, or roughly one-third of all trips. No other stops along these routes generate more than 50 boardings per day (see

Figure 54).

The most productive segment of the three routes is beween downtown Hartford to Windsor Center. Routes 32 and 32A show very little ridership activity north of Windsor Center, where nine trips extend to or from the Poquonock Park-and-Ride Lot. The Route 32B segment along Bloomfield Avenue west of Windsor Center serves about 17 daily riders. The Route 32M segment along Matianuck Avenue serves about 19 daily riders. The busiest stop along these two segments is at Matianuck Avenue and West Wolcott Avenue, where four riders board daily.

The Route 34 segment north of the Poquonock Park-and-Ride Lot serves 20 daily riders, with 9 of these boarding and alighting at the Walgreens terminal point. Ridership activity on Route 36 and 36X between Griffin Office Park and Birken Office Center is captured under Route 54's data. A moderate amount of activity occurs as the routes head inbound from the Griffin Center Office Park, with 173 passengers boarding or alighting between there and the Poquonock Park-and-Ride Lot.









FIGURE 54 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

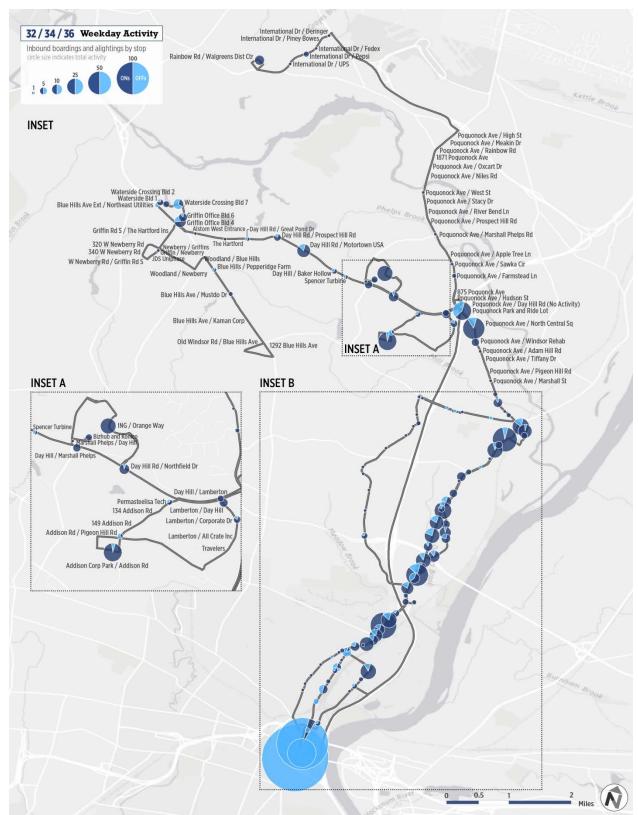








FIGURE 55 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET B)













Productivity and On-Time Performance

Combined, Routes 32, 34 and 36 perform below the Hartford Division average by all measures with the exception of operating cost per passenger on weekends (see Figure 56). While weekday service includes the longer and relatively unproductive Route 34 and 36 segments, weekend service operates only as a shorter Route 32A to Windsor Center or the Poquonock Park-and-Ride Lot. The route has fewer passengers per revenue hour than the Division average, and much lower costs per revenue vehicle mile, again due to the long route segments associated with Routes 34 and 36. Figure 56 charts the combined Routes 32, 34 and 36 performance against all other Hartford Division routes, showing lower than average performance in terms of both weekday cost per passenger and passengers per revenue vehicle mile.

FIGURE 56 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 32/34/36	DIVISION AVG	ROUTE 32/34/36	DIVISION AVG	ROUTE 32/34/36	DIVISION AVG
Operating Cost per Passenger	\$5.03	\$4.84	\$5.50	\$6.30	\$4.89	\$6.66
Passengers per Revenue Vehicle Hour	25.5	28.9	23.3	27.0	26.2	29.7
Passengers per Revenue Vehicle Mile	1.6	2.6	1.6	2.4	2.2	2.9

Source: CTtransit performance data

Combined, Routes 32, 34 and 36 have on-time performance that is just below the Hartford Division average, with 80.5% of time point checks showing buses on schedule (see Figure 57).

FIGURE 57 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 32/34/36	DIVISION AVG
Early	0.4%	0.2%
Late	19.1%	18.9%
On-Time	80.5%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Routes 32, 34 and 36 are radial routes connecting downtown Hartford with Northeast Hartford, Windsor, Windsor Locks and Granby, including employment centers along Day Hill Road, Rainbow Drive and International Drive. The routes largely travel in a shared corridor between downtown Hartford and Windsor Center. Generally speaking, the northern reaches of this corridor are employment rich. It is also worth noting that Route 40 operates in this corridor as far north as Faneuil Street in Windsor and, beginning in early 2018, Hartford Line commuter rail service will serve the Windsor rail station.









Ridership on Routes 32, 34 and 36 is stronger than the Hartford Division overall, but long travel times and distances mean the routes do not perform as well as other routes. The routes also suffer from a complicated service design with many route variants that may be difficult for riders to understand, as well as limited service on some segments (i.e. no weekend service north of the Poquonock Park-and-Ride Lot).

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 32, 34, and 36:

Route 32

Service Design

Route 32 is proposed to be consolidated as part of Route 36. All service would operate via Windsor Avenue to Poquonock Avenue to Day Hill Road. See Route 36 below for a more detailed description.

Route 34

Service Design

The proposed Route 34 would operate as a radial route between downtown Hartford and International Drive in Windsor via North Main Street, I-91, Kennedy Road and Bradley Airport (see Figure 58).

The route would offer local connections between downtown, the North End, and high concentrations of employment along Kennedy Road, Ella Grasso Turnpike and Rainbow Road in Windsor and Windsor Locks, as well as at Bradley Airport (see Figure 59). By using Route 34 to serve these local destinations in the Airport area, the Route 130/Bradley Flyer can become a faster, limited stop, "airport-focused" service.

By using I-91 for a portion of the route (instead of traveling through Windsor Center), Route 34 would provide faster service to the employment areas near the Airport, and an extended service span would help support second shift and weekend workers in this area. The route would also stop at the Poquonock Park-and-Ride Lot, providing connections to Day Hill Road.

FIGURE 58 | PROPOSED ROUTE 34 ALIGNMENT

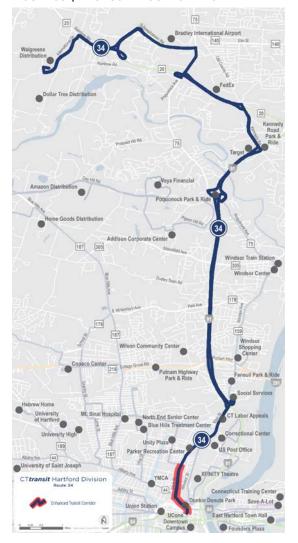
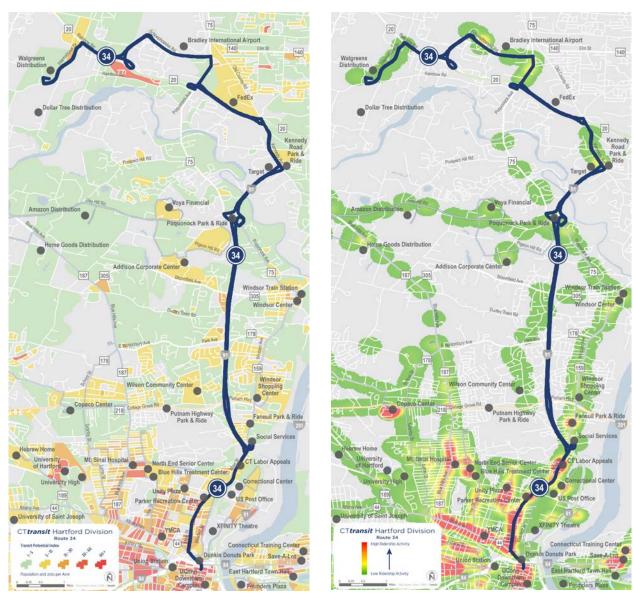








FIGURE 59 | ROUTE 34 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAPS



Service Characteristics

Route 34 would operate at 60 minute frequency all day, offering additional local connections from downtown Hartford and the North End to the Airport and other employment activities in that area. Service span would be extended and would include weekends, to better serve shift workers at the Airport, as well as along Kennedy Road, Rainbow Road and International Drive.









FIGURE 60 | PROPOSED ROUTE 34 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	60
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	60
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Poquonock Park-and-Ride Lot FedEx, Kennedy Road Bradley Airport Dollar Tree & Walgreens distribution centers

Route 36

Service Design

Route 36 would also operate as a radial route, and would be the primary route connecting downtown Hartford with Windsor Center, the Windsor Train Station and Day Hill Road. It would operate via Windsor Avenue, continuing north beyond Windsor Center to make connections with other services at the Poquonock Park-and-Ride and to serve Day Hill Road (see Figure 61).

The route would follow a direct and consistent alignment, staying on Windsor Avenue between downtown Hartford and Windsor Center. Deerfield Road would be served by an extension of Route 40 and Weston Street would be served by Route 38.

Service frequency would be reduced somewhat due to the shifting of Route 34 to I-91 and the introduction of commuter rail service to Windsor. Peak frequency of 30 minutes and off-peak service of 60 minutes would be maintained to serve the mix of residential and employment uses in this corridor (see Figure 62 and Figure 63).

FIGURE 61 | PROPOSED ROUTE 36 ALIGNMENT

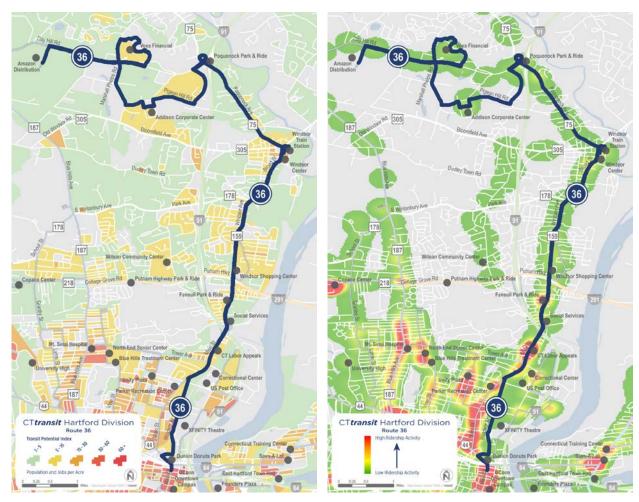








FIGURE 62 | ROUTE 36 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAPS



Service Characteristics

Currently, Route 36 is interlined with Route 54, and it is proposed that these routes continue to be paired. This would create a 5-hour cycle time and optimize layover time for both routes. Route 36 would operate outbound to the Amazon Distribution Facility off Day Hill Road via Windsor Center and return inbound as Route 54 via Blue Hills Avenue, changing headsigns at Amazon (and vice-versa).

The interlined routes would operate at 30 minute frequency during peak periods, and 60 minute frequency during the off-peak hours. By interlining with Route 54, more frequent service can be provided to Day Hill Road. Together, the two routes would provide 15-minute peak frequency to Day Hill Road and 30-minute service during off-peak hours. Off-peak service could be adjusted to meet or complement future train schedules at the Windsor Train Station and to meet Routes 130 and 34 at the Poquonock Park-and-Ride. Service span would be extended and would include weekends, to better serve shift workers along Day Hill Road.









FIGURE 63 | PROPOSED ROUTE 36 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays Early	5:00 am - 11:00 pm 5:00 am - 6:00 am	60
AM Peak	6:00 am – 9:00 am	30
Midday PM Peak	9:00 am - 3:00 pm 3:00 pm - 6:00 pm	60 30
Evening	6:00 pm – 9:00 pm	60
Night Owl	9:00 pm – 11:00 pm –	60 -
Saturday	6:00 am – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
Downtown North
 Anderson Parker Recreation Center
 Faneuil Street Park Ride
 CT Department of Social Services
Windsor Shopping Center
Windsor Center & Train Station
Poquonock Park-and-Ride Lot
 Addison Corporate Center
Voya Financial
Amazon Distribution Center







Route 40

Service Design

The proposed Route 40 would operate as a radial route between downtown Hartford and Deerfield Road in Windsor. It would operate via North Main Street, Windsor Avenue and Deerfield Road (see Figure 64). This involves a one mile extension north of the existing terminus in order to serve the Windsor Shopping Center and the residential neighborhood along Deerfield Road.

This alignment would provide North End residents with access to the supermarket in Windsor Shopping Center, and the opportunity to connect with a realigned Route 92 serving South Windsor and Buckland Hills. It would also complement Route 36 by providing Deerfield Road service.

Together with Routes 42 and 34, Route 40 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 40 would serve a highly transitsupportive environment with high population and employment density (see Figure 65) and good pedestrian infrastructure.

FIGURE 64 | PROPOSED ROUTE 40 ALIGNMENT

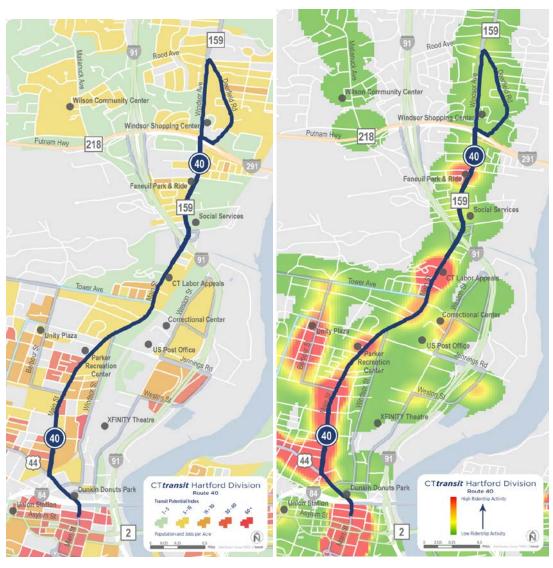








FIGURE 65 | ROUTE 40 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 40 would be interlined with proposed Route 55 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue and North Main Street corridors via downtown Hartford.

Route 40 would operate at 20 minute frequency during peak periods and 30 minute frequency during offpeak hours. Combined with Routes 42 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's Downtown North (DoNo) neighborhood. Service would be extended to include Sundays (see Figure 66).









FIGURE 66 | PROPOSED ROUTE 40 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	-	-
Owl	-	-
Saturday	6:00 am – 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown HartfordDunkin Donuts Park
Save-A-Lot
Anderson Parker Recreation Center
CT Department of LaborCT Department of Social Services
Faneuil Street Park-and-Ride
■ Windsor Shopping Center







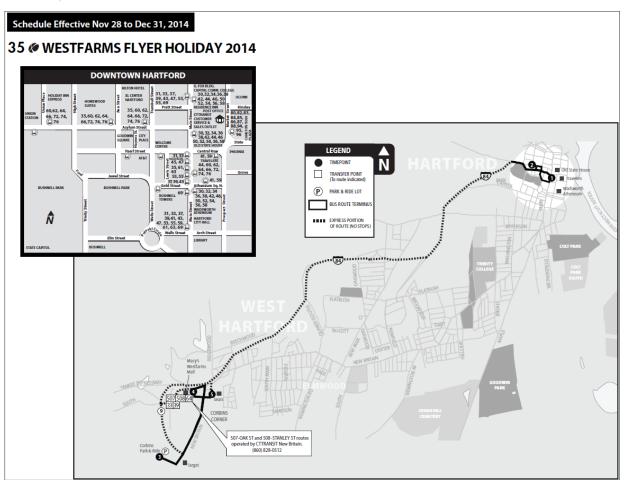
WESTFARMS FLYER

35 | Westfarms Flyer

SERVICE OVERVIEW

Route 35 is one of the Hartford Division's five Flyer routes, providing express service between downtown Hartford and park-and-ride and retail destinations along I-84 and Route 9 in West Hartford (see Figure 67). The route operates on weekends only, with two trips (each direction) on Saturday evenings and regular service throughout the day on Sundays. During the holiday season, the Westfarms Flyer runs hourly service Monday through Saturday in addition to regular Sunday service.

FIGURE 67 | ROUTE MAP











Service Schedule

The Westfarms Flyer runs on weekends, with two outbound trips and two inbound trips on Saturday evening and service every 70 minutes on Sunday. Service increases significantly from the day after Thanksgiving through New Year's Eve. Holiday service operates every hour all day on Saturday and on weekdays, with 12 inbound trips and 12 outbound trips per day beginning at 10:30 AM Monday through Saturday.

During non-holiday periods, Route 35's schedule is designed to supplement Route 33 when it does not serve Westfarms Mall on Saturdays and Sundays.

FIGURE 68 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	-	-	-
Saturday	7:15 PM – 9:12 PM	2 trips	2/2
Sunday	10:20 AM – 7:25 PM	70	8/8

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 35 carries an average of 15 passengers on the four (two round trips) Saturday trips (3.8 passengers per trip) and 175 passengers, or 10.9 passengers per trip, on Sundays. Productivity is considerably lower than the Hartford Division averages for all service days (see Figure 69). During holiday periods, ridership is likely higher due to the addition of weekday service and more weekend trips.

FIGURE 69 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 35	ROUTE 35	DIVISION AVG
Weekday	-	-	17.7
Saturday	15	3.8	16.3
Sunday	175	10.9	17.6

Source: CTtransit performance data

Ridership by Trip

Saturday

Ridership on the two Route 35 Saturday trips is very low in the outbound direction (see Figure 70). Ridership is stronger traveling inbound on the 7:42 PM trip. This compares with the second inbound trip, which carries fewer than five passengers.











FIGURE 70 | SATURDAY OUTBOUND RIDERSHIP BY TRIP

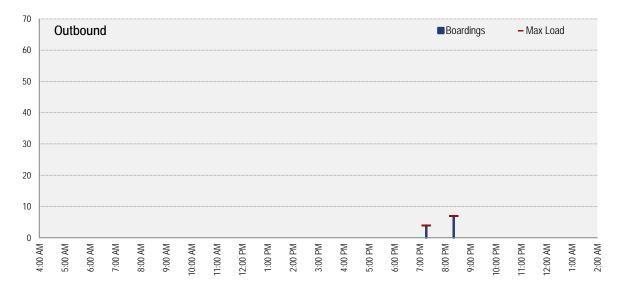
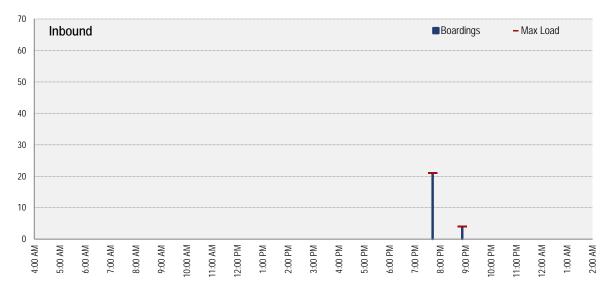


FIGURE 71 | SATURDAY INBOUND RIDERSHIP BY TRIP



Sunday

On Sundays, outbound ridership is strongest in the morning and early afternoon, while inbound ridership is highest on later afternoon and evening trips. This is likely a reflection of trips to Westfarms Mall and other nearby retail destinations.









FIGURE 72 | SUNDAY OUTBOUND RIDERSHIP BY TRIP

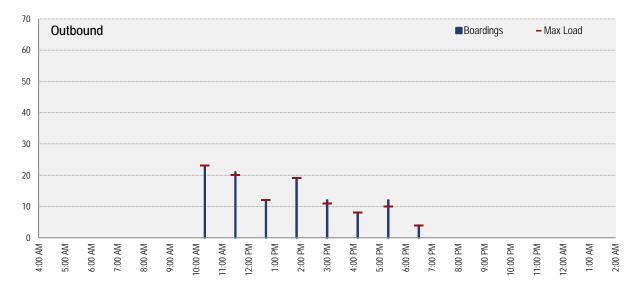
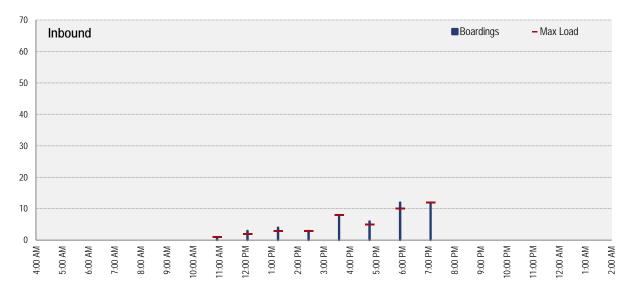


FIGURE 73 | SUNDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 35 are the two end-of-line stops at Westfarms Mall and downtown Hartford (see Figure 74), with 32 boardings and 45 alightings on Sundays, respectively. No other stop generates more than seven boardings or alightings per day on Sundays, the heaviest ridership day (see Figure 74 and Figure 75).









FIGURE 74 | SUNDAY INBOUND RIDERSHIP BY STOP GRAPH

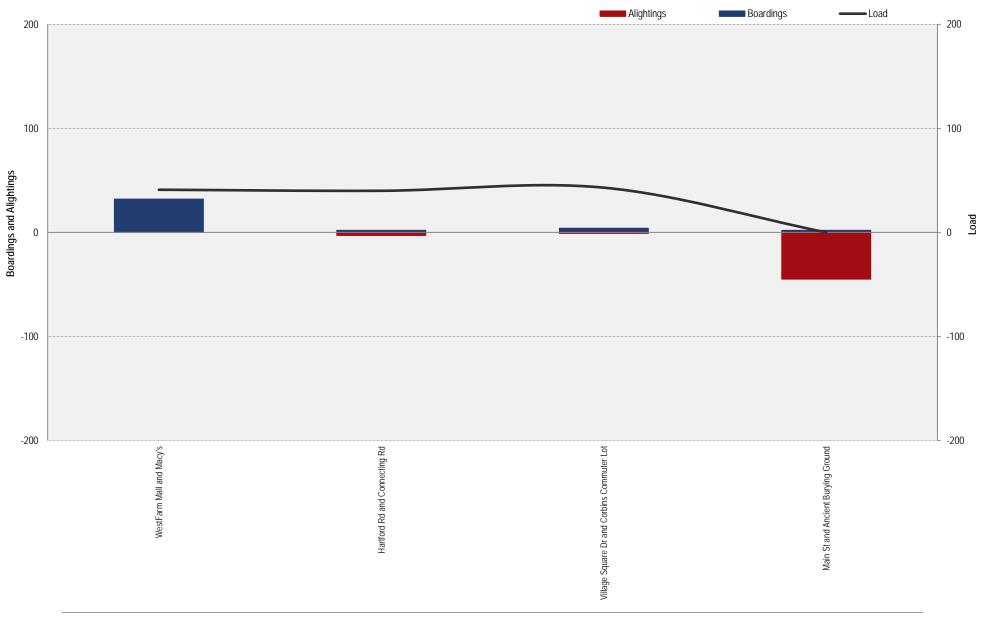


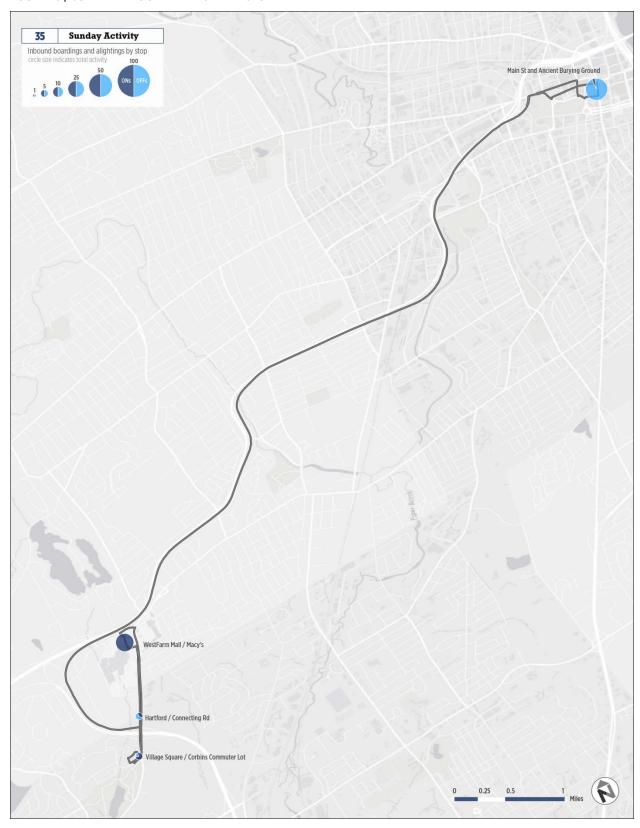








FIGURE 75 | SUNDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 35's performance is lower than the Hartford Division average for all service performance metrics on Saturdays and Sundays. The route likely performs much better during holiday periods.

FIGURE 76 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUN	DAY
	ROUTE 35	DIVISION AVG	ROUTE 35	DIVISION AVG	ROUTE 35	DIVISION AVG
Operating Cost per Passenger	-	\$4.84	\$18.49	\$6.30	\$6.35	\$6.66
Passengers per Revenue Vehicle Hour	-	28.9	6.9	27.0	20.2	29.7
Passengers per Revenue Vehicle Mile	-	2.6	0.4	2.4	1.1	2.9

Source: CTtransit performance data

Route 35 has a 65.5% on-time arrival rate, with a significantly higher percentage of late buses than the Hartford Division average (see Figure 77). Given that ridership is not particularly high on Route 35, poor on-time performance suggests insufficient recovery time to consistently provide on-time service on the route.

FIGURE 77 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 35	DIVISION AVG
Early	0.0%	0.2%
Late	34.5%	18.9%
On-Time	65.5%	80.9%

Source: CTtransit performance data









FIGURE 78 | SUNDAY OPERATING COST PER PASSENGER

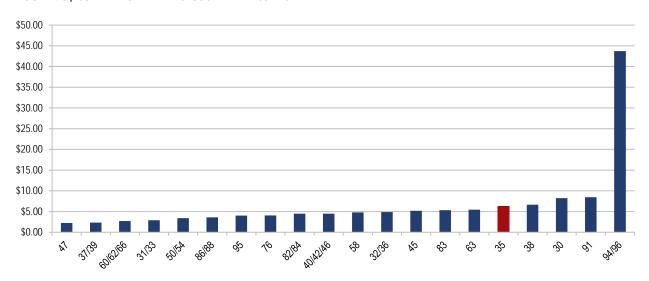
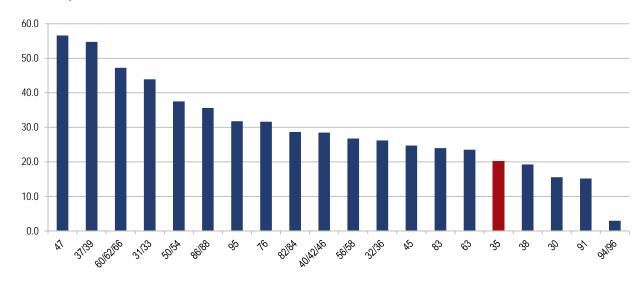


FIGURE 79 | SUNDAY PASSENGERS PER REVENUE HOUR











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 35 is a Flyer route that facilitates shopping and employment trips to Westfarms Mall and nearby retail destinations on weekend days. The service is designed to supplement other CT*transit* service (Route 39) on weekends, when the routes do not serve, or provide considerably less service, to Westfarms Mall. In addition, a more comprehensive service schedule is implemented during the holiday season to facilitate holiday shopping and additional employment that is scheduled during that time. During the non-holiday period, only two trips in each direction are provided on Saturdays and ridership on these trips is very low. Sunday ridership is higher, as service is available from approximately 10:00 AM to 7:00 PM, but is still below the Hartford Division average for Sunday service. The service is specifically designed to support access to employment.

CTfastrak

The CT**fastrak** service plan, which was implemented in March 2015, included changes that impact Route 35.

Route 128: the CT fastrak service plan includes a new local Route 128 that connects downtown Hartford with the Westfarms Mall, traveling via CT fastrak to Flatbush Station and then operating to Westfarms Mall via New Britain Avenue. From Westfarms Mall, Route 128 continues to New Britain. The service operates daily with weekday service operating from 4:20 AM to 11:40 PM; frequencies are 20 minutes during the peak, 30 minutes midday, and 60 minutes in the evening. Saturday service is also extensive; service begins at 4:10 AM and continues until 11:40 PM with 30-minute service all day and 60 minutes in the evening. Sunday's schedule is somewhat shorter (6:40 AM to 8:40 PM) with hourly service all day.

<u>Route 144:</u> the CT*fastrak* service plan includes a new feeder Route 144 that connects Westfarms Mall with Wethersfield via the CT*fastrak* Cedar Street station. The service operates daily with hourly service from roughly 5:10 AM to 11:10 PM on weekdays, 6:10 AM to 11:10 PM on Saturdays and 7:10 AM to 8:10 PM on Sundays.

Route 35

Service Design

The proposed Route 35 is a Connector route linking St. Francis Hospital and Hartford Hospital to the Sigourney Street CT**fastrak** station. The Route follows the same alignment as the current Route 161 but has been rebranded as a Connector route to more accurately describe its role in the regional transit network. Unlike other CT**fastrak** routes, the current Route 161 does not enter the CT**fastrak** guideway. The proposed Connector category of service refers to routes, like the proposed Route 35, that provide feeder service to key transit hubs, but do not directly serve downtown Hartford.











FIGURE 80 | PROPOSED ROUTE 35 ALIGNMENT



Proposed Interlining

Route 35 is proposed as a stand-alone route without any interline partners.

FIGURE 81 | PROPOSED ROUTE 35 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	20
AM Peak	6:00 am - 9:00 am	15
Midday	9:00 am - 3:00 pm	15
PM Peak	3:00 pm - 6:00 pm	15
Evening	6:00 pm – 9:00 pm	20
Night	9:00 pm – 11:00 pm	30
Owl	_	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am - 8:00 pm	30

KEY DESTINATIONS
St. Francis HospitalSigourney Street Station
 Signature Street Station Connecticut Department of Public Health State Capitol Hartford Hospital











5 NEW BRITAIN AVENUE

- 37 | New Britain Ave via Jefferson
- 39 New Britain Ave via Retreat Avenue

SERVICE OVERVIEW

Routes 37 and 39 operate along New Britain Avenue providing radial service between downtown Hartford and the Town of West Hartford (see Figure 82). The two routes function as variants of a single service, with a common alignment and unique outer ends. Route 37 travels west as far as Chandler Avenue, where it turns north to serve the Charter Oak Marketplace and West Hartford Place. Route 39 continues along New Britain Avenue, serving Elmwood Center and Westfarms Mall.

Both Route 37 and Route 39 also serve Hartford Hospital and provide connections to CT*fastrak*. Route 37 stops near Flatbush Station, while Route 39 serves Elmwood Station.



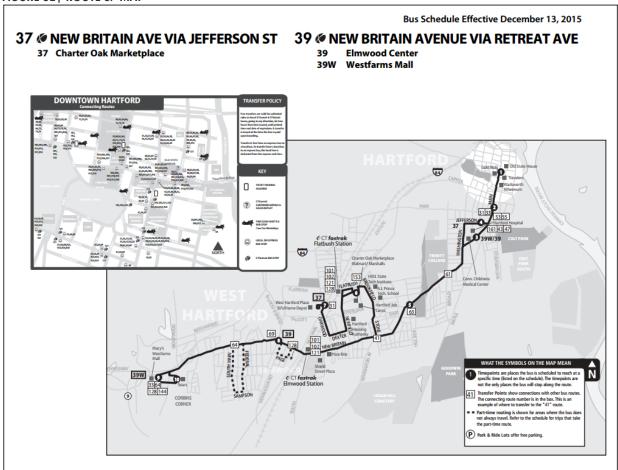








FIGURE 82 | ROUTE 37 MAP



Service Schedule

Route 37 and Route 39 operate seven days a week. There are 57 total outbound trips per weekday (22 on Route 37, 9 on Route 39, and 26 on Route 39W) and 62 inbound trips (25 on Route 37 and 37 on Route 39). Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM. Along the common alignment, peak period frequency is between 10 and 20 minutes. Midday service operates every 20 minutes. Service levels are lower on the unique portions of the individual routes (i.e. to Westfarms Mall).

There are 37 outbound trips (11 on Route 37 and 26 on Route 39W) and 42 inbound trips (13 on Route 37 and 29 on Route 39) on Saturdays, meaning a bus leaves each stop roughly every 20 minutes. There are also two additional outbound and inbound trips on Saturdays between Thanksgiving and New Year's Eve.

Route 39W operates 10 outbound trips and 11 inbound trips on Sundays, with one additional inbound trip between Thanksgiving and New Year's Eve. Route 37 only operates a single outbound trip and a single inbound trip on Sundays, with one additional trip per direction between Thanksgiving and New Year's Eve.











FIGURE 83 | SCHEDULE OVERVIEW (ALL ROUTES 37, 39 AND 39W)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:29 AM – 12:21 AM	10 / 20	22/25
Saturday	7:51 AM – 12:08 PM	20 / 30	11/13
Sunday	7:40 AM – 9:10 PM	70	1/1

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

CT*transit* tracks ridership for Route 37 and Route 39 (and 39W) together, so the following discussion of ridership and productivity treats the two routes as a single service. Route 37/39 carries 3,018 daily passengers or 25.6 passengers per trip on an average weekday, which is more than 40% higher than the Hartford Division average of 17.7 weekday passengers per trip.

Saturday and Sunday ridership per trip are also high relative to the division average (see Figure 84). This is a reflection of the retail destinations served by both Route 37 and 39, which are popular weekend destinations.

FIGURE 84 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 37/39	ROUTE 37/39	DIVISION AVG
Weekday	3,018	25.6	17.7
Saturday	1,801	23.4	16.3
Sunday	732	31.8	17.6

Source: CTtransit performance data

Ridership by Trip

Route 37/39 carries an average of 25.6 passengers per trip on weekdays. Demand is well balanced between inbound and outbound for most of the day (see Weekend ridership activity is shown in Appendix B.

Figure 85 and Figure 86). Ridership is also fairly heavy throughout the day, except for early morning and late night trips. Constant activity throughout the day suggests Route 37/39 serves a variety of trip types and users.

Although some trips have more than 50 boardings, maximum loads never exceed 40 passengers, which is the typical seating capacity of a 40-foot transit bus.

Weekend ridership activity is shown in Appendix B.











FIGURE 85 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

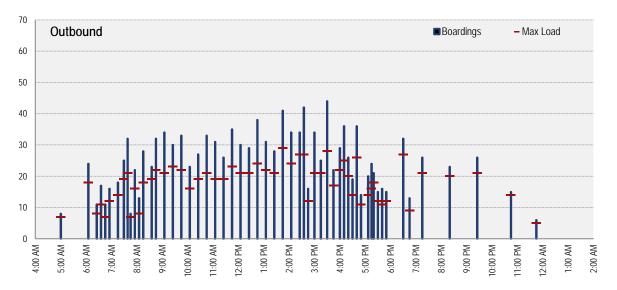
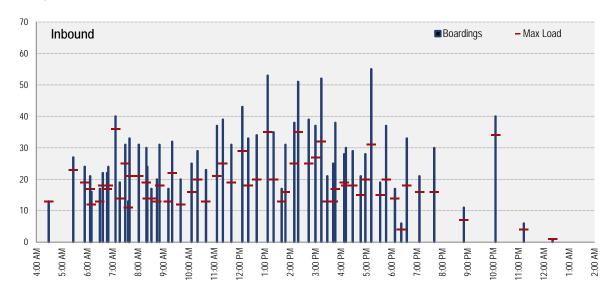


FIGURE 86 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

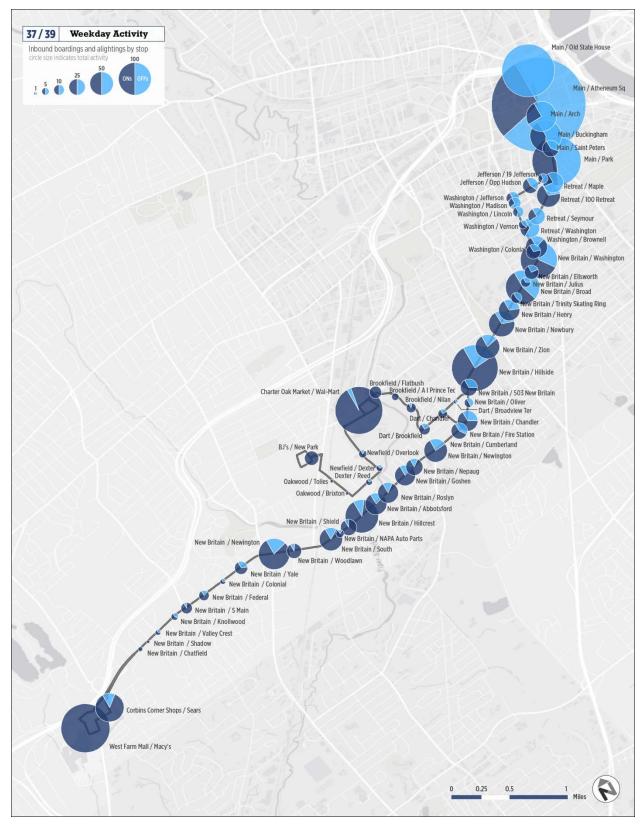
The most heavily used stop on Route 37/39 is its downtown Hartford terminus at Main Street and Gold Street. Outside of downtown, there are several stops that generate 50 or more boardings or alightings per day, including Westfarms Mall. However, ridership activity along New Britain Avenue is fairly light between Newington Road and Westfarms Mall. In addition, Route 37 generates very little ridership at stops west of Charter Oak Marketplace.







FIGURE 6 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 37/39 exceeds the Hartford Division average for both passengers per revenue hour and passengers per revenue miles on all service days (see Figure 87). The route also has a significantly lower cost per passenger than the division average, particularly on weekends. Again, this is a function of the route's ability to attract weekend shoppers.

FIGURE 87 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 37/39	DIVISION AVG	ROUTE 37/39	DIVISION AVG	ROUTE 37/39	DIVISION AVG
Operating Cost per Passenger	\$3.16	\$4.84	\$3.32	\$6.30	\$2.34	\$6.66
Passengers per Revenue Vehicle Hour	40.5	28.9	38.6	27.0	54.8	29.7
Passengers per Revenue Vehicle Mile	4.4	2.6	3.9	2.4	5.3	2.9

Source: CTtransit performance data

Route 37/39 has a 78% on-time arrival rate, with a slightly higher percentage of late buses than the Hartford Division average (see Figure 88). This may suggest insufficient recovery time to consistently provide on-time service on the route.

FIGURE 88 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 37/39	DIVISION AVG
Early	0.1%	0.2%
Late	21.9%	18.9%
On-Time	78.0%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 37/39 is a radial route that is productive and carries many riders. The route is direct and easy to understand. The common alignment between downtown Hartford and Chandler/Dart Streets serves Hartford Hospital and has very strong ridership. The Charter Oak Marketplace is also a strong destination and, outside of downtown Hartford, is the highest ridership stop along the route. However, Route 37 ridership is very low west of Charter Oak Marketplace.

Route 39 has strong ridership at Westfarms Mall and along much of New Britain Avenue, but also includes a segment of very lightly used stops along New Britain Avenue between Westfarms Mall and Newington Road. Although Westfarms Mall has historically been one of the highest ridership stops on Route 39, passengers traveling to the mall can now use CT *fastrak* Route 128 instead, both from downtown Hartford and from Flatbush Station.











SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 37, 39, and 35:

Route 37

Service Design

The proposed Route 37 would operate as a radial route between downtown Hartford and Charter Oak Marketplace via Hartford Hospital and Trinity College. The route would be interlined with proposed Route 39 to provide one-seat rides to Charter Oak Marketplace, Flatbush Station, West Hartford Place and Elmwood Station. Passengers traveling to any of these destinations would be able to stay on the same bus even as the bus transitions from Route 37 to Route 39.

FIGURE 89 | PROPOSED ROUTE 37 ALIGNMENT



The proposed Route 37 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 90). To streamline service and improve the route's ridership and productivity potential, the proposed alignment is shifted from Dart Street and Brookfield Street to Hillside Avenue and Flatbush Avenue. This alignment would provide better access to several apartment communities, still serve Al Prince Technical High School, and better align service with high ridership corridors such as Hillside Avenue (see Figure 91).







FIGURE 90 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 37 ALIGNMENT



FIGURE 91 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 37 ALIGNMENT











Service Characteristics

Together with Route 39, Route 37 would help provide 15-minute service frequency along Retreat and New Britain Avenues, between Maple and Hillside Avenues, for most of the service day. Individually, both routes would operate every half hour from 5:00 am to 9:00 pm (and then hourly after that until 11:00 pm). Where the routes overlap, between downtown and Hillside Avenue, the result would be an effective average frequency of a bus every 15 minutes.

Interlining Route 37 with Route 39 would create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 37 service and Route 39 service every other trip. Drivers would change headsigns on Main Street near State House Square, as well as at Charter Oak Marketplace.

FIGURE 92 | PROPOSED ROUTE 37 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	_
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS			
Downtown Hartford			
Hartford Hospital			
Trinity College			
Charter Oak Marketplace			
Flatbush Station			
West Hartford Place			
Elmwood Station			

Route 39

Service Design

The proposed Route 39 would also operate as a radial route between downtown Hartford and Charter Oak Marketplace via Hartford Hospital and Trinity College. On outbound trips, the route would diverge from Route 37 at Hillside Avenue, continuing west on New Britain Avenue to Elmwood Station and then Flatbush Station and Charter Oak Marketplace. At Charter Oak Marketplace, Route 39 buses would change their headsigns to Route 37 and continue inbound toward New Britain Avenue via Flatbush Avenue and Hillside Avenue.

Together with Route 37, Route 39 would help provide 15-minute service frequency along Retreat and New Britain Avenues, between Maple and Hillside Avenues, for most of the service day. Individually, both routes would operate every half hour from 5:00 am to 9:00 pm (and then hourly after that until 11:00 pm). Where the routes overlap, between downtown and Hillside Avenue, the result would be an effective average frequency of a bus every 15 minutes.









FIGURE 93 | PROPOSED ROUTE 39 ALIGNMENT



With the introduction of Route 128 service to Westfarms Mall, Route 39 can be realigned to serve New Park Avenue and facilitate an interline with Route 37 at Charter Oak Marketplace. This will allow passengers of both routes to access Charter Oak Marketplace, Flatbush Station, West Hartford Place and Elmwood Station without a transfer. Eliminating service to Westfarms Mall helps address redundency with Route 128 and reduces Route 39's exposure to segments of New Britain Avenue with low ridership and low ridership potential (see Figure 94 and Figure 95).





FIGURE 94 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 39 ALIGNMENT

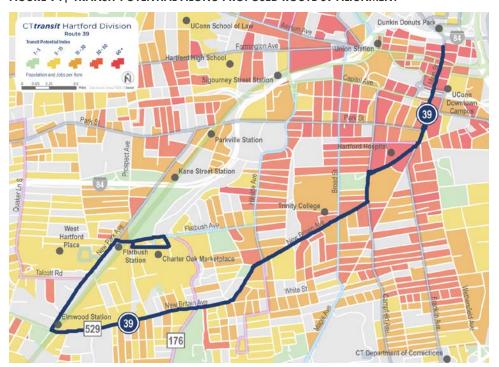


FIGURE 95 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 39 ALIGNMENT











Service Characteristics

Together with Route 37, Route 39 would help provide 15-minute service frequency along Retreat and New Britain Avenues, between Maple and Hillside Avenues, for most of the service day. Individually, both routes would operate every half hour from 5:00 am to 9:00 pm (and then hourly after that until 11:00 pm). Where the routes overlap, between downtown and Hillside Avenue, the result would be an effective average frequency of a bus every 15 minutes.

Interlining Route 39 with Route 37 would create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 39 service and Route 37 service every other trip. Drivers would change headsigns on Main Street near State House Square, as well as at Charter Oak Marketplace.

FIGURE 96 | PROPOSED ROUTE 39 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS			
Downtown Hartford			
 Hartford Hospital 			
Trinity College			
Elmwood Station			
 West Hartford Place 			
Flatbush Station			
 Charter Oak Marketplace 			
·			

Route 35

Service Design

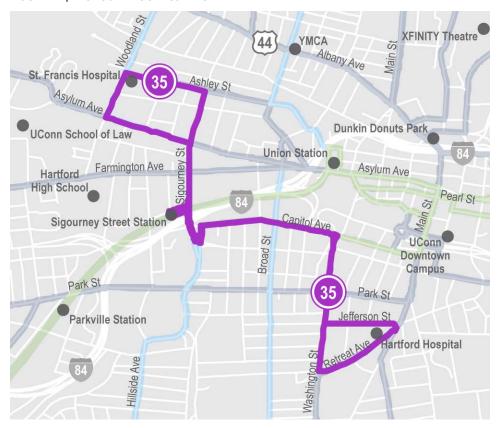
The introduction of CT**fastrak** service included a new route, called Route 161, linking Hartford Hospital and St. Francis Hospital. Route 161 connects to Route 37 on Jefferson Street. The proposed Route 35 is a Connector route following the same alignment as Route 161, linking the two hospitals to each other and to the Sigourney Street CT**fastrak** station. The proposed route has been rebranded as a Connector route to more accurately describe its role in the regional transit network. Unlike other CT**fastrak** routes, the current Route 161 does not enter the CT**fastrak** guideway. The proposed Connector category of service refers to routes, like the proposed Route 35, that provide feeder service to key transit hubs, but do not directly serve downtown Hartford.







FIGURE 97 | PROPOSED ROUTE 35 ALIGNMENT



Like the current Route 161, Route 35 would serve a very transit supportive environment with high density, good pedestrian connections, and very strong existing ridership (see Figure 98 and Figure 99Figure 95). The proposed route is well positioned for continued growth as it would not only link two major hospitals to CT*fastrak* service, it would also connect together several proposed enhanced transit corridors, including Farmington Avenue, Park Street, Franklin Avenue.









FIGURE 98 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 35 ALIGNMENT

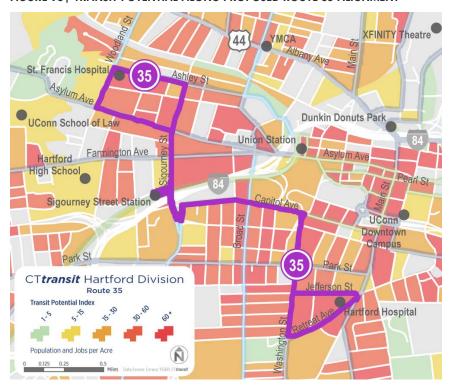


FIGURE 99 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 35 ALIGNMENT











Service Characteristics

Route 35, would provide 15-minute service frequency for much of the service day, with lower frequency in the early morning and after the PM peak (see Figure 100).

FIGURE 100 | PROPOSED ROUTE 35 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	20
AM Peak	6:00 am - 9:00 am	15
Midday	9:00 am - 3:00 pm	15
PM Peak	3:00 pm - 6:00 pm	15
Evening	6:00 pm – 9:00 pm	20
Night	9:00 pm – 11:00 pm	30
Owl	_	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am – 8:00 pm	30

KEY DESTINATIONS			
St. Francis Hospital			
 Sigourney Street Station 			
 Connecticut Department of Public Health 			
State Capitol			
Hartford Hospital			











6 WESTON STREET

38 | Post Office

38C | CTtransit

SERVICE OVERVIEW

Route 38 is a radial route that travels from downtown Hartford to the North Meadows neighborhood. The route serves the CT*transit* offices and garage, the B.B. Kennelly Post Office, the Hartford Correctional Center and ELG Utica Alloys. The route has one shorter variant, 38C, which terminates at CT*transit*.

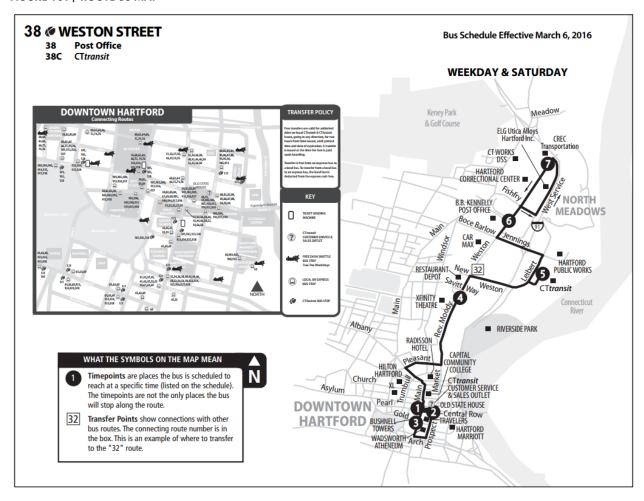








FIGURE 101 | ROUTE 38 MAP



Service Schedule

Route 38 operates seven days a week. On weekdays, there are 35 total outbound trips (20 on Route 38 and 15 on Route 38C) and 35 total inbound trips (20 on Route 38 and 15 on Route 38C). Service operates every 30 minutes during the morning and then operates every 20 minutes from 10:00 a.m. to 3:00 p.m. During the evening peak, frequency returns to every 30 minutes. The shorter 38C variant terminating at the CT*transit* facility mostly runs during the midday hours, with one early inbound AM trip and several evening outbound trips after 6 PM.

Saturday and Sunday service operates exclusively as 38C. On Saturday, there are 23 outbound trips and 22 inbound trips, meaning a bus leaves each stop approximately every 30 minutes. On Sunday, there are eight outbound trips and eight inbound trips, which operate every 70 minutes.











FIGURE 102 | SCHEDULE OVERVIEW (ALL ROUTES 38 AND 38C)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:00 AM – 7:22 PM	30/20	35/35
Saturday	7:05 AM – 11:20 PM	30	23/22
Sunday	7:30 AM – 8:05 PM	70	8/8

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Routes 38/38C carries about 517 passengers per weekday or about 7.4 passengers per trip. This is significantly below the Hartford Division average of 17.7 passengers per trip (see Figure 103). On Saturday, Route 38C carries only 2.6 passengers per trip, which is extremely low compared to the division average. On Sunday, Route 38C carries about 10.5 passengers per trip, which is still low, but higher than both the weekday and Saturday averages. This is perhaps due to the limited number of trips and the fact that several relatively strong trip generators are located in the North Meadows area.

FIGURE 103 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 38	ROUTE 38	DIVISION AVG
Weekday	517	7.4	17.7
Saturday	117	2.6	16.3
Sunday	168	10.5	17.6

Source: CTtransit performance data

Ridership by Trip

Average weekday ridership per trip on Route 38 is 7.4 passengers. Demand peaks during the AM peak. This trend is true for travel in both directions, although it is stronger for outbound travel. Demand may reflect shift times at the correctional facility, workers headed to employment in the North Meadows neighborhood, and early morning visits to the opioid rehabilitation center. Demand stays fairly steady during the midday hours, particularly in the inbound direction.

Maximum loads are generally in the range of 10-15 passengers; with one AM outbound and one AM inbound trip exceeding 20 passengers. Weekend ridership activity is shown in Appendix B.











FIGURE 104 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

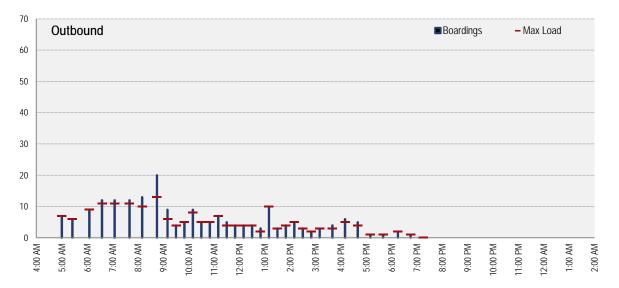
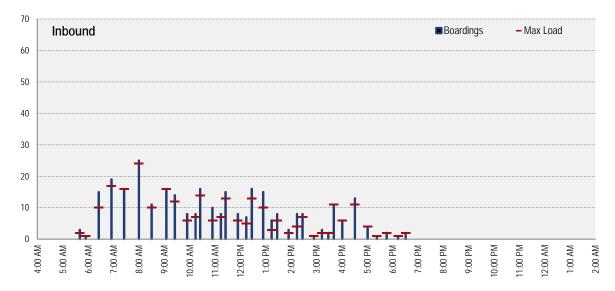


FIGURE 105 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 38 are in downtown Hartford at Main Street and Pratt Street, and on Central Row. In total, about 363 passengers board or alight at downtown stops, indicating nearly all riders originate or end their trips downtown.

Two other stops generate 50 or more boardings or alightings per day (see Figure 106). These include the Hartford Correctional Center on Weston Street and the CT*transit* administrative offices and main garage facility on Leibert Road. An opioid rehabilitation center on Weston Street (inbound from the CT*transit* garage) generates about 47 boardings and alightings per day.

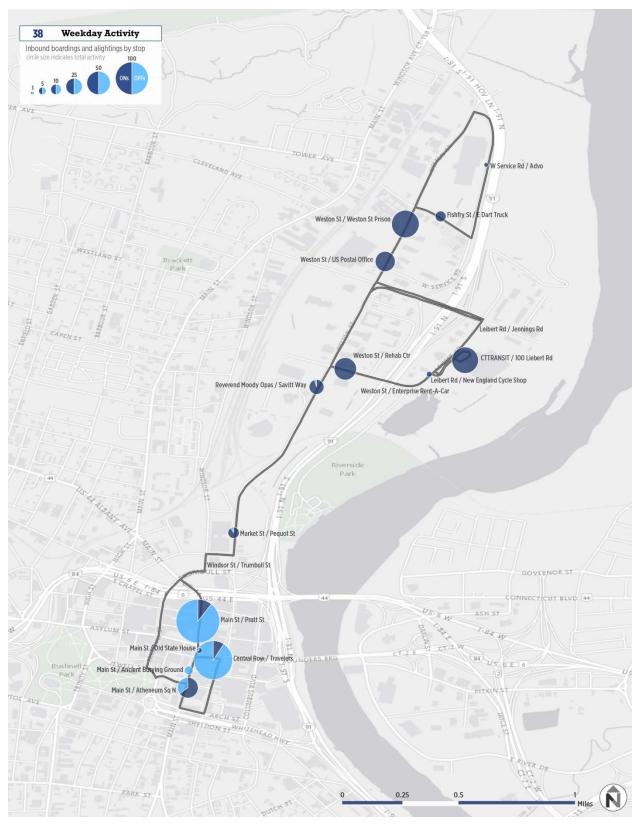








FIGURE 106 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

With very low ridership, Route 38 performs well below the systemwide average in nearly all categories (see Figure 107). However, it is not as unproductive as might be expected. This is a result of the relatively short distance traveled by the route and its relatively high passengers per vehicle mile. Sundays also compare favorably to other Hartford Division local routes, a likely result of the few trips offered and the presence of relatively strong Sunday trip generators in the North Meadows area.

FIGURE 107 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SAT	URDAY	SUNI	DAY
	ROUTE 38	DIVISION AVG	ROUTE 38	DIVISION AVG	ROUTE 38	DIVISION AVG
Operating Cost per Passenger	\$5.79	\$4.84	\$12.03	\$6.30	\$6.65	\$6.66
Passengers per Revenue Vehicle Hour	22.1	28.9	10.6	27.0	19.2	29.7
Passengers per Revenue Vehicle Mile	2.3	2.6	1.1	2.4	3.4	2.9

Source: CTtransit performance data

Overall, Route 38 has on-time performance that is slightly below other routes in the Hartford Division (see Figure 108); an estimated 23% of all trips on this route are late.

FIGURE 108 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 38	DIVISION AVG
Early	0.0%	0.2%
Late	23.0%	18.9%
On-Time	77.0%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 38 is a radial route with low ridership and productivity. However, the route serves a number of important destinations including a correctional facility, the local US Postal Service distribution facility, a rehabilitation center and the CT*transit* garage on Leibert Road. Nearby service on Windsor Street does not present an option for riders, as the North Meadows neighborhood is isolated between I-91 and the Amtrak rail corridor.

It is assumed that many Route 38 trips, particularly the Route 38C variants, are operated in place of deadheading, or as a way to get buses to and from the garage while in productive service. Because of this operational nuance, productivity is less of a concern as it is on other CT*transit* routes.











SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 38:

Route 38

Service Design

The proposed Route 38 would operate as a radial route between downtown Hartford and North Meadows via Reverend Moody Overpass, Leibert Road, Jennings Road, Weston Street and West Service Road. Interlining the route with proposed Route 59 would allow for a one-seat ride between the North Meadows and Regional Market areas of Hartford (see Figure 109).

The proposed Route 38 alignment would be the same as the route's current alignment, which includes a deviation on Reverend Moody Overpass / Weston Street to serve the CT*transit* offices and garage. This is a justified deviation, given that the garage is a major employment hub in the area and generates significant ridership (see Figure 110)

Service span would be extended on weekdays to better serve key activity centers in the area. It would also be adjusted to operate more frequently during peak periods, in part to replace Route 32A trips on Weston Street that are proposed for consolidation as part of a modified Route 36 on Windsor Avenue.

FIGURE 109 | PROPOSED ROUTE 38 ALIGNMENT



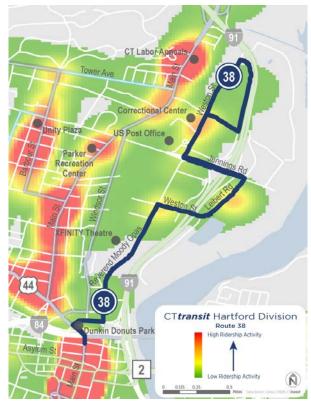






FIGURE 110 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 38 ALIGNMENT





Service Characteristics

The proposed Route 38 would operate every 20-minutes during peak periods, dropping to 40-minute service in the off-peak. This would make Route 38 one of only two proposed routes in the Hartford Division to have a non-clockface service frequency during part of the service day. Route 38 could be interlined with proposed Route 59 in downtown Hartford, resulting in a combined hour and 20-minute cycle that would optimize layover time for both routes.

FIGURE 111 | PROPOSED ROUTE 38 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 9:00 pm	
Early	_	-
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	40
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	40
Night	-	-
Owl	_	-
Saturday	7:00 am - 7:00 pm	80
Sunday	9:00 am - 5:00 pm	80

KEY DESTINATIONS
 XFINITY Theatre
CT transit main garage and administrative offices
 US Postal Service
 Hartford Correctional Center







7 NORTH MAIN STREET AND BARBOUR STREET

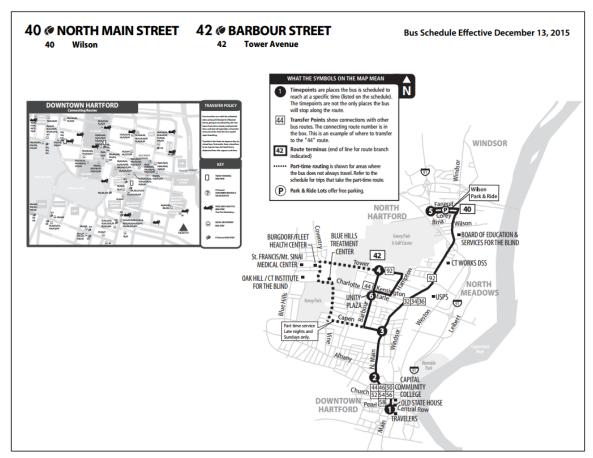
40 | Wilson

42 | Tower Avenue

SERVICE OVERVIEW

Routes 40 and 42 are radial routes that travel north from downtown Hartford to the North End area (Route 40) and Windsor (Route 42), sharing a common alignment on North Main Street. Schedules are coordinated to offer 10 minute weekday headways along the shared stretch of North Main Street.

FIGURE 112 | ROUTE 40 AND ROUTE 42 MAP













Service Schedule

Route 40 operates on weekdays and Saturdays, while Route 42 operates seven days a week. Service alternates between Route 40 and Route 42 on weekdays such that buses run along the common alignment (north Main Street) every 10 minutes throughout the day until 7:00 p.m. followed by hourly service in the evening (Figure 113).

On Saturdays, Routes 40 and 42 also operate alternating trips, with service running along their common alignment every 15 minutes until 6:30 p.m., followed by hourly service in the evening. On weekdays and Saturdays, late night trips operate as Route 42/46, providing inbound service along Coventry Street and Vine Street rather than on Barbour Street.

Sunday outbound service operates exclusively along the combined Route 42/46 alignment, running every 70 minutes. There is no Sunday service on Route 40, although early AM and late evening service on Route 30N Bradley Airport operates along north Main Street and Windsor Avenue.

An additional evening inbound trip and an additional evening outbound trip operate to Barbour Street and Tower Avenue on Saturdays and Sundays between Thanksgiving and December 31.

FIGURE 113 | SCHEDULE OVERVIEW (ALL ROUTES 40 AND 42)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:15 AM – 1:26 AM	10	90/90
Saturday	6:45 AM – 11:15 PM	15	53/51
Sunday	7:15 AM – 8:15 PM	70	13/13

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Combined, Routes 40 and 42 carry about 3,004 passengers per weekday or about 16.7 passengers per trip. This is marginally below the Hartford Division average of 17.7 passengers per trip (see Figure 114). Saturday service also carries about 16.6 passengers per trip, which is slightly above the Saturday average of 16.3. Sunday service falls below the division average, carrying only 370 passengers or 15.4 passengers per trip.

FIGURE 114 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 40/42	ROUTE 40/42	DIVISION AVG
Weekday	3,004	16.7	17.7
Saturday	1,710	16.6	16.3
Sunday	370	15.4	17.6

Source: CTtransit performance data







Ridership by Trip

Ridership is well balanced throughout the day in both directions (see Figure 115 and Figure 116). Six inbound trips have more than 30 passengers (all but one operating as Route 40). However, most weekday trips carry around 20 or fewer passengers; and overcrowding is not an issue. Inbound ridership is stronger than outbound ridership, a result indicative of the fact that both these routes operate in corridors where there are other route options.

Ridership demand begins to drop off after service frequency is reduced around 7 PM, and demand is quite low on very late night trips in both directions suggesting service could end earlier. Ridership on the first two weekday outbound trips is operated as Route 30N and is also very low. Weekend ridership activity is shown in Appendix B.

FIGURE 115 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

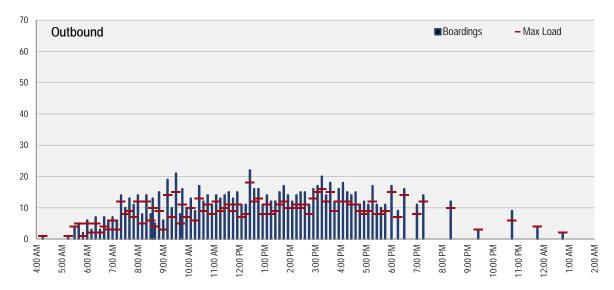
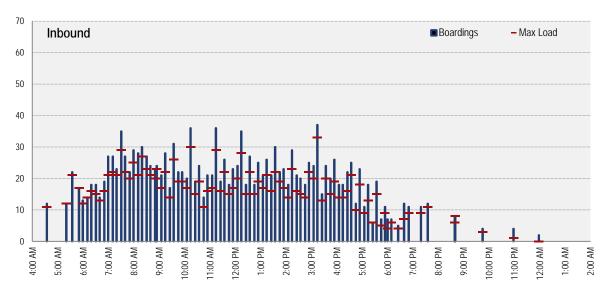


FIGURE 116 | WEEKDAY INBOUND RIDERSHIP BY TRIP











Ridership by Stop

The most heavily used stops on Routes 40/42 are the downtown Hartford stops along Main Street at Pratt and Pearl Streets, each with more than 500 weekday boardings and alightings. North of downtown, the shared segments of these routes along Main Street south of Capen Street show the highest ridership (see Figure 117). The Capen Street stop has the 3^{rd} highest level of activity with about 178 daily riders. Six additional intersections between Capen and downtown show more than 50 boardings or alightings per day.







FIGURE 117 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Combined, Routes 40/42 performs better than the Hartford Division average according to all measures with the exception of Sunday passengers per revenue vehicle hour, which falls slightly below average (see Figure 118). With the exception of Sundays, the route has fairly strong and consistent passenger demand along both routes. Weekdays and Saturdays perform particularly well and, as shown in Figure 118, are some of the most effective routes in the Hartford system.

FIGURE 118 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SAT	JRDAY	SUNI	DAY
	ROUTE 40/42	DIVISION AVG	ROUTE 40/42	DIVISION AVG	ROUTE 42/46	DIVISION AVG
Operating Cost per Passenger	\$3.11	\$4.84	\$3.11	\$6.30	\$4.50	\$6.66
Passengers per Revenue Vehicle Hour	41.1	28.9	41.1	27.0	28.5	29.7
Passengers per Revenue Vehicle Mile	5.1	2.6	5.1	2.4	4.4	2.9

Source: CTtransit performance data

Routes 40/42 have an on-time performance record that is just slightly below the division average, with 77.9% of trips running on time and 21.9% of time point checks showing buses running at least five minutes behind schedule (Figure 119). More recovery time may be needed to consistently provide on-time service in these corridors.

FIGURE 119 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 40/42	DIVISION AVG
Early	0.2%	0.2%
Late	21.9%	18.9%
On-Time	77.9%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Routes 40 and 42 are two radial routes serving the North End of Hartford, with Route 40 crossing into the Town of Windsor. They operate in an alternating service pattern along their shared Main/North Main Street segment, offering 10 minute service along this stretch on weekdays and 15 minute service on Saturdays. The routes are productive and perform better than most in the Hartford Division.

Given the high ridership in these corridors, opportunities should be pursued to strengthen the services and to attract more riders. The routes are both relatively short and could be extended to serve additional destinations and to terminate at stronger activity centers, further strengthening the productivity of the corridors. More specifically, by extending Route 42 along Tower Avenue, the Route 92 crosstown could more directly connect outlying suburban destinations and employment hubs such as Copaco Center and Buckland Hills.









Finally, Routes 40 and 42 both merit consideration of a consistent service pattern on weekends. Route 40 is not operated on Sundays, and Route 42 operates in a combined Sunday service pattern with Route 46.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 40, 42 and 92:

Route 40

Service Design

The proposed Route 40 would operate as a radial route between downtown Hartford and Deerfield Road in Windsor. It would operate via North Main Street, Windsor Avenue and Deerfield Road (see Figure 64). This involves a one-mile extension north of the existing terminus in order to serve the Windsor Shopping Center and the residential neighborhood along Deerfield Road.

This alignment would provide North End residents with access to the supermarket in Windsor Shopping Center and the opportunity to connect with a realigned Route 92 serving South Windsor and Buckland Hills.

Together with Routes 42 and 34, Route 40 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 40 would serve a highly transitsupportive environment with high population and employment density (see Figure 65) and good pedestrian infrastructure.

FIGURE 120 | PROPOSED ROUTE 40 ALIGNMENT

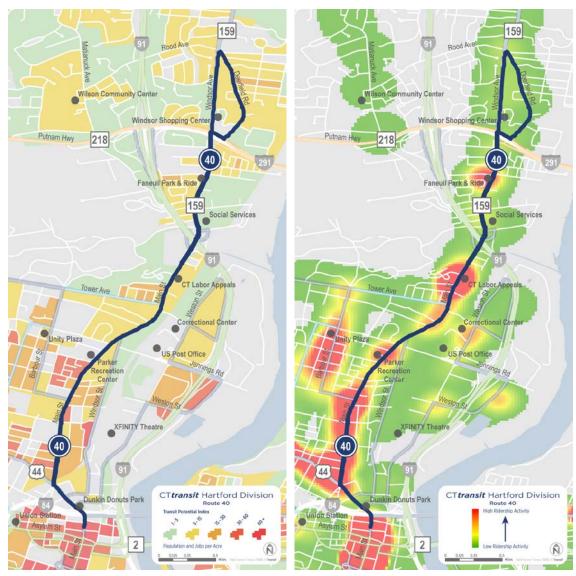








FIGURE 121 | ROUTE 40 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 40 would be interlined with proposed Route 55 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue and North Main Street corridors via downtown Hartford.

Route 40 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Routes 42 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's DoNo neighborhood. Service would be extended to include Sundays (see Figure 66).









FIGURE 122 | PROPOSED ROUTE 40 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown Hartford Downtown Participation
Dunkin Donuts ParkSave-A-I of
 Anderson Parker Recreation Center CT Department of Labor CT Department of Social Services
Faneuil Street Park-and-Ride Window Chamber Control
 Windsor Shopping Center

Route 42

Service Design

The proposed Route 42 would operate as a radial route between downtown Hartford and Copaco Center in Bloomfield via North Main Street, Capen Street, Barbour Street, Palm Street, Burnham Street, Tower Avenue and Granby Street (see Figure 123).

Together with Routes 40 and 34, Route 42 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 42 would serve a highly transit-supportive environment with high population

FIGURE 123 | PROPOSED ROUTE 42 ALIGNMENT



and employment density and good pedestrian infrastructure (see Figure 124). To improve the route's ridership potential and to replace Route 92 Tower Avenue (which would transition to provide more direct





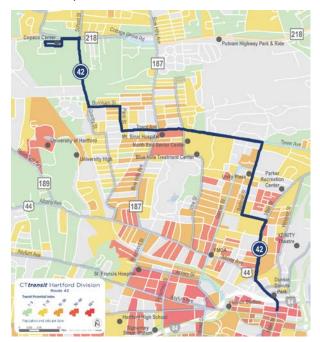


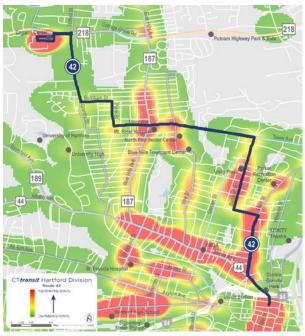




crosstown service), the proposed alignment is extended along Tower Avenue to the west, ultimately serving Copaco Center. The route also connects residents living along Capen and Barbour Streets more directly with the North End Senior Center and services at Mt. Sinai Hospital.

FIGURE 124 | ROUTE 42 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP





Service Characteristics

Route 42 would be interlined with proposed Route 53 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.

Route 42 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Routes 40 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's DoNo neighborhood. Service would be extended to include Sundays (see Figure 125).











FIGURE 125 | PROPOSED ROUTE 42 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	
	6:00 am - 6:00 pm	30
	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Dunkin Donuts Park Unity Plaza Tower Avenue/Chappelle Garden Apartments Mt. Sinai Hospital Granby Street/Bowles Park Apartments Copaco Center

Route 92

Service Design

Route 92 is proposed to be consolidated with other suburban crosstown routes to form a new Regional Loop Route, referred to as Route 99. This new route would provide bi-directional service and more directly link major destinations on the periphery of the Greater Hartford region. It would incorporate segments of several existing routes including 91, 92, 144 and 153 to create a continuous loop service (see Figure 126).

Traveling in a clockwise direction beginning at Copaco Center in Bloomfield, the route would follow Cottage Grove Road and Route 218 to the Windsor Shopping Center on Windsor Avenue. It would then use I-291 and travel across the Connecticut River to South Windsor via John Fitch Boulevard, Chapel Road and Pleasant Valley Road. It would circulate through the Shoppes at Buckland Hills and serve the Buckland Park-and-Ride lot, continuing through Manchester via Buckland Street and New State Road. In East Harford, it would follow Burnside Avenue and then serve the Sunset Hills neighborhood, Forbes Street, Brewer Street and Main Street. The Loop would again cross the river using Route 3 in Glastonbury, after serving Somerset Square.

In Wethersfield, the Loop would head north on Silas Deane Highway to Jordan Lane and the Berlin Turnpike. Heading south on the Berlin Turnpike to Cedar Street, the route would serve Newington Center and the Cedar Street CT*fastrak* station. It would serve Central Connecticut State University via Ella Grasso Boulevard, then follow Stanley Road and SE Road to the Westfarms Mall in West Harford. From the Mall, the route would follow New Britain Avenue to South Main Street and West Hartford Center, then North Main Street to the Cigna campus and back to Copaco Center on Cottage Grove Road in Bloomfield.

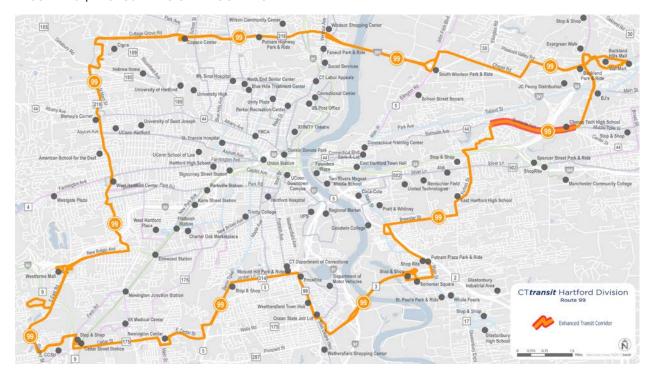








FIGURE 126 | PROPOSED REGIONAL LOOP ALIGNMENT



The Regional Loop would allow passengers to more easily travel between key corridors and key outlying destinations without having to travel to downtown Hartford first (see Figure 127 and Figure 128). The route would intersect with dozens of other routes, including CT*fastrak* service, to provide a wide range of transfer opportunities.

FIGURE 127 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE REGIONAL LOOP











FIGURE 128 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED REGIONAL LOOP



Service Characteristics

The Regional Loop would operate at 30 minute frequency during peak periods and every 60 minutes during the off peak, in both directions (see Figure 18).

FIGURE 129 | PROPOSED REGIONAL LOOP SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS				
Buckland Hills Mall				
Copaco Center				
■ Cigna				
Bishop's Corner				
 West Hartford Center 				
Westfarms Mall				
Cedar Street Station				
 Jordan Lane Shopping Center 				
Putnam Plaza				
East Hartford High School				











8 HARTFORD/NEW BRITAIN

41 | Hartford/New Britain via Newington Center

41X | Hartford/New Britain via Newington Center Express

HNB | Hartford/New Britain via I-84

SERVICE OVERVIEW

Route 41 is a radial route connecting Hartford with New Britain via Newington Center. The route has three variants that include local service (Route 41), limited-stop service (Route 41X), and express service (Route HNB) (see Figure 130). The vast majority of the service is operated as Route 41. Routes 41X and HNB are operated on weekdays as peak directional service only (inbound in the morning and outbound in the afternoon).



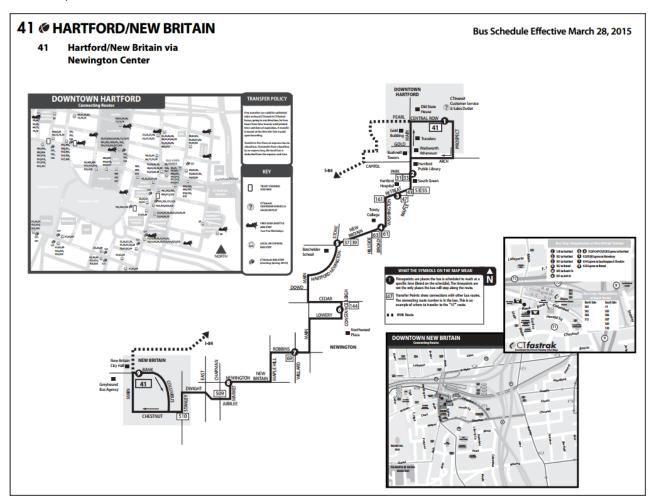








FIGURE 130 | ROUTE MAP



Service Schedule

Route 41 operates on weekdays and Saturdays while Routes 41X and HNB operate on weekdays only and with only a handful of peak directional trips. Route 41's weekday service includes departures every 20 to 30 minutes during peak hours and every 30 to 40 minutes during off-peak hours. The schedule has slightly irregular frequencies. The peak directional service on Route 41X consists of five inbound trips in the morning and five outbound trips in the afternoon. There are two HNB trips per day at 7:00 AM and 8:00 AM, and one trip from Hartford to New Britain at 4:45 PM. On Saturdays, buses operate every 30 to 40 minutes throughout the day, with service ending just after 7:00 PM.

FIGURE 131 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:57 AM – 8:12 PM	20/40 (irregular)	28/31
Saturday	6:45 AM – 7:04 PM	30-40	21/21
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











SERVICE PERFORMANCE

Route 41 carries 967 daily passengers or 16.4 passengers per trip on an average weekday. This is 7% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 132). Saturday ridership per trip is both higher than on weekdays and the Division average for Saturdays. Route 41 does not operate on Sundays.

FIGURE 132 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 41	ROUTE 41	DIVISION AVG
Weekday	967	16.4	17.7
Saturday	595	17.6	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 41 carries an average of 25.4 passengers per trip on weekdays. Ridership is evenly balanced in both directions and throughout the service day. The highest ridership occurs on the last outbound trip of the day, suggesting demand for later service in the outbound direction (see Figure 133 and Figure 134). Demand is also lower on the last inbound trips of the day.

Maximum loads on Route 41 do not exceed 35 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route and service frequency appears to be in line with demand.

Weekend ridership activity is shown in Appendix B.

FIGURE 133 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

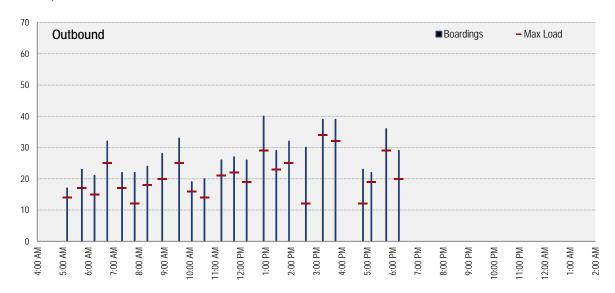


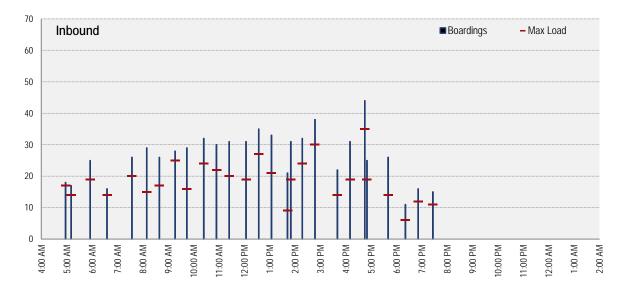








FIGURE 134 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 41 are in downtown Hartford and downtown New Britain. Outside of the two downtowns, only one stop at Main Street and Park Street in Hartford generates 50 or more boardings or alightings per day (see Figure 135).

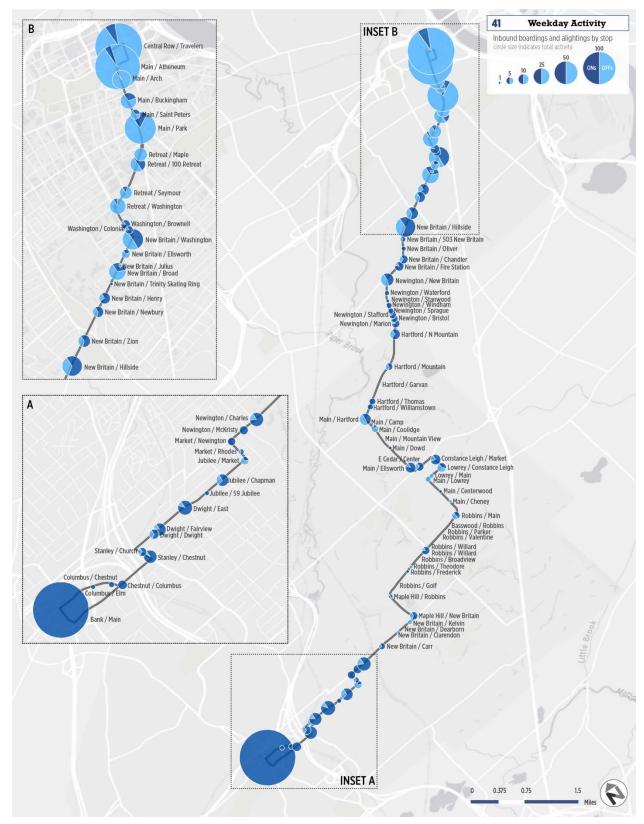








FIGURE 135 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

On weekdays, Route 41 performs above average in terms of passengers per revenue hour, but below average for passengers per revenue mile (see Figure 136). This combination suggests that Route 41 has a relatively fast average operating speed. This is likely a reflection of the fact that there are a handful of express trips included in the service.

Service productivity drops on Saturdays; the amount of service available is also reduced. Route 41 has a lower operating cost per passenger than the Harford Division average on weekdays and Saturdays.

FIGURE 136 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 41	DIVISION AVG	ROUTE 41	DIVISION AVG	ROUTE 41	DIVISION AVG
Operating Cost per Passenger	\$4.35	\$4.84	\$4.98	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	29.4	28.9	25.7	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.2	2.6	1.9	2.4	-	2.9

Source: CTtransit performance data

Route 41 has very strong on-time performance, with a 90.4% on-time arrival rate. Only 9.2% of the timepoint checks showed buses running at least five minutes behind schedule (see Figure 137).

FIGURE 137 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 41	DIVISION AVG
Early	0.5%	0.2%
Late	9.2%	18.9%
On-Time	90.4%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 41 is a radial route connecting Hartford with New Britain via Newington Center. The route is quite long, traveling more than seven miles on local roads. Ridership is concentrated on the far ends of the route, suggesting many riders use the service to travel between Hartford and New Britain, rather than to other destinations along the route. However, passengers traveling between Hartford and New Britain can now use CT *fastrak* Routes 101 and 102 for faster and more direct service. In addition, between downtown Hartford and New Britain Avenue, Route 41 overlaps with Route 37/39.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 41:

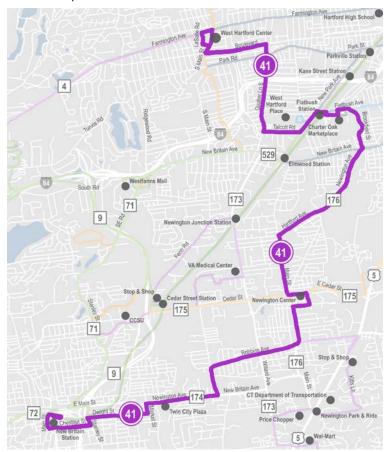
Route 41

Service Design

The proposed Route 41 would operate as a Connector Route linking residential areas in New Britain, Newington, Hartford, and West Hartford to nearby retail destinations and regional transit hubs. Transit hubs that would be served by the route include the New Britain and Flatbush CTfastrak stations, as well as emerging hubs such as **Newington Center and West Hartford** Center where passengers would be able to make numerous bus connections. The proposed route would not serve downtown Hartford, however. Passengers wishing to travel to downtown Hartford could choose from multiple connection opportunities including CTfastrak Routes 101 and 102.

While Route 41 would continue to be a relatively long route, few passengers would likely use the service end-to-end. Instead, the route would facilitate many short trips between relatively high density residential areas and nearby transfer and activity centers (see Figure

FIGURE 138 | PROPOSED ROUTE 41 ALIGNMENT



139 and Figure 140). Between Flatbush Station and West Hartford Center, Route 41 would operate along Quaker Lane to replace a segment of Route 69 recommended for elimination.









FIGURE 139 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 41 ALIGNMENT

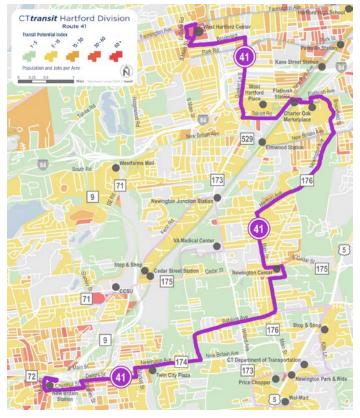
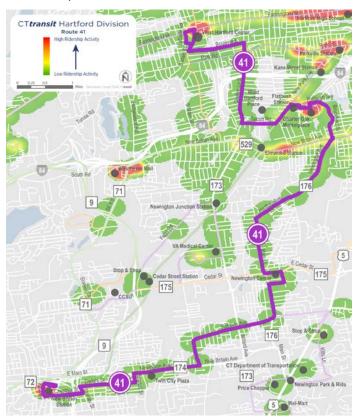


FIGURE 140 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 41 ALIGNMENT













Service Characteristics

Route 41 would operate every half hour during peak periods, and hourly at all other times (see Figure 141). Interlining Route 41 with proposed Route 66 at West Hartford Center would create a 4-hour cycle time and optimize layover time for both routes. Given the different ridership demand of the two routes, particularly in the evenings, Routes 41 and 66 would be interlined from 5:00 AM until 8:00 PM only. After 8:00 PM, Route 66 would not operate, and Route 41 would operate as a stand-alone route between West Hartford Center and New Britain Station until 11:00 PM.

FIGURE 141 | PROPOSED ROUTE 41 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 8:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
 West Hartford Center
 West Hartford Place
Flatbush Station
Charter Oak Marketplace
Newington Center
■ Twin City Plaza
New Britain Station









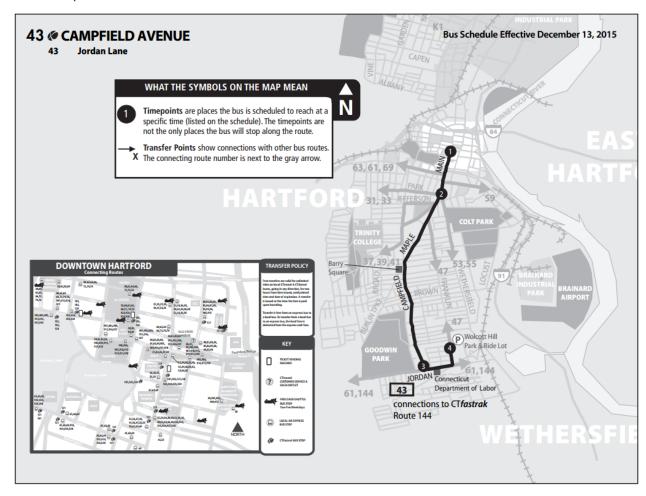
CAMPFIELD AVENUE

43 | Jordan Lane

SERVICE OVERVIEW

Route 43 is a radial route that primarily operates along Main Street, Maple Avenue, and Campfield Avenue between downtown Hartford and Jordan Lane in south Wethersfield (see Figure 141).

FIGURE 141 | ROUTE MAP













Service Schedule

Route 43 operates six days a week, with service ending before 7:00 PM. each day. Weekday service operates every 20 minutes during peak hours and every half hour during off-peak hours, with 29 outbound trips and 29 inbound trips. On Saturdays, service runs every hour, with 11 outbound trips and 12 inbound trips.

FIGURE 142 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:38 AM – 6:40 PM	20/30	29/29
Saturday	6:55 AM – 6:15 PM	60	11/12
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 43 carries 483 daily passengers or 8.3 passengers per trip on an average weekday. This means the route is roughly half as productive as the Hartford Division average (17.7) in terms of weekday passengers per trip (see Figure 143).

On Saturdays the route carries 256 passengers, but with less than half as many departures as on weekdays, productivity increases to 11.1 passengers per trip. This compares more favorably with the Hartford Division average of 16.3 Saturday passengers per trip. Route 43 does not operate on Sundays.

FIGURE 143 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 43	ROUTE 43	DIVISION AVG
Weekday	483	8.3	17.7
Saturday	256	11.1	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 43 carries an average of 8.3 passengers per trip on weekdays. Inbound ridership peaks during traditional morning commute times, and outbound ridership peaks in the late afternoon (see Figure 144 and Figure 145). This suggests that many Route 43 riders are downtown commuters and passengers transferring to other CT*transit* routes downtown.

Maximum loads on Route 43 only exceed 20 passengers on one trip. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route and service frequency is sufficient for demand.

Weekend ridership activity is shown in Appendix B.











FIGURE 144 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

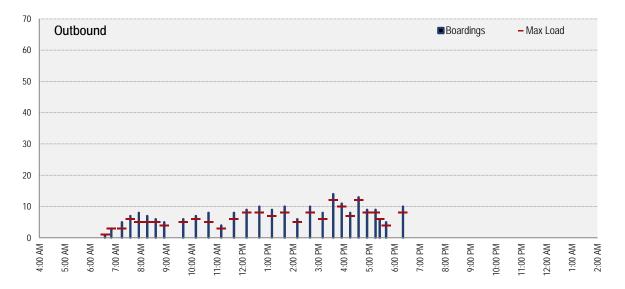
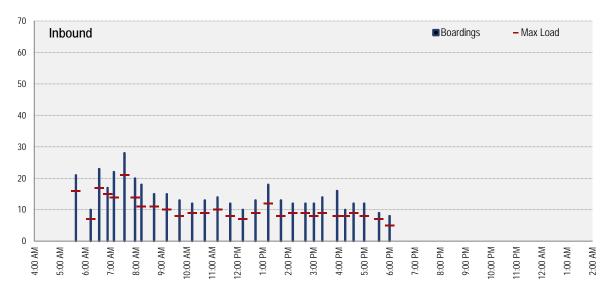


FIGURE 145 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Only two stops on Route 43 generate 50 or more boardings or alightings per day. Both of these stops are in downtown Hartford (see Figure 146).

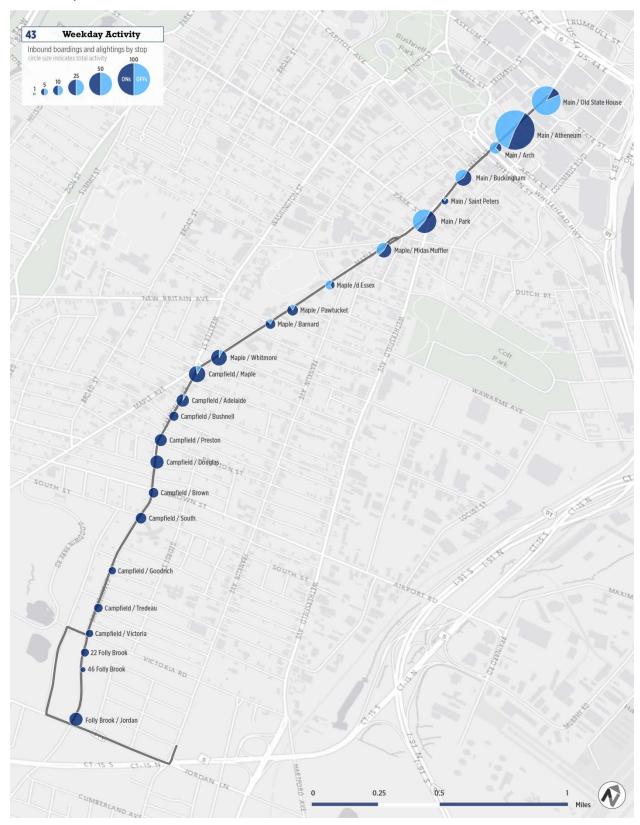








FIGURE 146 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

On weekdays, Route 43 performs 25% below the Hartford Division average for passengers per revenue hour but on par with the division average for passengers per revenue mile. This suggests a relatively slow operating speed for the route. Weekend service performance follows a similar pattern (see Figure 147). Due to its relatively low ridership, Route 43 has a higher than average operating cost per passenger on weekdays. Less than half as many trips operate on Saturdays, resulting in an operating cost that is both below the weekday figure and below the Division average for Saturdays.

FIGURE 147 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 43	DIVISION AVG	ROUTE 43	DIVISION AVG	ROUTE 43	DIVISION AVG
Operating Cost per Passenger	\$5.91	\$4.84	\$5.25	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	21.6	28.9	24.4	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.6	2.6	3.4	2.4	-	2.9

Source: CTtransit performance data

Route 43 has a very strong 93.6% on-time arrival rate. Only 5.8% of time point checks showed buses running at least five minutes behind schedule (see Figure 148).

FIGURE 148 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 43	DIVISION AVG
Early	0.6%	0.2%
Late	5.8%	18.9%
On-Time	93.6%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 43 is a very direct radial route that provides convenient service into downtown Hartford for residents along Campfield Avenue and Maple Avenue. However, the route lacks a strong anchor on its outer end, and non-peak-direction ridership is low, as is weekend ridership. As a result, Route 43 performs below average on most performance measures.

SERVICE RECOMMENDATIONS

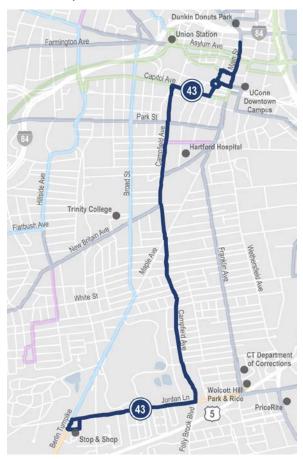
Route 43

To address the issues and opportunities presented above, the study team recommends the following changes to Route 43:

Service Design

The proposed Route 43 would operate as a radial route between downtown Hartford and Jordan Lane Shopping Center via Washington Street and Campfield Avenue. The Jordan Lane Shopping Center, which includes a Super Stop & Shop, would create a strong outer anchor for Route 43 and would likely help generate more "reverse" direction trips from neighborhoods along Campfield Avenue. The proposed Route 43 alignment would shift from Maple Avenue and Main Street to Webster Street and Washington Street to reduce service redundancy on Maple Avenue and to facilitate more transfer opportunities with other routes on New Britain Avenue, Park Street, and Capitol Avenue.

FIGURE 149 | PROPOSED ROUTE 43 ALIGNMENT





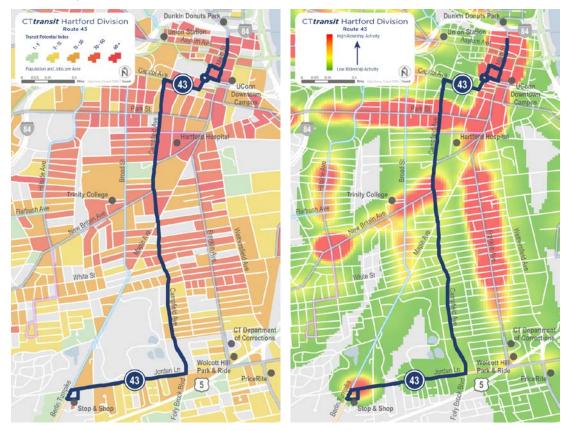






The proposed Route 43 would continue to serve high-density residential neighborhoods along Campfield Avenue with high ridership and high ridership potential (see Figure 150). Extending the route to Jordan Lane Shopping Plaza would further boost ridership and facilitate new transfer opportunities to proposed Routes 61 and 99.

FIGURE 150 | TRANSIT POTENTIAL AND EXISTING RIDERSHIP ALONG PROPOSED ROUTE 43 ALIGNMENT



Service Characteristics

Route 43 would operate every half hour during peak periods and hourly at all other times (see Figure 151)

FIGURE 151 | PROPOSED ROUTE 43 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 7:00 pm	
Early	-	-
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 7:00 pm	60
Night	-	-
Owl	_	-
Saturday	7:00 am - 7:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Downtown Hartford
State Capitol
Hartford Hospital
Campfield Library
 Connecticut Department of Labor
Jordan Lane Shopping Center











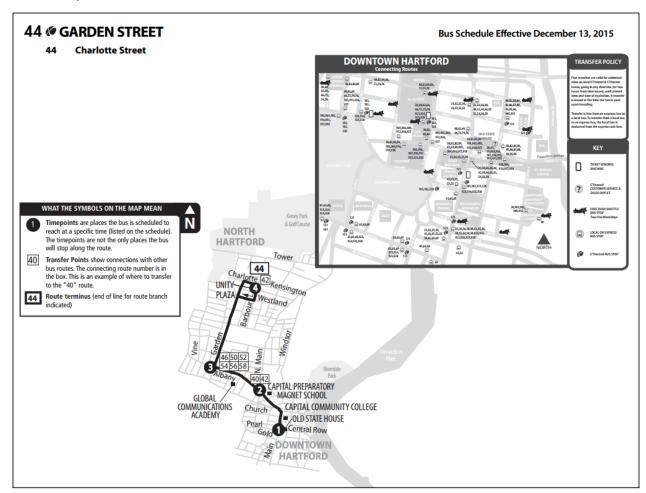
10 GARDEN STREET

44 | Charlotte Street

SERVICE OVERVIEW

Route 44 is short and direct route that travels between downtown Hartford and the North End area, serving Main Street, Albany Avenue, and Garden Street.

FIGURE 152 | ROUTE 44 MAP













Service Schedule

Route 44 operates six days a week, with no service on Sundays. On weekdays, service operates every half hour during peak hours and once an hour during off-peak hours, with 17 outbound trips and 18 inbound trips. Saturday service operates every hour, with 11 outbound trips and 11 inbound trips.

FIGURE 153 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	6:15 AM – 6:33 PM	30/60	17/18
Saturday	7:30 AM – 6:03 PM	60	11/11
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 44 carries 408 daily passengers or about 10.7 passengers per trip on an average weekday. On Saturdays, Route 44 carries 197 daily passengers, or about nine passengers per trip (see Figure 154). These averages are almost half (60%) of the daily average for all routes in CT*transit*'s Hartford Division.

FIGURE 154 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 44	ROUTE 44	DIVISION AVG
Weekday	408	10.7	17.7
Saturday	197	9.0	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 44 carries an average of 10.7 passengers per trip on weekdays. Passenger loads are generally light, but highest in the afternoon peak in the outbound direction (see Figure 155). However, the 3:45 PM outbound trip is the only weekday trip carrying more than 15 passengers. Passenger loads in the inbound direction (See Figure 156) never exceed 11 riders per trip.

Weekend ridership activity is shown in Appendix B.



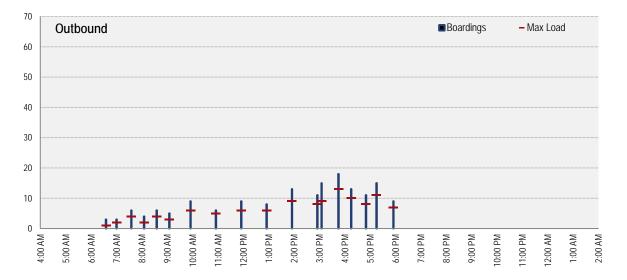






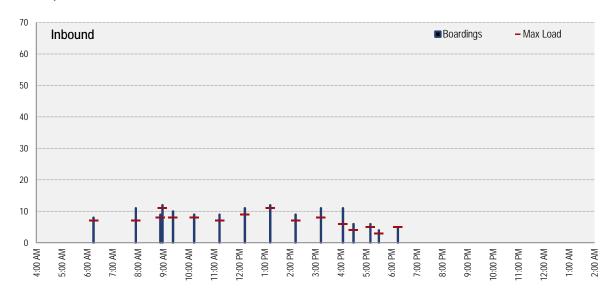


FIGURE 155 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: No data for three scheduled weekday outbound trips at 6:55 PM, 7:20 PM and 8:25 PM..

FIGURE 156 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Note: No data for the 6:55 AM weekday inbound trips.

Ridership by Stop

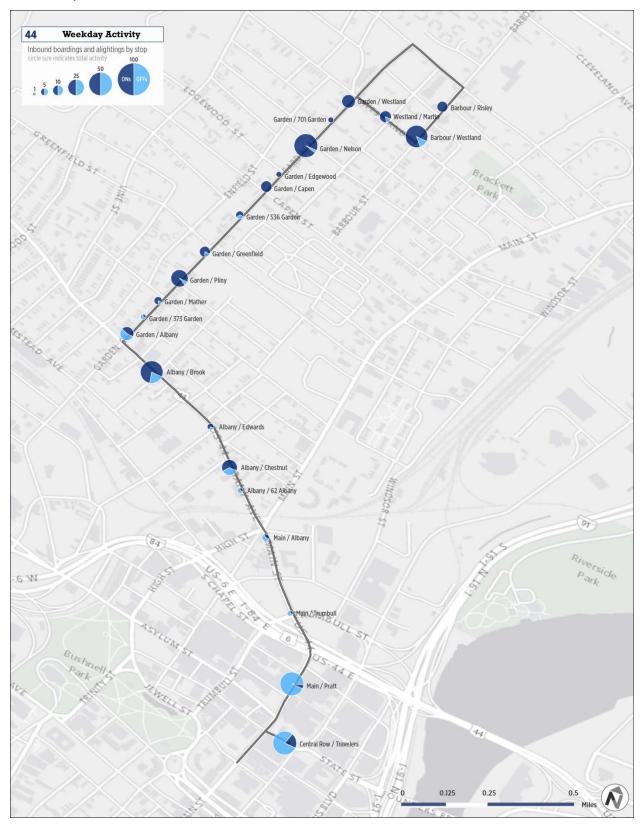
The busiest stops on Route 44 are the downtown Hartford stops on Central Row and Main Street, with just over 50 boardings and alightings each. This is significantly less than observed on other CT*transit* routes serving downtown. Only one other stop along Route 44 has more than 50 daily boardings and alightings: Garden Street at Nelson Street (see Figure 157).







FIGURE 157 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 44 performs slightly better than the average for local routes in CT*transit*'s Hartford Division. The cost per passenger is \$3.90 on weekdays and \$4.15 on Saturdays (Figure 158), which compare favorably to the division averages of \$4.84 and \$6.30, respectively. Passenger productivity also exceeds division averages.

FIGURE 158 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SATU	RDAY	SUN	DAY
	ROUTE 44	DIVISION AVG	ROUTE 44	DIVISION AVG	ROUTE 44	DIVISION AVG
Operating Cost per Passenger	\$3.90	\$4.84	\$4.15	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	32.8	28.9	30.9	27.0	-	29.7
Passengers per Revenue Vehicle Mile	4.7	2.6	3.6	2.4	-	2.9

Source: CTtransit performance data

Route 44 has a high percentage of late trips, with more than one-quarter of all trips arriving late and resulting in overall on-time performance that is significantly below the system average (see Figure 159). This is surprising given the relatively low number of boardings and short distance of the route (2.8 miles).

FIGURE 159 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 44	DIVISION AVG
Early	0.0%	0.2%
Late	27.7%	18.9%
On-Time	72.3%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 44 is a radial route serving the north end of Hartford. Despite having low ridership, the route performs well in terms of relative cost metrics due to the fact that it serves a neighborhood corridor with high transit demand, has a short alignment (2.8 miles) and runs at a relatively low frequency (30 minute peak/60 minute off-peak).

The main improvement opportunities associated with Route 44 are associated with improving the on-time performance and coordinating service with nearby routes. Reasons for the on-time performance problems are unclear, because the route is short and ridership is manageable. Although Albany Street can be congested, Route 44 travels along this arterial for only a short segment and its on-time performance is significantly lower than other Main Street and Albany Avenue routes.

In terms of service coordination, the southern segment of this route, along Main Street and Albany Avenue, operates parallel with eight other local routes (Routes 40, 42, 46, 50, 52, 54, 56 and 58). North of Albany Avenue, Route 44 is paralleled by Route 46 on Vine Street about ½ mile to the west and by Route 42 on Barbour Street about two-tenths of a mile to the east. Thus, within a ¾-mile corridor, there are three local routes. Lower ridership along Garden Street suggests that many riders opt for one of the parallel routes, which offer more frequent service to downtown Hartford.

Opportunities to strengthen Route 44 focus on realigning resources to offer new service options while continuing to offer frequent service in this high density residential corridor.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 44 and 61:

FIGURE 160 | PROPOSED ROUTE 61 ALIGNMENT

Route 44

Route 44 is proposed to be discontinued, with much of its service coverage picked up by an extended Route 61.

Route 61 (New)

Service Design

The proposed Route 61 would operate as a crosstown route between Jordan Lane Shopping Center in Wethersfield and Windsor Shopping Center in Windsor via Maple Avenue, Broad Street, Garden Street, Tower Avenue and Windsor Avenue (see Figure 154). This new alignment would pick up much of the service coverage of existing Routes 44 and 61.

The route would give passengers a one-seat ride from Wethersfield and south Hartford to north Hartford and Windsor. It would also serve several key destinations including Trinity College, Union Station, and the Connecticut Department of Social Services. In addition, the proposed crosstown route would provide a "bridge" between several emerging enhanced transit corridors including North Main Street, Albany Avenue, Farmington Avenue, and Park Street (see Figure 161). Connections to CT**fastrak** service would be available at Union Station.

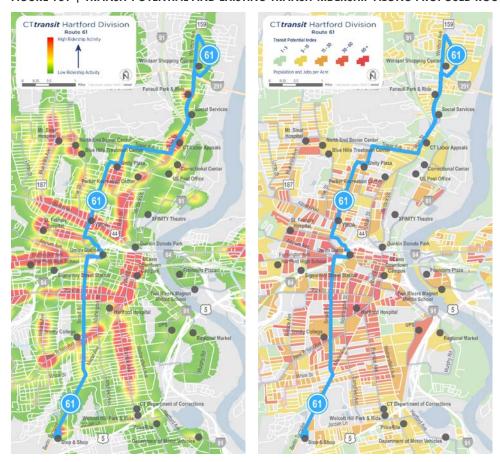








FIGURE 161 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 44 ALIGNMENT



Service Characteristics

The proposed Route 61 would operate every 30 minutes for much of the service day, with the exception of hourly service in the early morning and after the evening peak (see Figure 162). Service frequency of 30 minutes would provide convenient and predictable connections between key corridors and key destinations.











FIGURE 162 | PROPOSED ROUTE 61 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am – 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night		
Owl	-	-
Saturday	6:00 am – 9:00 pm	
Midday	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Jordan Lane Shopping Center Trinity College Union Station Community Health Services / YMCA Unity Plaza CT Department of Social Services Faneuil Park-and-Ride Windsor Shopping Center











11 BERLIN TURNPIKE FLYER

45 | Berlin Turnpike Flyer

SERVICE OVERVIEW

Route 45 is one of the Hartford Division's five Flyer routes, providing express service from Newington and downtown Hartford with stops at a park-and-ride lot and several shopping centers along the Berlin Turnpike.



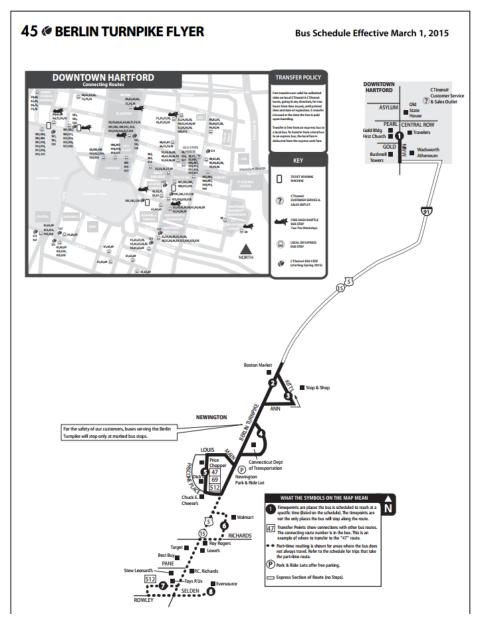








FIGURE 163 | ROUTE MAP



Service Schedule

The Berlin Turnpike Flyer operates seven days a week. On weekdays, the route provides three outbound trips from Hartford in the morning. In the afternoon and evening, the route includes two outbound and five inbound trips. Only four trips operate on Saturdays; this service includes two round trips, all of which operate in the evening. On Sunday, the route completes six round trips, three of which operate in the morning and three in the afternoon.

Route 45 is somewhat unusual in that it has a more robust schedule on Sundays than on Saturdays. This schedule is likely intended to fill a service gap along the Berlin Turnpike that exists on Sundays when Route BK (CT*transit* – New Britain) does not operate. Route BK provides circulation service between the various retail destinations along the turnpike between Rowley Street and Griswoldville Avenue.











FIGURE 164 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:29 AM – 10:35 PM	3 AM trips/7 PM trips	5/5
Saturday	7:15 PM – 10:35 PM	4 PM trips	2/2
Sunday	8:00 AM – 7:25 PM	6 AM trips/6 PM trips	6/6

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 45 carries 84 daily passengers or 8.4 passengers per trip on an average weekday. This is less than half the Hartford Division average of 17.7 weekday passengers per trip (see Figure 165).

The route's two round trips on Saturdays carry a total of 45 passengers. The more robust Sunday schedule results in 167 passengers, or 13.9 passengers per trip.

FIGURE 165 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 45	ROUTE 45	DIVISION AVG
Weekday	84	8.4	17.7
Saturday	45	11.3	16.3
Sunday	167	13.9	17.6

Source: CTtransit performance data

Ridership by Trip

Route 45 carries an average of 8.4 passengers per trip on weekdays. Outbound ridership is relatively consistent on each of the three morning trips but is very low in the afternoon. Inbound ridership is highest on the first trip of the afternoon but is very low after the first two trips. High ridership on the first trips of the day suggests there may be opportunities for earlier service. Maximum loads do not exceed 11 passengers on any trips, so overcrowding is not an issue on Route 45.

Weekend ridership activity is shown in Appendix B.











FIGURE 166 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

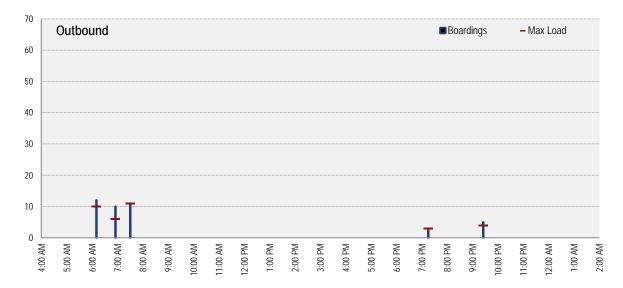
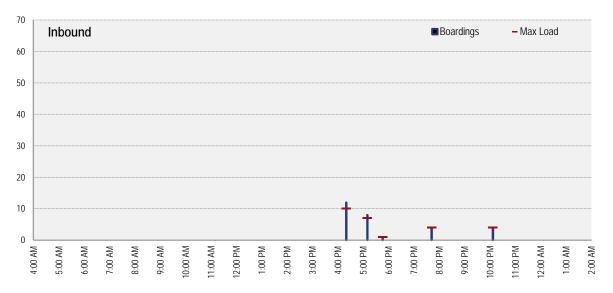


FIGURE 167 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stop on Route 45 is its downtown Hartford terminus at Main Street and Pearl Street, with 20 alightings per day. No other stops generate more than seven boardings or alightings per day (see Figure 168).

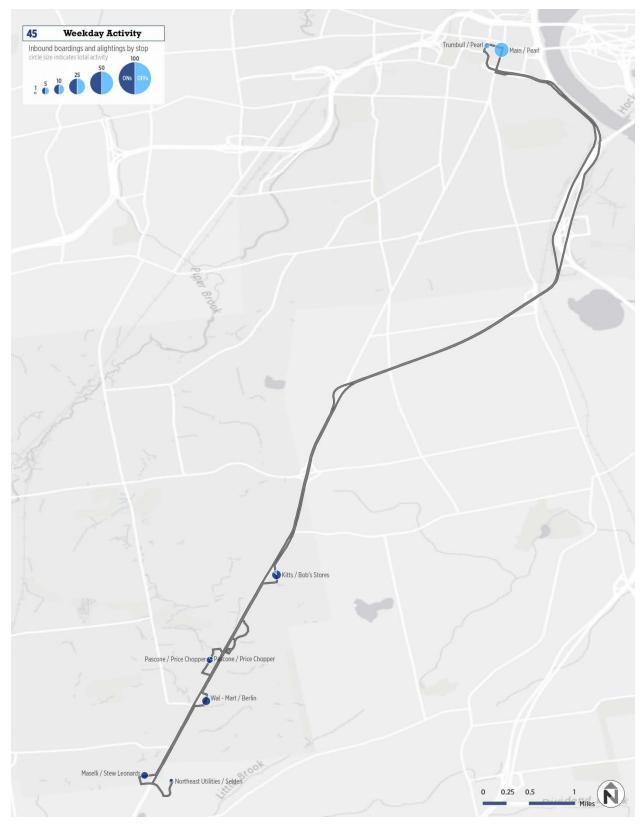








FIGURE 168 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

The productivity of Route 45 is weaker than the Hartford Division average for all service performance metrics on weekdays and weekends (see Figure 169). The route's productivity is highest on Sundays when it fills in for Route BK (CT*transit* – New Haven) by providing circulation service between several retail destinations along the Berlin Turnpike. Overall, Route 45 has the highest weekday operating cost per passenger and lowest ridership per revenue hour among all Hartford Division routes.

FIGURE 169 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 45	DIVISION AVG	ROUTE 45	DIVISION AVG	ROUTE 45	DIVISION AVG
Operating Cost per Passenger	\$9.02	\$4.84	\$5.93	\$6.30	\$5.17	\$6.66
Passengers per Revenue Vehicle Hour	14.2	28.9	21.6	27.0	24.7	29.7
Passengers per Revenue Vehicle Mile	0.7	2.6	1.1	2.4	1.3	2.9

Source: CTtransit performance data

Route 45 has a 76.7% on-time arrival rate, with a higher percentage of late buses than the Hartford Division average (see Figure 170). Given that ridership is not particularly high on Route 45, poor on-time performance suggests insufficient recovery time to consistently provide on-time service on the route.

FIGURE 170 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 45	DIVISION AVG
Early	0.0%	0.2%
Late	23.3%	18.9%
On-Time	76.7%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 45 is a Flyer route that facilitates reverse-commute trips to retail and other destination along the Berlin Turnpike in Newington. On weekends, the route is designed to fill a service gap along the turnpike when Route BK (CT*transit* – New Britain) is not operating. However, on weekdays the route is redundant with Routes 47 and 907. Route 45 has the highest cost per passenger and lowest ridership per hour of any Hartford Division route.

The current design of Route 45 is focused on regional job-access, but in addition to the large retail destinations along the turnpike itself, the Berlin Turnpike corridor in Newington also has a high concentration of multi-family housing located within a ½ mile of the turnpike. Given the challenging pedestrian environment along the Berlin Turnpike, it is difficult for area residents to access retail destinations without an automobile. Reconfiguring Route 45 to provide more local service has the potential to generate significant ridership in this corridor.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 45:

Route 45

Service Design

The proposed Route 45 would operate as a Connector Route linking residential areas in Newington to nearby retail destinations and regional transit hubs. Transit hubs that would be served by the route include the Cedar Street CT*fastrak* station and an emerging hub at Newington Center where passengers would be able to make numerous bus connections.

The Berlin Turnpike corridor in Newington is perhaps the most underserved transit market in the Hartford Division. The area includes more than a dozen apartment complexes and several large retail centers (see Figure 166). It also includes the Connecticut Department of Transportation Headquarters, which could be served from a stop at the corner of Griswoldville Avenue and Berlin Turnpike. While transit ridership in the corridor is currently low (see Figure 173), the potential for ridership is high. The proposed restructuring of Route 45 would help facilitate local trips as well as more convenient connections to regional service.









FIGURE 171 | PROPOSED ROUTE 45 ALIGNMENT

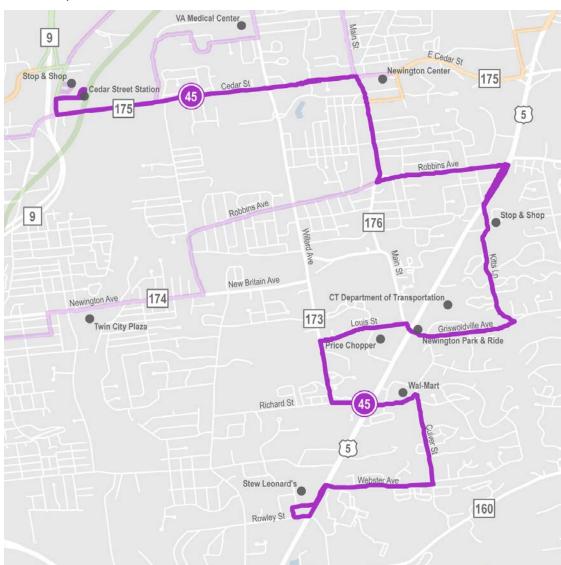










FIGURE 172 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 45 ALIGNMENT

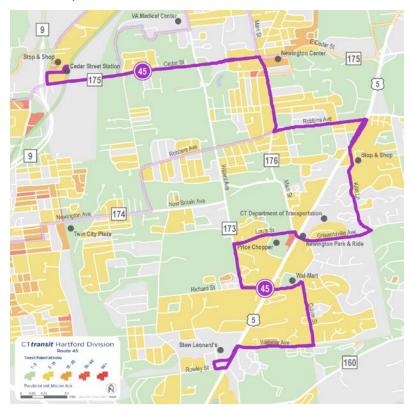
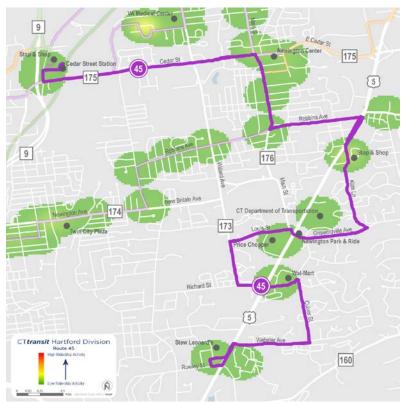


FIGURE 173 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 45 ALIGNMENT













Service Characteristics

Route 45 would operate every 30 minutes from the morning peak period until the early evening. It would then transition to hourly service after 6:00 PM (see Figure 174).

Route 45 could be interlined with proposed Route 69 at Cedar Street Station in order to create a 2-hour cycle time and optimize layover time for both routes. Each Route 45 trip to Cedar Street Station would complete a clockwise loop on Route 69 before beginning its return trip on Route 45.

FIGURE 174 | PROPOSED ROUTE 45 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 10:00 pm	
Early	-	-
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS			
Cedar Street Station			
 Newington Center 			
Stop & Shop			
 Newington Park-and-Ride 			
Price Chopper			
■ Walmart			
Stew Leonard's			









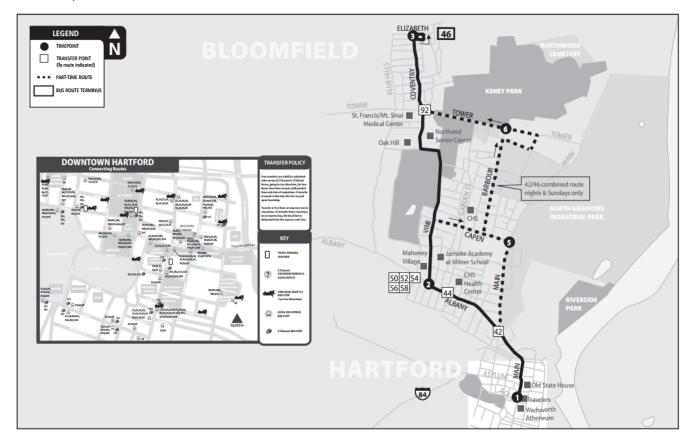
12 VINE STREET

46 | Elizabeth Avenue

SERVICE OVERVIEW

Route 46 originates in downtown Hartford and travels north primarily along Main Street, Albany Avenue, and Vine Street (see Figure 175), terminating just over the Bloomfield town line on Coventry Street and Elizabeth Avenue (just south of Cottage Grove Road). It is combined with Route 42 after 10 pm on weeknights and on Sundays. At these times, Route 46 operates largely on the Route 42 alignment.

FIGURE 175 | ROUTE 46 MAP













Service Schedule

Route 46 operates seven days a week, with Sunday service operating as a combined Route 42/46. There are 57 outbound trips and 57 inbound trips on weekdays. Service during weekday peak periods operates every 10 minutes, and off-peak service operates every 20 to 30 minutes. Saturday service runs every 20 minutes, with 35 outbound trips and 35 inbound trips. The combined Route 42/26 on Sundays operates every 70 minutes. In addition, between Thanksgiving and New Year's Eve, Route 42/46 operates an additional outbound trip later in the evenings on Sundays.

FIGURE 176 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:10 AM – 12:15 AM	10/30	57/57
Saturday	7:00 AM – 8:55 PM	20	35/35
Sunday*	7:20 AM – 8:05 PM	70	13/12

^{*} On Sunday, Route 46 operates as combined Route 42/46 that follows a modified alignment.

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 46 carries 1,886 daily passengers on an average weekday, or about 16.5 passengers per trip, which is just slightly below the Hartford Division average of 17.7 weekday passengers per trip (see Figure 177). Saturday service carries 935 daily passengers, or 13.4 passengers per trip, which is also below the division average of 16.3 passengers per trip for Saturday. Sunday service, operated as a combined Route 42/46 carries 370 daily passengers, or 15.4 riders per trip, which is well below the division average.

FIGURE 177 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 46	ROUTE 46	DIVISION AVG
Weekday	1,886	16.5	17.7
Saturday	935	13.4	16.3
Sunday*	370	15.4	17.6

^{*} On Sunday, Route 46 operates as combined Route 42/46 that follows a modified alignment. Ridership and productivity data for Sunday represents this combined Route 42/46.

Source: CTtransit performance data

Ridership by Trip

Route 46 carries an average of 16.5 passengers per trip on weekdays. As shown in Figure 178 and Figure 179, demand is fairly balanced throughout much of the day on both inbound and outbound trips. However, maximum loads and the number of riders per trip are generally lower during peak periods when service operates every 10 minutes. This suggests that this higher level of peak period service may not be warranted. Also, ridership appears stronger in the inbound direction, suggesting riders are using alternate routes in the outbound direction to return to the north end of Hartford. Weekend ridership activity is shown in Appendix B.











FIGURE 178 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

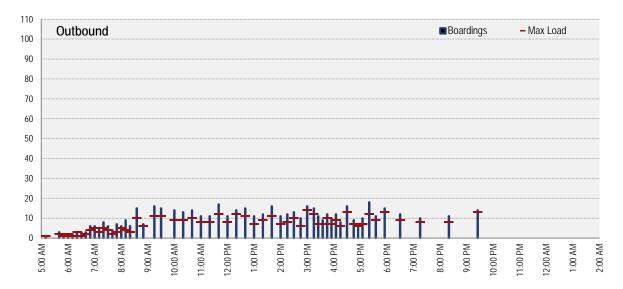
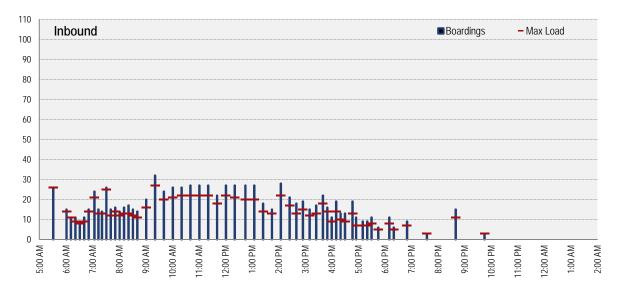


FIGURE 179 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops along Route 46 are the downtown Hartford stops at the Old State House and at Main and Church Streets. Outside of downtown, there are a number of stops along Albany Avenue and Coventry Street that generate 50 or more boardings or alightings each day (see Figure 180).

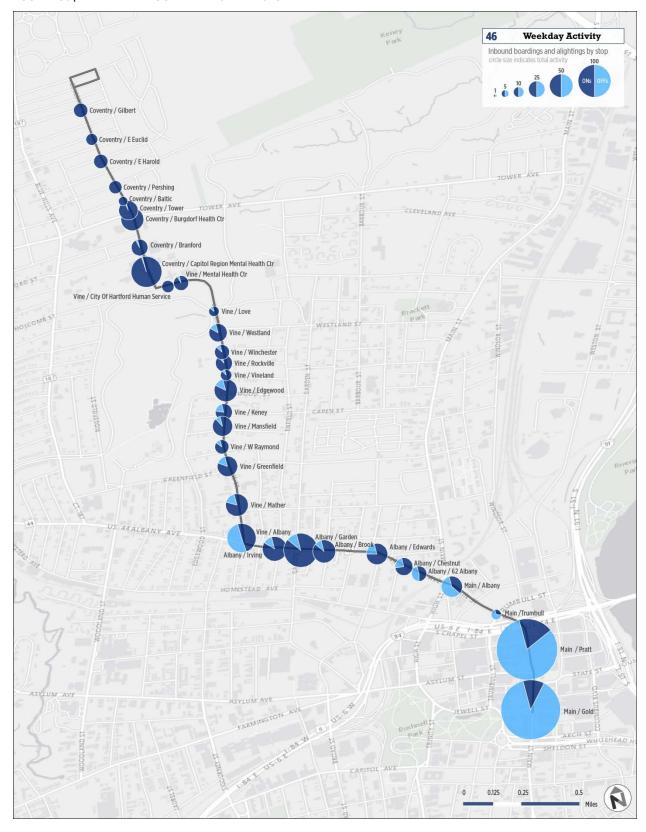








FIGURE 180 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 46 performs well when compared to other local routes in CT*transit*'s Hartford Division (see Figure 181), particularly on weekdays. The cost per passenger is \$3.10, which is well below the average of \$4.84; passenger productivity is also well above division averages. On Saturdays, the cost per passenger is also very low and the number of riders carried per hour and mile continue to be higher than the division averages. This is likely due to the relatively short length of the route. On Sundays, when combined with Route 42, the route also performs relatively well.

Overall, Route 46 has the second lowest operating cost per passenger and carries the second-most passengers per hour in the Hartford Division.

FIGURE 181 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEI	EKDAY	SATU	JRDAY	SUNI	DAY
	ROUTE 46	DIVISION AVG	ROUTE 46	DIVISION AVG	ROUTE 42/46	DIVISION AVG
Operating Cost per Passenger	\$3.10	\$4.84	\$3.78	\$6.30	\$4.50	\$6.66
Passengers per Revenue Vehicle Hour	41.2	28.9	33.8	27.0	28.5	29.7
Passengers per Revenue Vehicle Mile	4.4	2.6	3.5	2.4	4.4	2.9

Source: CTtransit performance data

Route 46 has an average on-time performance that is very similar to the Hartford Division average. The route runs off schedule, both early and late, slightly more often than other routes (see Figure 182).

FIGURE 182 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 46	DIVISION AVG
Early	1.5%	0.2%
Late	19.1%	18.9%
On-Time	79.3%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 46 is a radial route serving the north of Hartford that has excellent performance when compared to other routes in the Hartford Division. For much of its length, it operates with a number of other routes along Main Street and Albany Avenue. The route also displays consistent levels of ridership north of Albany Avenue, along Vine and Coventry Streets. Its high performance given the level of competing service in this corridor demonstrates the high level of transit demand in the North End of Hartford, and is likely also due to the fact that the route serves two key activity centers near its northern terminus (Mt. Sinai Hospital and the North End Senior Center).

The route also performs well on weekends, including Saturdays when it operates along its regular route, and Sundays when it is served by a combined Route 42/46 service loop.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 46:

Route 46

Service Design

The proposed Route 46 would operate as a radial route between downtown Hartford and Elizabeth Avenue in Hartford's North End, via Albany Avenue, Vine Street and Coventry Street. The proposed alignment is the same as the route operated today (see Figure 177).

Weekend service is proposed to operate separately from Route 42, as an independent service along the Route 46 weekday alignment shown in Figure 177.

Together with Routes 50, 54, 58 and 76, Route 46 would help establish an enhanced transit corridor along Albany Avenue, providing 10-minute or better service frequency between Blue Hills Avenue and downtown Hartford during peak periods. As shown in Figure 184, this corridor has the density and existing ridership demand needed to support high frequency service. Over the long-term, establishing an enhanced transit corridor provides a focus area for future capital investments such as enhanced passenger amenities and transit-priority treatments.

FIGURE 183 | PROPOSED ROUTE 46 ALIGNMENT









FIGURE 184 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 46 ALIGNMENT





Service Characteristics

Route 46 would operate at 20 minute frequency during peak periods, 30 minute frequency during the midday, and hourly during early morning and late evening hours.

Route 46 would be interlined with proposed Route 50 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 46 service and Route 50 service every other trip. Drivers would change headsigns on Main Street south of I-84.











FIGURE 185 | PROPOSED ROUTE 46 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening*	6:00 pm – 9:00 pm	30-60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Community Health Center / YMCA Blue Hills Treatment Center North End Senior Center Mount Sinai Hospital









^{*} Operates every 60 minutes after 8:00 pm



13 FRANKLIN AVENUE

47 | Jordan Lane

47B | Berlin Turnpike

47R | Rose Hill

47W | Wethersfield Shopping Center

SERVICE OVERVIEW

Route 47 is a radial route that travels south from downtown Hartford. The common alignment of the route operates along Franklin Avenue from downtown Hartford to Wolcott Hill Road and Jordon Lane. In addition to the Franklin Avenue service, Route 47 has three variants that serve the Berlin Turnpike (47B), Rose Hill (47R), and Wethersfield Shopping Center (47W) (see Figure 186).



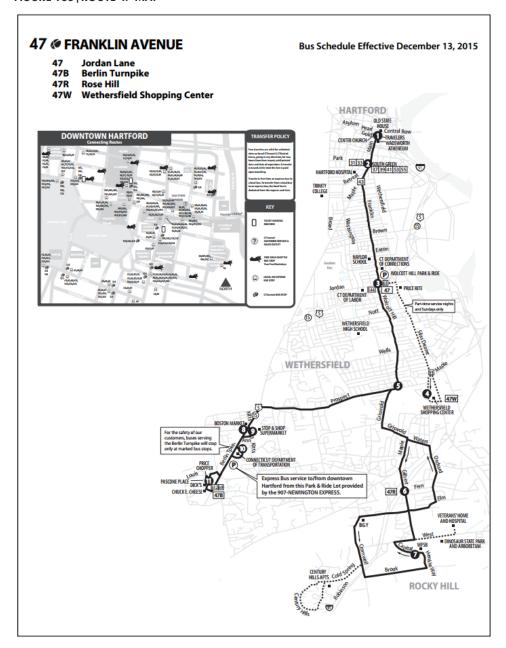








FIGURE 186 | ROUTE 47 MAP



Service Schedule

Route 47 operates seven days a week. On weekdays, service operates every 10 minutes throughout most of the day. This means there are roughly six trips per hour. Four of the trips operate as Route 47 and the variants service Route 47B and 47R have one trip each.

Saturday service operates every 15 minutes. Route 47 operates three times an hour, while Route 47B has one trip per hour. Evening service, on both weekdays and Saturdays, is operated as Route 47W with roughly 60-65 minute service.

Sunday service operates exclusively as Route 47W and runs every 70 minutes. One additional trip operates on Saturdays and Sundays during the holiday season.











FIGURE 187 | SCHEDULE OVERVIEW (ALL ROUTES 47, 47B, 47R, AND 47W)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:21 AM – 1:15 AM	10/10	81/83
Saturday	7:05 AM – 11:20 PM	15	48/49
Sunday	7:30 AM – 8:05 PM	70	12/12

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 47 carries 3,245 passengers or 19.7 passengers per trip on an average weekday. This is 12% above the Hartford Division average of 17.7 weekday passengers per trip (see Figure 188).

Saturday and Sunday ridership per trip exceeds the Division average by 22% and 70%, respectively. This can likely be attributed to fewer overall trips on weekdays and the weekend appeal of shopping destinations served by the route.

FIGURE 188 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 47	ROUTE 47	DIVISION AVG
Weekday	3,245	19.7	17.7
Saturday	1,809	18.8	16.3
Sunday	703	32.0	17.6

Source: CTtransit performance data

Ridership by Trip

Route 47 carries an average of 19.7 passengers per trip on weekdays. The most prevalent travel pattern on Route 47 is inbound in the morning and outbound in the afternoon and evening. Outbound ridership is also relatively heavy, but Route 47 frequency is so high that passenger loads do not get a chance to build up (see Figure 189 and Figure 190). Passenger loads are highest on inbound trips, with several morning trips experiencing maximum loads of between 30 and 40 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers. The highest passenger load on weekdays is on the first inbound trip of the day, with 37 passengers. This trip departs for downtown Hartford at 5:21 AM, but the high ridership suggests an even earlier departure may be well received.

Weekend ridership activity is shown in Appendix B.









FIGURE 189 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

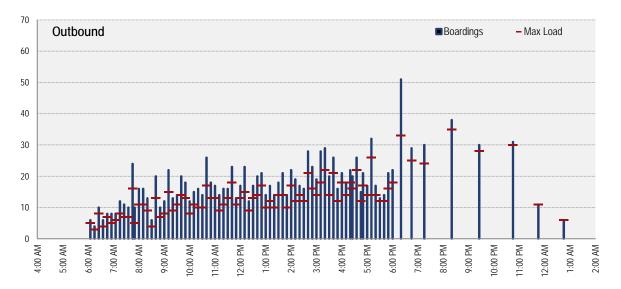
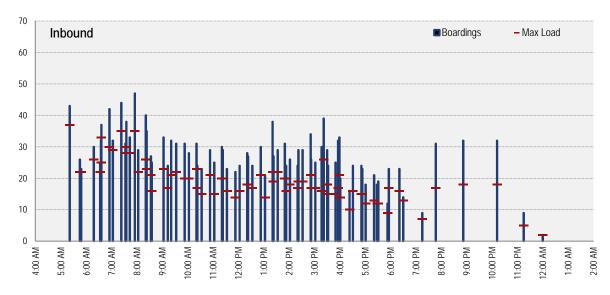


FIGURE 190 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Like most CT*transit* Hartford Division routes, the most heavily used stops on Route 47 are in downtown Hartford. However, the route is somewhat unusual in the number of stops outside of downtown that generate 50 or more boardings or alightings per day (see Figure 191 and Figure 192). In addition, ridership at many of the most heavily used stops along Franklin Avenue appears to be generated by neighborhood retail and surrounding residential areas, rather than major regional destinations such as shopping malls or large employers. In essence, Franklin Avenue is a very good transit corridor, with supportive pedestrian infrastructure, and is surrounded by a mix of local retail and high-density residential neighborhoods. The outer ends of Route 47 and its variants, however, have low ridership.







FIGURE 191 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

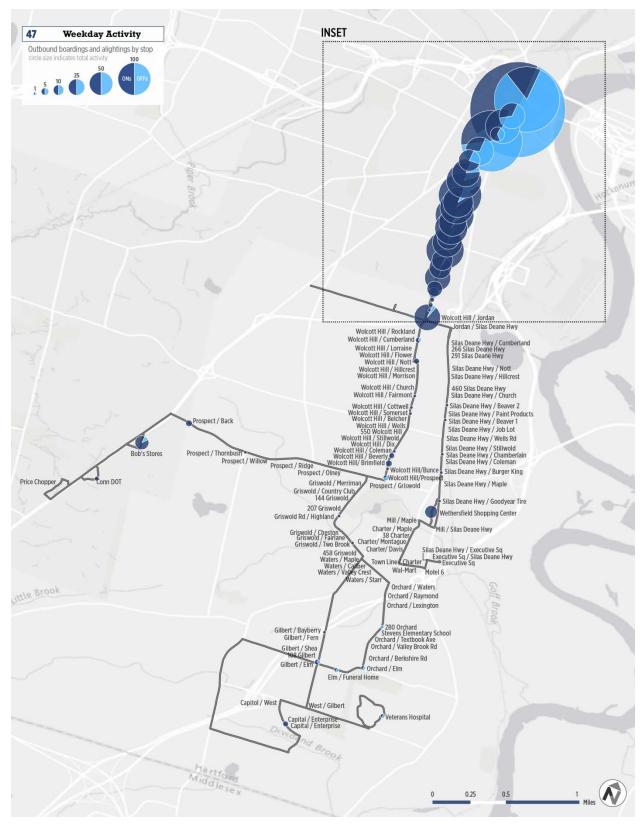


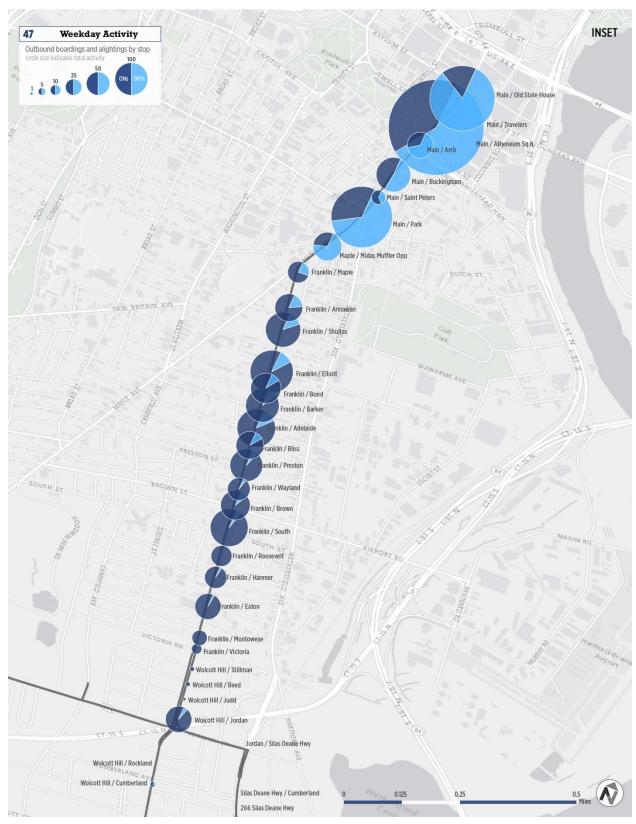








FIGURE 192 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

Route 47 performs well on all measures of productivity, with a lower than average operating cost per passenger on all service days and much higher than average ridership per revenue hour and revenue mile (see Figure 193). The route's service performance is driven by its very strong daily ridership.

FIGURE 193 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 47	DIVISION AVG	ROUTE 47	DIVISION AVG	ROUTE 47	DIVISION AVG
Operating Cost per Passenger	\$3.33	\$4.84	\$3.03	\$6.30	\$2.26	\$6.66
Passengers per Revenue Vehicle Hour	38.4	28.9	42.3	27.0	56.6	29.7
Passengers per Revenue Vehicle Mile	3.6	2.6	4.0	2.4	5.6	2.9

Source: CTtransit performance data

Route 47 has relatively strong on-time performance, with an 82.8% on-time arrival rate. Buses are late more often than early, but late arrivals on Route 47 happen less frequently than the Hartford Division average for late arrivals (see Figure 194).

FIGURE 194 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 47	DIVISION AVG
Early	0.0%	0.2%
Late	17.2%	18.9%
On-Time	82.8%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 47 is a radial route with very high ridership and productivity. It is the fifth-highest route in the Hartford Division in terms of passengers per revenue hour and the fifth lowest in terms of operating cost per passenger. However, the vast majority of the route's ridership is concentrated in the "trunk" segment between Jordan Lane and downtown Hartford. Beyond this point the route has three branches serving various final destinations at various frequencies. Ridership on all the branches is generally low.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 47, 53 and 55:

Route 47

Route 47 is proposed to be discontinued, with its highest ridership segment along Franklin Avenue picked up by a combination of Route 53 and Route 55.

Route 53

Service Design

The proposed Route 53 would operate as a Radial Route between downtown Hartford and the Veterans Home and Hospital in Rocky Hill via Franklin Avenue, State Street in Wethersfield, Silas Deane Highway, and West Street in Rocky Hill (see Figure 189). The route would also serve the Connecticut Department of Motor Vehicles office in Wethersfield.

Together with Route 55, Route 53 would help establish an enhanced transit corridor along Franklin Street. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes could be provided along Franklin Avenue, between Jordan Lane and downtown Hartford. Over the long-term, establishing an enhanced transit corridor would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

From Jordan Lane to downtown Hartford, the proposed Route 53 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 196). South of Jordan Lane, the environment is more suburban and less transit-supportive. The convergence and divergence of Routes 53 and 55 would be designed to provide the highest level of transit service in the most transit-supportive segment of the corridor, while also providing a one-seat ride to downtown Hartford from any stop on Route 53 and Route 55.

FIGURE 195 | PROPOSED ROUTE 53 ALIGNMENT

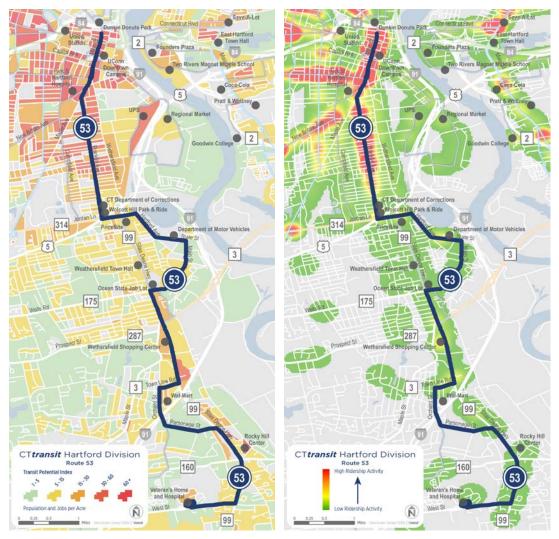








FIGURE 196 | ROUTE 53 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 53 would be interlined with proposed Route 42 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.

Route 53 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Route 55, an average peak frequency of every 10 minutes would be provided along Franklin Avenue and portions of Silas Deane Highway (see Figure 197).











FIGURE 197 | PROPOSED ROUTE 53 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 9:00 pm	, , , , , , , , , , , , , , , , , , , ,
Early AM Peak	5:00 am - 6:00 am	30
Midday	6:00 am - 9:00 am 9:00 am - 3:00 pm	20 30
PM Peak	3:00 pm – 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night Owl	_	-
Saturday	6:00 am – 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown Hartford
 Hartford Hospital
 CT Department of Corrections
Wolcott Hill Park-and-Ride
Price Rite
 CT Department of Motor Vehicles
 Wethersfield Shopping Center
■ Walmart
Rocky Hill Center
Veterans Home and Hospital







Route 55

Service Design

The proposed Route 55 would operate as a Radial Route between downtown Hartford and the Century Springs neighborhood in Rocky Hill via Franklin Avenue, Spring Street in Wethersfield, Silas Deane Highway, Elm Street, Cromwell Avenue, and Century Springs Drive in Rocky Hill (see Figure 192).

Together with Route 53, Route 55 would help establish an enhanced transit corridor along Franklin Street. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes can be provided along Franklin Avenue, between Jordan Lane and downtown Hartford. Over the long-term, establishing an enhanced transit corridor would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

From Jordan Lane to downtown Hartford, the proposed Route 55 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 199). South of Jordan Lane, the environment is more suburban and less transit-supportive. The convergence and divergence of Routes 53 and 55 would be designed to provide the highest level of transit service in the most transit-supportive segment of the corridor, while also providing a one-seat ride to downtown Hartford from any stop on Route 53 and Route 55.

The proposed Route 55 would no longer serve Middletown. Current ridership patterns suggest that Middletown riders could be served through a combination of expanded service on Express Route 921, serving Hartford and Middletown, and improved feeder service to the Silver Street Park-and-Ride in Middletown by Middletown Area Transit. Alternatively, a new Express route could be considered between Middletown

FIGURE 198 | PROPOSED ROUTE 55 ALIGNMENT



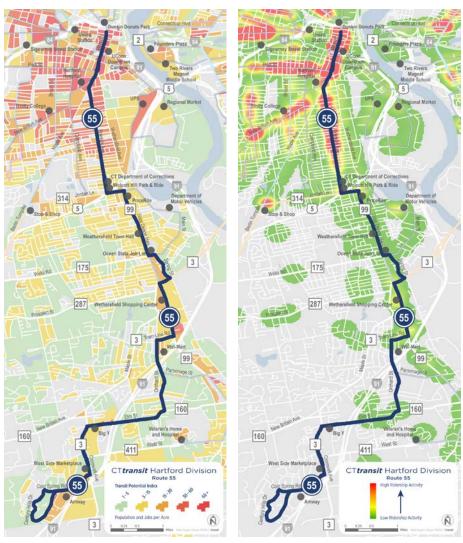
and Hartford. Unlike Route 921, the new route could serve downtown Middletown, as well as the Silver Street Park-and-Ride to better connect to Middletown Area Transit (MAT) routes that do not serve the Silver Street facility. In general, the Middletown to Hartford connection is a more appropriate function for Express service than for local service of the CT*transit* Hartford Division.







FIGURE 199 | ROUTE 55 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 55 would be interlined with proposed Route 40 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue and North Main Street corridors via downtown Hartford.

Route 55 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Route 53, an average peak frequency of every 10 minutes would be provided along Franklin Avenue and portions of Silas Deane Highway (see Figure 200).











FIGURE 200 | PROPOSED ROUTE 55 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm - 11:00 pm	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Hartford Hospital CT Department of Corrections Wolcott Hill Park-and-Ride Price Rite Wethersfield Town Hall Wethersfield Shopping Center Walmart
Big YCentury Hills









14 BLUE HILLS AVENUE

50A | CIGNA/MetLife 52 | Rockwell Corner

50B | Bloomfield Center 52W | Wedgewood

50C | Copaco 54 | Blue Hills Extension

54X | Blue Hills Ext. Express

SERVICE OVERVIEW

Routes 50, 52, and 54 are radial routes that travel northwest from downtown Hartford to Bloomfield (Routes 50 and Route 52) and Windsor (Route 54). All trips serve the Albany Avenue and Blue Hills Avenue corridors through Hartford. Three separate variants of Route 50 use Cottage Grove Road to terminate at Cigna/MetLife (50A), Bloomfield Center (50B) or Copaco Center (50C) (see Figure 201). Route 52 continues north on Blue Hills Avenue to Rockwell Corner, while Route 52 continues another mile north to terminate at the Wedgewood Apartments. Routes 54 and 54X continue north to Griffin Center and then follow Day Hill Road to terminate at the Poquonock Park-and-Ride Lot off Interstate 91 (see Figure 202).









FIGURE 201 | ROUTE 50 MAP

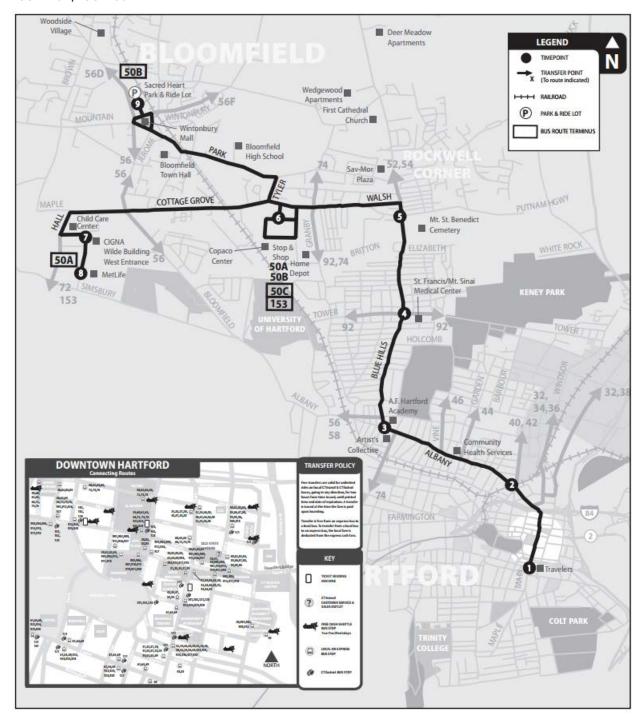


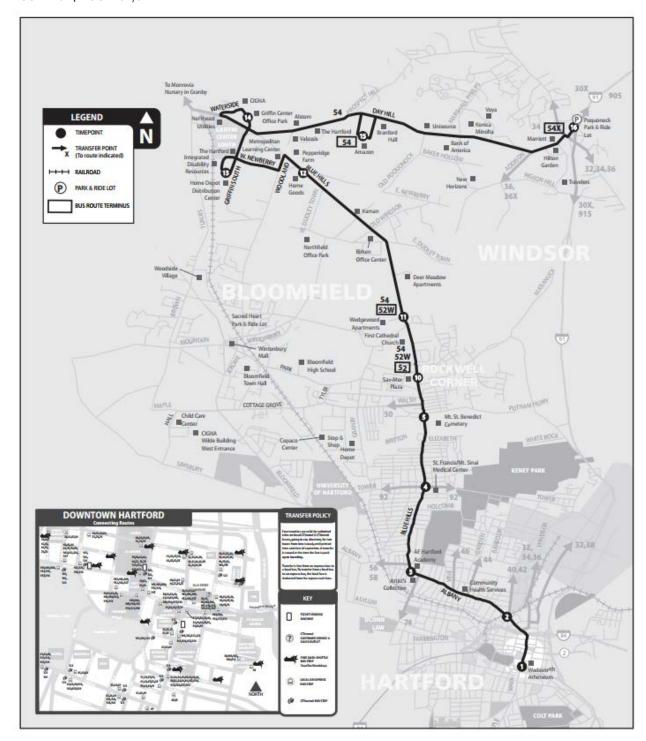








FIGURE 202 | ROUTE 52/54 MAP













Service Schedule

All variants of Routes 50, 52 and 54 operate on weekdays. Route 50C (serving Copaco Center) and Routes 52/52W only operate on Saturdays. On Sundays, only Routes 50B and 50C operate.

The effective frequency of service along the common alignment on Albany and Blue Hills Avenues (see Figure 203) is roughly every 10 minutes or more throughout the day until 7:15 PM., followed by hourly service in the evening. Service levels are lower on the unique portions of the individual routes.

- Route 50 trips operate hourly and alternate between 50A-50B-50C, providing 20 minute service on the shared alignment to Copaco. Service is less frequent prior to 8:30 AM and after 5:45 PM.
- Both Routes 52 and 52W operate roughly every 30 minutes during the peak and 60 minutes during the off-peak, and generally alternate. However, Route 52/52W schedules are not coordinated (i.e., there is *not* consistent 15 minute peak and 30 minute off-peak service).
- Route 54 trips operate every 60 minutes. Additionally, four Route 54X trips are operated in each reverse peak direction on weekdays.

On Saturdays, Route 50c and Route 52/52W alternate trips through the day; service on the shared alignment operates every 15 minutes until 6:15 p.m. Route 50C continues to operate later in the evening, although with a reduced frequency. On Sundays, Route 50B/50C offers hourly service primarily to Bloomfield Center (50B), with a handful of trips terminating at Copaco Center (50C), with most scheduled after 6 PM.

An additional evening inbound and outbound trip operates to Copaco on Saturdays and Sundays between Thanksgiving and New Year's Eve.

FIGURE 203 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:30 AM – 1:25 AM	10	90/100
Saturday	6:40 AM – 11:40 PM	15	50/52
Sunday	6:30 AM – 8:40 PM	70	13/13

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Combined, Routes 50, 52 and 54 carry about 4,734 passengers per weekday or about 25 passengers per trip. This is well above the Hartford Division average of 17.7 passengers per trip (see Figure 204). On Saturday, Routes 50 and 52 are in operation and carry about 23 passengers per trip. On Sunday, Routes 50B/C carries about 30.5 passengers per trip. Ridership by trip on Saturday and Sunday both significantly exceed the division averages.









FIGURE 204 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP		
	ROUTE 50/52/54	ROUTE 50/52/54	DIVISION AVG	
Weekday	4,734	25.0	17.7	
Saturday	2,301	23.0	16.3	
Sunday	733	30.5	17.6	

Source: CTtransit performance data

Ridership by Trip

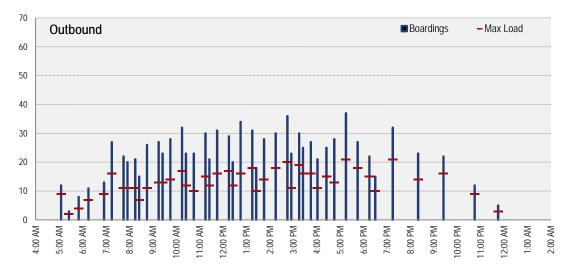
Combined, Routes 50, 52 and 54 carry an average of 24.9 passengers per trip on weekdays. Ridership by trip day is presented separately for Route 50 and for Routes 52/54.

Route 50

Ridership on Route 50 is well balanced throughout the day and in both directions (see Figure 205 and Figure 206). The highest demand is in the afternoon and for inbound travel. Ridership also remains fairly strong until after 11 PM, but after 11 PM, demand drops considerably. Five inbound afternoon trips carry over 40 riders, with trips at 3:01 PM and 4:08 PM having peak loads that approach the 40-seat capacity of a typical 40-foot transit bus. This suggests that, although not every trip is overcrowded, some will be.

Weekend ridership activity is shown in Appendix B.

FIGURE 205 | ROUTE 50 WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: In order to show all trips in this summary, trips with the same start time were adjusted by one-minute. Certain trips also correspond to older schedule data.

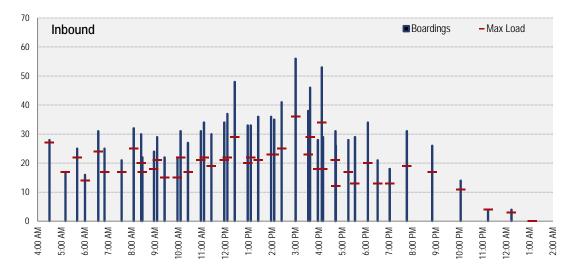








FIGURE 206 | ROUTE 50 WEEKDAY INBOUND RIDERSHIP BY TRIP

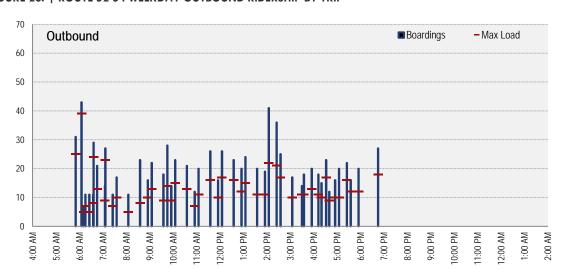


Route 52 - 54

Ridership on Routes 52 and 54 is strong throughout the day and in both directions (see Figure 207 and Figure 208). Demand shows stronger peak period commuting travel, with a strong reverse direction demand, so that ridership is strong outbound in the morning and inbound in the afternoon. This reflects the employment destinations in Windsor; likewise, strong ridership on the last inbound run of the day may reflect second shift workers returning home from Windsor. *Also note that some activity in the inbound direction is likely shown in data for Route 36.*

Weekend ridership activity is shown in Appendix B.

FIGURE 207 | ROUTE 52-54 WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: In order to show all trips in this summary, trips with the same start time were adjusted by one-minute.



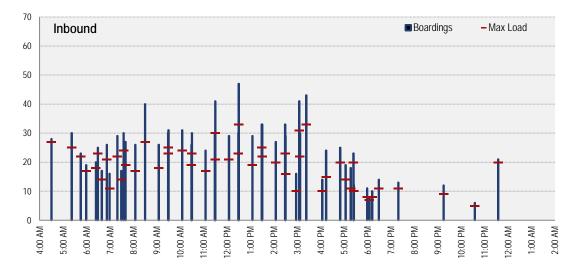








FIGURE 208 | ROUTE 52-54 WEEKDAY INBOUND RIDERSHIP BY TRIP



Note: In order to show all trips in this summary, trips with the same start time were adjusted by one-minute. Certain trips also correspond to older schedule data.

Ridership by Stop

The most heavily used stops on Routes 50, 52 and 54 are in downtown Hartford, with more than 600 boardings and alightings per day. Copaco Center generates the next highest ridership; with about 380 riders per day (see Figure 209). Three stops along Albany Avenue generate more than 150 boardings and alightings per day, at Garden Street, Blue Hills Avenue and Edgewood Street. The Blue Hills Avenue /Tower Avenue stop at Mt. Sinai Medical Center generates about 140 riders per day.

Several other stops along Albany Avenue and Blue Hills Avenue generate 50 or more boardings or alightings per day (see Figure 210). Other than Copaco Center in Bloomfield, there are no stops outside of Hartford that generate more than 50 boardings or alightings per day. The Home Goods Distribution Center south of Day Hill Road and served by Routes 54/54X generates about 49 riders per day. All other stop locations on Routes 54/54X generate ten or fewer riders per day.









FIGURE 209 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

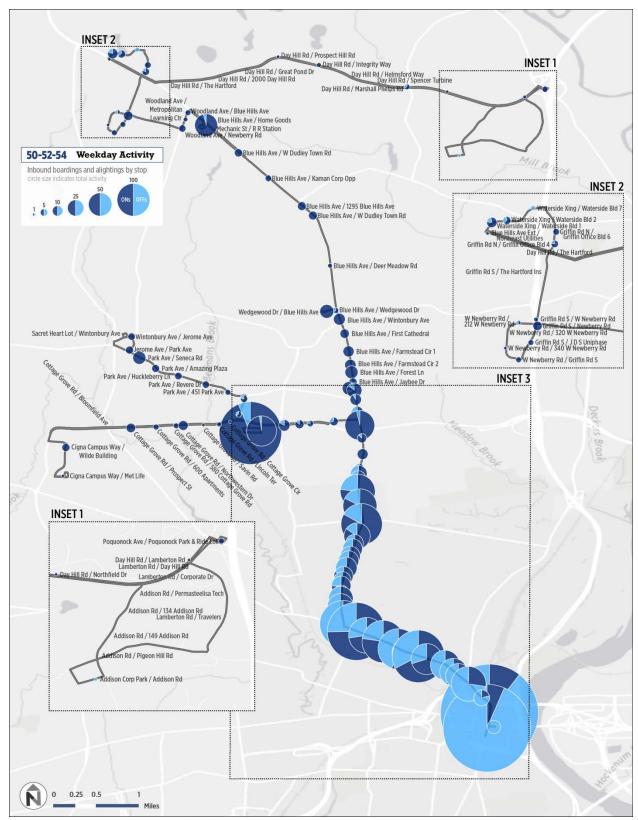


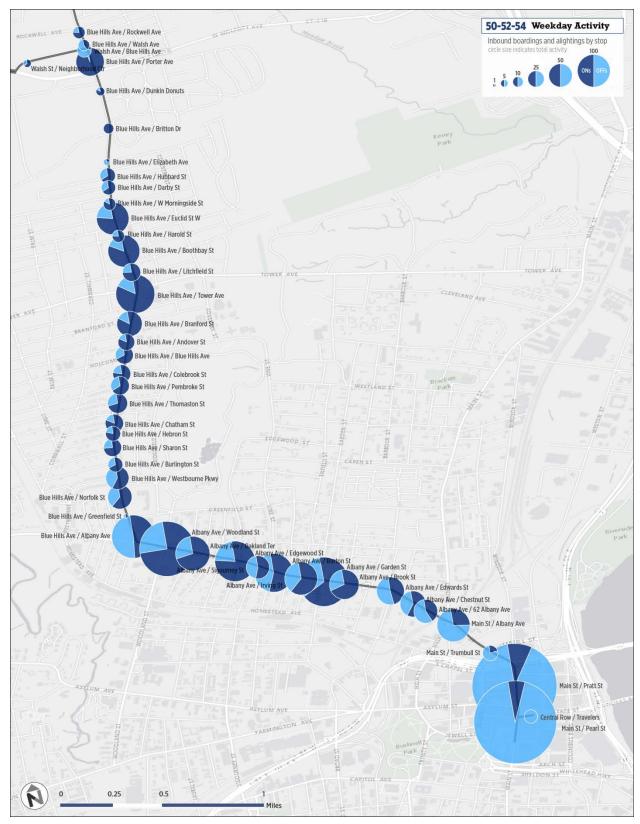








FIGURE 210 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP INSET











Productivity and On-Time Performance

Combined, Routes 50, 52 and 54 perform significantly better than the Hartford Division average by all measures (see Figure 211). Their combined costs per passenger are lower than the division average on all days. Saturdays and Sundays perform particularly well, likely due to the fact that the longer routes (54 and 50A) are not in operation and Copaco Center is a strong generator of weekend ridership.

FIGURE 211 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 50/52/54	DIVISION AVG	ROUTE 50/52/54	DIVISION AVG	ROUTE 50/52/54	DIVISION AVG
Operating Cost per Passenger	\$3.49	\$4.84	\$3.03	\$6.30	\$3.41	\$6.66
Passengers per Revenue Vehicle Hour	36.7	28.9	42.3	27.0	37.5	29.7
Passengers per Revenue Vehicle Mile	3.4	2.6	4.2	2.4	4.4	2.9

Source: CTtransit performance data

Combined, Routes 50, 52 and 54 have on-time performance that is essentially the same as the Hartford Division average, with 81% of time point checks showing buses on schedule (see Figure 212).

FIGURE 212 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 50/52/54	DIVISION AVG
Early	0.2%	0.2%
Late	18.8%	18.9%
On-Time	81.0%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Routes 50, 52, and 54 are radial routes that travel through the Upper Albany and Blue Hills neighborhoods north of downtown Hartford. The routes share a common alignment along Albany Avenue and Blue Hills Avenue in Hartford, then diverge to serve different employment and residential areas in Bloomfield and Windsor.

The routes perform better than most in the Hartford Division. The strength of these routes is related to the corridors they serve, which include some of Hartford's most dense and transit-dependent neighborhoods, as well as a strong outlying activity center at Copaco Center. However, Routes 50A and 50B have low ridership west of Copaco Center, where other bus routes provide competing service to access the Cigna/Met Campus (i.e. Routes 72 and CT**fastrak** Route 153) and Bloomfield Center (i.e. Routes 56 and 92).

Ridership patterns on Route 54 correlate with the reverse peak direction, indicating this route is used by workers destined for employment at the Griffin Center Office Park in Bloomfield and along Day Hill Road in Windsor. Opportunities to improve this service to better meet the schedules of shift workers in these locations, including weekend shifts, may help strenghten the service.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 50, 52, and 54:

Route 50

Service Design

The proposed Route 50 would operate as a radial route between downtown Hartford and Bloomfield Center via Albany Avenue, Blue Hills Avenue, Cottage Grove Road and Park Avenue. It would continue beyond Bloomfield Center to provide local Bloomfield service on Mountain Avenue, Brown Street and to the Woodside Apartments on Dorothy Drive (see Figure 213).

Route 50 would become the primary service to Bloomfield Center, replacing Route 56 which has low ridership between the University of Hartford and Bloomfield Center. In order to consolidate these services, Route 50 would be extended north of Bloomfield Center to provide bi-directional service on Mountain Avenue and Brown Street (rather than the loop followed by Route 56 today). Route 50A between Copaco Center and the Cigna/Met campus would be discontinued, as this segment attracts few riders and is now served by CT**fastrak** Route 153.

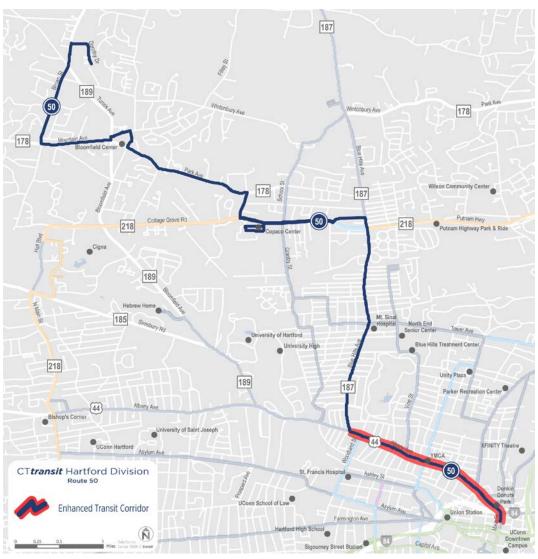
Together with Routes 46, 54, 58 and 76, Route 50 would help establish an enhanced transit corridor along Albany Avenue, one of Hartford's most dense and transit-supportive corridors (see Figure 214 and Figure 215). Where they converge, these routes would provide 6-minute or better frequency during peak-periods, and 10-minute frequency during off-peak times. Along Blue Hills Avenue, Routes 50 would combine with Routes 20 and 54 to provide better than 10 minute frequency during peak periods, and about 12 minute frequency during off-peak hours. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.







FIGURE 213 | PROPOSED ROUTE 50 ALIGNMENT



Service Characteristics

Route 50 would operate at 20 minute frequency during peak periods and at 30 minute frequency during the off-peak. During the very early morning hours, hourly service would be provided.

Route 50 could be interlined with proposed Route 46 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 46 service and Route 50 service every other trip.









FIGURE 214 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 50 ALIGNMENT

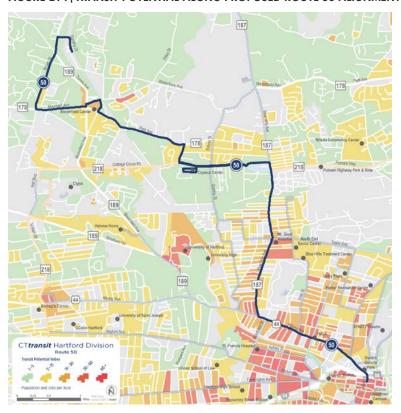


FIGURE 215 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 50 ALIGNMENT

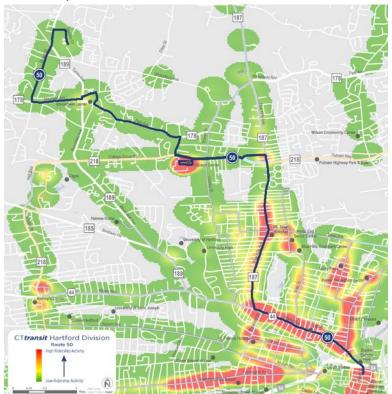












FIGURE 216 | PROPOSED ROUTE 50 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 8:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening*	6:00 pm – 8:00 pm	30
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford
Community Health Center / YMCA
 Mount Sinai Hospital
Blue Hills Library
Copaco Center
 Bloomfield Center
 Woodside Village Apartments

Route 52

Service Design

Route 52 is proposed to be consolidated as part of Route 54. All trips would operate as Route 54 via Albany Avenue and Blue Hills Avenue, continuing north of Rockwell Corner to Day Hill Road.

Route 54

Service Design

The proposed Route 54 would operate as a Radial Route between downtown Hartford, Griffin Center Office Park in Bloomfield, and Day Hill Road in Windsor, via Blue Hills Avenue. Together with Route 36, Route 54 would help provide 15-minute service frequency to Day Hill Road during peak periods.

Together with Routes 46, 50, 58 and 76, Route 50 would provide 6-minute or better frequency during peak-periods along Albany Avenue, and 10-minute frequency during off-peak times. Along Blue Hills Avenue, Routes 54 would combine with Routes 20 and 50 to provide better than 10 minute frequency during peak periods, and about 12 minute frequency during off-peak hours.

As one of Hartford's most dense and transit-supportive corridors, Albany Avenue can support the proposed high service frequencies (see Figure 218). Over the long-term, establishing an enhanced transit corridor along Albany Avenue provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments. Future investments along Blue Hills Avenue may also be warranted.







FIGURE 217 | PROPOSED ROUTE 54 ALIGNMENT AND KEY DESTINATIONS

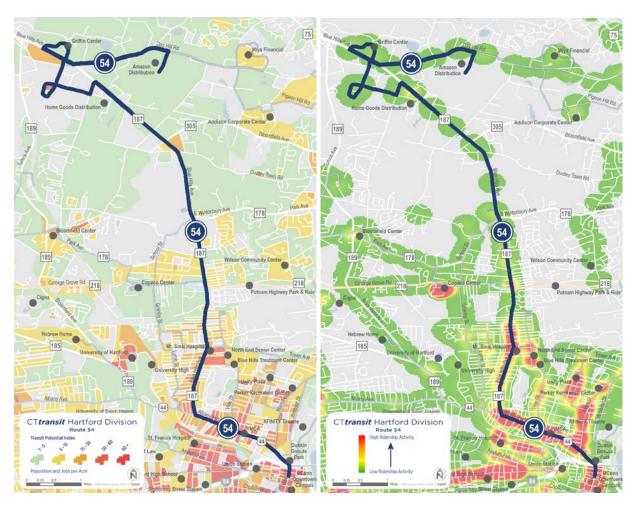








FIGURE 218 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 54 ALIGNMENT



Service Characteristics

Route 54 would operate at 30 minute frequency during peak periods, and 60 minute frequency during the off-peak hours (see Figure 219). By interlining with Route 36, more frequent service can be provided to Day Hill Road. Together, the two routes would provide 15-minute peak frequency to Day Hill Road and 30-minute service during off-peak hours. Service span would be extended and would include weekends, to better serve shift workers along Day Hill Road.

Interlining Route 54 with Route 36 would create a 5-hour cycle time and optimize layover time for both routes. Route 54 would operate outbound to the Amazon Distribution Facility off Day Hill Road via Blue Hills Avenue and return inbound as Route 36 via Windsor Center and Windsor Avenue, changing headsigns at Amazon (and vice-versa). Route 54 and 36 schedules can be coordinated to meet Routes 130 and 34 at the Poquonock Park-and-Ride Lot.











FIGURE 219 | PROPOSED ROUTE 54 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown North
Community Health Services/Albany Avenue
YMCA/Albany Avenue
Blue Hills Avenue
 Home Goods Distribution Center
 Griffin Center/The Hartford
 Amazon Distribution Center/Day Hill Road
·









15 WETHERSFIELD AVENUE AND HARTFORD/MIDDLETOWN

53 Jordan Lane

53W | Wethersfield Shopping Center

55 | Middletown via Silas Deane Highway

55X | Middletown via Silas Deane Highway Express

SERVICE OVERVIEW

Routes 53 and 55 are radial routes that operate from downtown Hartford to Wethersfield and Middletown, respectively. CT*transit* tracks ridership on these routes together, so they are evaluated as a combined pair. The two routes are inter-related with variants of each route sharing parts of their alignment with at least one variant of the other route.

Route 53 has two variants; one terminating at Jordan Lane (53) and the other traveling via State Street to old Wethersfield and terminating at Wethersfield Shopping Center (53W) along the Silas Deane Highway. Route 55 also has two variants: Route 55 trips travel to Middletown via Wethersfield Avenue and parts of the Silas Deane Highway. Route 55X bypasses most of Hartford with express service along Wilbur Cross Highway and State Street in Wethersfield before rejoining the Silas Deane Highway and continuing to Middletown.











FIGURE 220 | ROUTE 53 MAP

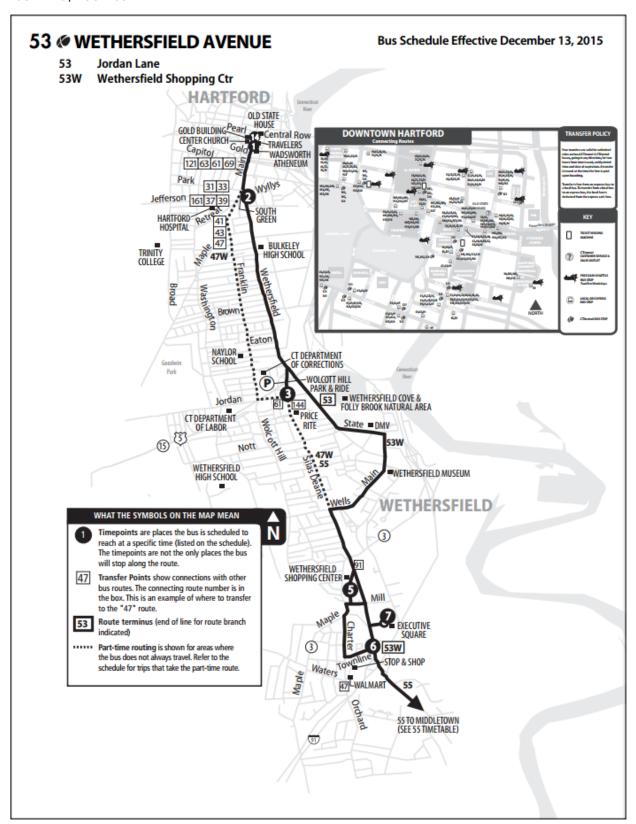












FIGURE 221 | ROUTE 55 MAP

55 @ HARTFORD/MIDDLETOWN **Bus Schedule Effective August 16, 2015** DOWNTOWN HARTFORD DOWNTOWN HARTFORD 14461 Department of ■ Motor Vehicles ns to CTfastrai OLD WETHERSFIELD Route 144 Wethersfield oints are places the bus is scheduled to reach at a Wethersfield Shopping Center specific time (listed on the schedule). The timepoints are at the only places the bus will stop along the route. Executive Transfer Points show connections with other bus routes 53 Square The connecting route number is in the box. This is an example of where to transfer to the "61" route. Stop & Shop/ Walmart ■ Kohl's/Aldi Part-time routing is shown for areas where the bus does not always travel. Refer to the schedule for trips that take Rocky Hill Town Hall Park & Ride Lots offer free parking. 910 Veteran's Home & Hospital Dinosaur State Park TPC River Highlands DOWNTOWN MIDDLETOWN CROMWELL MIDDLETOWN AREA TRANSIT (MAT) (860) 346-0212 • www.middletownareatransit.org MAT Downtown Terminal: MAT A-Saybrook Road Downtown B-Wesleyan Hills Terminal C-Washington Street (connects with E-Westlake) D-Newfield Street COLLEGI F-Portland-East Hampton M-Meriden Wesleyan∎ Silver Street Connecticut Valley Middlesex MCA Hubbard Park Ride Lot Hospital Hospital Park SILVER Whiting Forensic/ Juvenile Training Center DOWNTOWN University UNION MIDDLETOWN











Service Schedule

Routes 53 and 55 operate on weekdays and Saturdays. There are 41 outbound trips (25 on variants of Route 53 and 16 on variants of Route 55) and 42 inbound trips (25 on variants of Route 53 and 17 on variants of Route 55) per weekday. Along the common alignment on Wethersfield Avenue, peak period frequency is 5 to 20 minutes, while midday service operates every 30 minutes. Service levels are lower on the unique portions of the individual routes.

There are 23 outbound trips (8 on Route 53, 12 on Route 53W, and 3 on Route 55) and 23 inbound trips (8 on Route 53, 12 on Route 53W, and 3 on Route 55), meaning a bus leaves each stop every 30 minutes throughout the day.

FIGURE 222 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:35 AM – 11:31 PM	20/30	41/42
Saturday	7:20 AM – 11:31 PM	30	23/23
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

CT*transit* tracks ridership for Route 53 and Route 55 together, so the following analysis of ridership and productivity treats the two routes as a single service. Route 53/55 carries 1,689 daily passengers or 20.3 passengers per trip on an average weekday, which is 15% higher than the Hartford Division average of 17.7 weekday passengers per trip. Saturday ridership per trip is approximately on par with the division average (see Figure 223).

FIGURE 223 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 53/55	ROUTE 53/55	DIVISION AVG
Weekday	1,689	20.3	17.7
Saturday	733	15.6	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 53/55 carries an average of 20.3 passengers per trip on weekdays. Ridership is highest on both the Route 53 and Route 55 variants during the midday (see Figure 224 to Figure 227). Maximum loads are also highest in the midday, but no trips have a maximum load near 40 passengers, the typical seating capacity of a 40-ft transit bus. The high midday ridership suggests that peak-period commuters represent a relatively small segment of riders. More trips are likely associated with retail and service destinations in the Silas Deane corridor.

Weekend ridership activity is shown in Appendix B.











FIGURE 224 | ROUTE 53 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

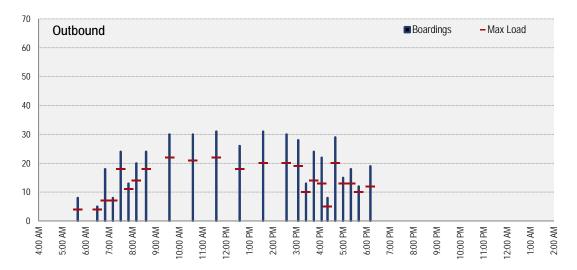


FIGURE 225 | ROUTE 53 WEEKDAY INBOUND RIDERSHIP BY TRIP

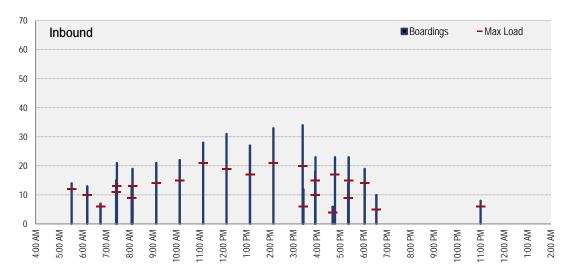












FIGURE 226 | ROUTE 55 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

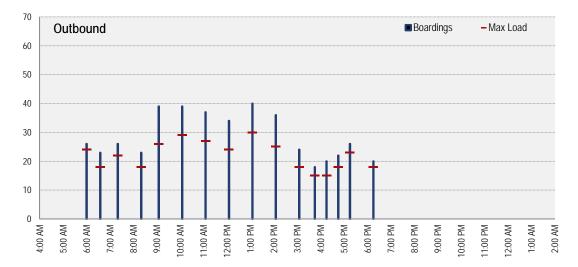
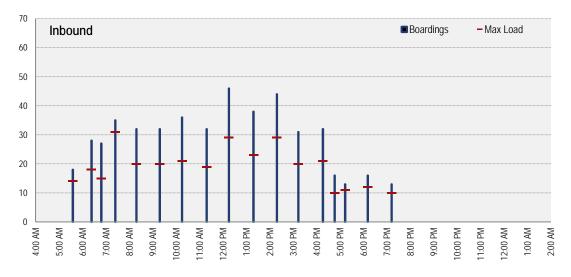


FIGURE 227 | ROUTE 55 WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Ridership is highest on Route 53/55 in downtown Hartford and downtown Middletown. The only stop outside of these urban centers that generates more than 50 boardings or alightings per day is at Main Street and Wethersfield Avenue in Hartford (see Figure 228).









FIGURE 228 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

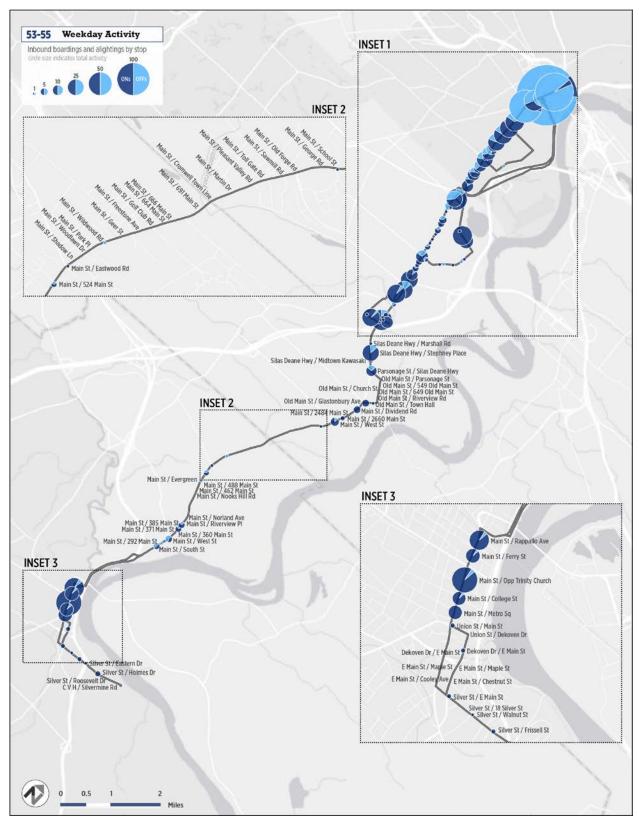








FIGURE 229 | WEEKDAY INBOUND RIDERSHIP BY STOP INSET MAP











Productivity and On-Time Performance

Although Route 53/55 has a weekday ridership per trip that is slightly higher than the Hartford Division average, the performance of Route 53/55 in terms of cost per passenger and passenger per revenue hour is just below the division average (see Figure 230). The slightly weaker performance reflects the distance traveled on Route 55 and to a lesser extent Route 53. The long distance of the route partially erodes the impact of relatively high ridership in terms of cost, riders per hour and riders per mile.

Fewer trips travel to Middletown on Saturdays, thus improving the route's ridership per revenue mile. Ridership per revenue hour remains close to average on Saturday, while the operating cost per passenger is significantly below the Hartford Division average for Saturdays.

FIGURE 230 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 53/55	DIVISIO N AVG	ROUTE 53/55	DIVISION AVG	ROUTE 53/55	DIVISION AVG
Operating Cost per Passenger	\$4.76	\$4.84	\$4.97	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	26.9	28.9	25.8	27.0	-	29.7
Passengers per Revenue Vehicle Mile	1.9	2.6	2.2	2.4	-	2.9

Source: CTtransit performance data

Route 53/55 has an 87.3% on-time arrival rate, which is higher than the Hartford Division average (see Figure 231). Based on available data, 12.7% of Route 53/55 trips finish more than 5 minutes late, and no trips depart the start of the route early.

FIGURE 231 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 53/55	DIVISION AVG
Early	0.0%	0.2%
Late	12.7%	18.9%
On-Time	87.3%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Routes 53 and 55 contribute to providing high service frequency in the high-ridership Main Street corridor, south of downtown Hartford. The routes also provide access to key regional destinations including the Connecticut Department of Motor Vehicles, Pennywise Shopping Center, Wethersfield Shopping Center, and downtown Middletown.

While the destinations along the route are attractive and ridership per trip strong, the route suffers because the balance between variant services is 1) not always well matched with demand, and 2) the integration of the two routes create a very complicated service that is difficult to understand and use. Additionally, more frequent service on Franklin Avenue by Route 47 siphons away potential riders from Route 53 and 55.

Route 55 generates significant ridership in Middletown, but ridership at all stops between Middletown and Wethersfield is extremely low.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 53 and 55:

Route 53

Service Design

The proposed Route 53 would operate as a radial route between downtown Hartford and the Veterans Home and Hospital in Rocky Hill via Franklin Avenue, State Street in Wethersfield, Silas Deane Highway, and West Street in Rocky Hill (see Figure 226). The route would also serve the Connecticut Department of Motor Vehicles office in Wethersfield.

Together with Route 55, Route 53 would help establish an enhanced transit corridor along Franklin Street where the two routes overlap. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes can be provided along Franklin Avenue, between Jordan Lane and downtown Hartford. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

From Jordan Lane to downtown Hartford, the proposed Route 53 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 196). South of Jordan Lane, the environment is more suburban and less transit-supportive. The convergence and divergence of Route 53 and 55 are designed to provide the highest level of transit service in the most transit-supportive segment of the corridor, while also providing a one-seat ride to downtown Hartford from any stop on Route 53 and Route 55.

FIGURE 232 | PROPOSED ROUTE 53 ALIGNMENT

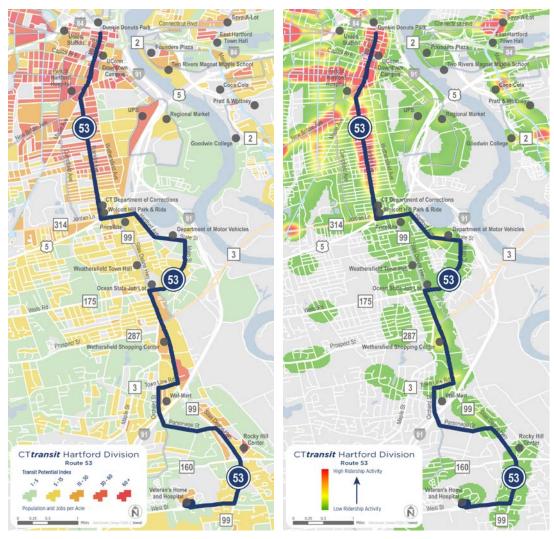








FIGURE 233 | ROUTE 53 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 53 would be interlined with proposed Route 42 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.

Route 53 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Route 55, an average peak frequency of every 10 minutes would be provided along Franklin Avenue and portions of Silas Deane Highway (see Figure 197).











FIGURE 234 | PROPOSED ROUTE 53 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	-	-
Owl	_	_
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Hartford Hospital CT Department of Corrections Wolcott Hill Park-and-Ride Price Rite CT Department of Motor Vehicles Wethersfield Shopping Center Walmart Rocky Hill Center Veterans Home and Hospital

Route 55

Service Design

The proposed Route 55 would operate as a radial route between downtown Hartford and the Century Springs neighborhood in Rocky Hill via Franklin Avenue, Spring Street in Wethersfield, Silas Deane Highway, Elm Street, Cromwell Avenue, and Century Springs Drive in Rocky Hill (see Figure 235).

Together with Route 53, Route 55 would help establish an enhanced transit corridor along Franklin Street where the two routes overlap. With both routes operating every 20 minutes during peak periods, an effective average frequency of a bus every 10 minutes can be provided along Franklin Avenue, between Jordan Lane and downtown Hartford. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

From Jordan Lane to downtown Hartford, the proposed Route 55 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 236). South of Jordan Lane, the environment is more suburban and less transit-supportive. The convergence and divergence of Route 53 and 55 are designed to provide the highest level of transit service in the most transit-supportive segment of the corridor, while also providing a one-seat ride to downtown Hartford from any stop on Route 53 and Route 55.

The proposed Route 55 would no longer serve Middletown. Current ridership patters suggest that Middletown riders could be served through a combination of expanded service on Express Route 921, serving Hartford and Middletown, and improved feeder service to the Silver Street Park-and-Ride in Middletown by Middletown Area Transit. Alternatively, a new Express route could be considered between Middletown and Hartford. Unlike Route 921, the new route could serve downtown Middletown, as well as the Silver Street Park-and-Ride to better connect to Middletown Area Transit (MAT) routes that do not serve the Silver Street facility. In general, the Middletown to Hartford connection is a more appropriate function for Express service than for local service of the CT*transit* Hartford Division.







FIGURE 235 | PROPOSED ROUTE 55 ALIGNMENT



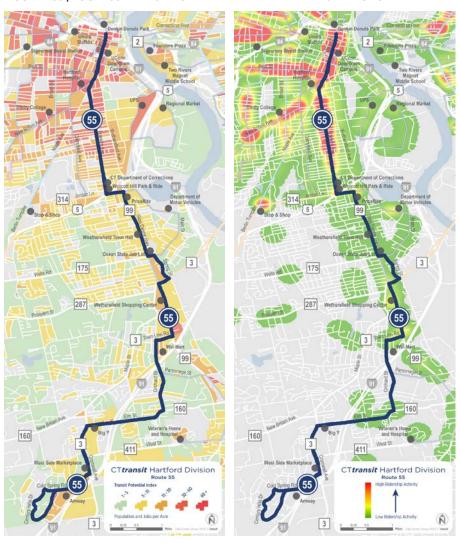








FIGURE 236 | ROUTE 55 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 55 would be interlined with proposed Route 40 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue and North Main Street corridors via downtown Hartford.

Route 55 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Routes 53, an average peak frequency of every 10 minutes would be provided along Franklin Avenue and portions of Silas Deane Highway (see Figure 200).











FIGURE 237 | PROPOSED ROUTE 55 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford
 Hartford Hospital
 CT Department of Corrections
Wolcott Hill Park-and-Ride
Price Rite
 Wethersfield Town Hall
 Wethersfield Shopping Center
■ Walmart
■ Big Y
Century Hills









16 BLOOMFIELD AVENUE AND ALBANY AVENUE

56B | Bloomfield Center

56D | Dorothy Drive Woodside Village

56F | Federation Home

58 Bishops Corner

SERVICE OVERVIEW

Routes 56 and 58 are radial routes that travel west and north from downtown Hartford. All route variants serve the Albany Avenue corridor through Hartford. Route 56 then travels north to Bloomfield via Bloomfield Avenue, with three separate variants terminating at Bloomfield Center (56B), Woodside Village on Dorothy Drive (56D), or the Federation Home on Wintonbury Avenue (56F). Route 58 continues west terminating at Bishops Corner in West Hartford, serving the Big Y supermarket in Crossroads Plaza.











FIGURE 238 | ROUTE 56 MAP

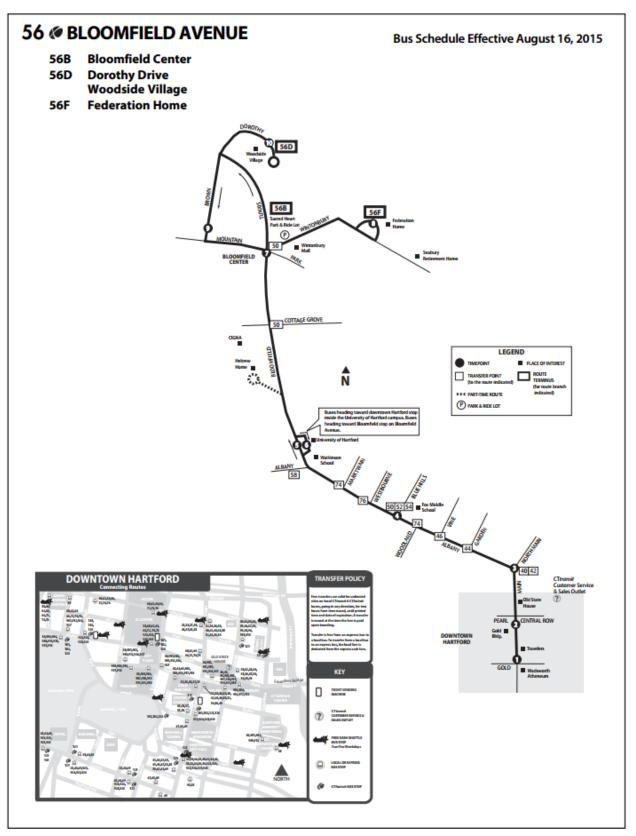




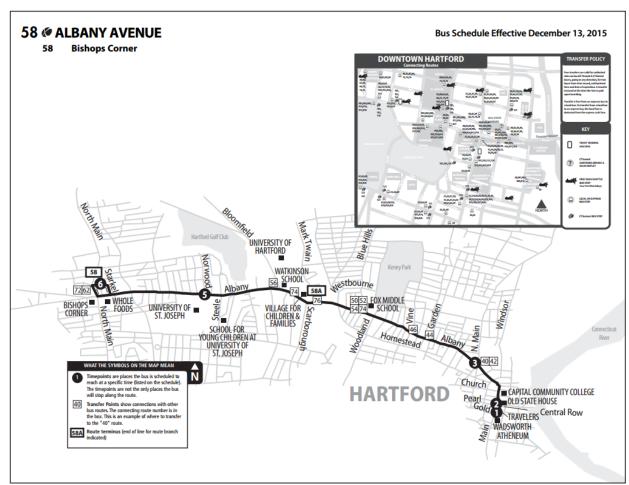








FIGURE 239 | ROUTE 58 MAP



Service Schedule

Route 56 operates on weekdays and Saturdays, and Route 58 operates every day. There are 39 total outbound trips per weekday (20 on Route 56 and 19 on Route 58) and 40 total inbound trips per weekday (20 on each Route 56 and Route 58). Routes 56 and 58 both operate with 30 minute peak headways, and 60 minute off-peak headways. Along the common Albany Avenue alignment, peak period frequency is roughly every 15 minutes (see Figure 240), and midday service operates every 30 minutes. Service levels are lower on the unique portions of the individual routes.

Most weekday trips on Route 56 are operated as Route 56D to Dorothy Drive. There is one Route 56B trip in the AM peak (serving the Wintonbury Avenue Park-and-Ride lot) and three 56B trips in the PM peak, including the last trip each weekday. There are four mid-day 56F trips serving the Federation Home.

On Saturdays, there are 24 outbound trips (11 on variants of Route 56 and 13 on Route 58) and 24 inbound trips (11 on variants of Route 56 and 13 on Route 58). Routes 56 and 58 both operate on hourly headways, effectively providing 30 minute frequency on the shared Albany Avenue alignment. Routes 56D and 56F alternate, providing service every other hour to Dorothy Drive and the Federation Home; there are no Saturday Route 56B park-and-ride trips.

Route 58 operates 11 outbound and 10 inbound trips on Sundays with a 70 minute frequency.











FIGURE 240 | SCHEDULE OVERVIEW (ROUTES 56 AND 58)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:35 AM – 10:38 PM	15/30	39/40
Saturday	7:15 AM – 10:38 PM	30	24/24
Sunday	6:50 AM – 7:20 PM	70	11/10

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Together, Routes 56 and 58 carry 1,297 daily passengers or about 16.4 passengers per trip. The combined ridership per trip is roughly equivalent to the Hartford Division average. Weekday and Sunday ridership is slightly lower as compared with the division average, while Saturday ridership is slightly higher (see Figure 241).

FIGURE 241 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 56/58	ROUTE 56/58	DIVISION AVG
Weekday	1,297	16.4	17.7
Saturday	742	15.5	16.3
Sunday	353	16.8	17.6

Source: CTtransit performance data

Ridership by Trip

Route 56

Demand on Route 56 is relatively well balanced throughout the day, with slightly more riders in the afternoon and slightly more passengers traveling inbound than outbound (see Figure 242 and Figure 243). With the exception of a few extra riders in the afternoon, ridership is as strong in the midday as it is during peak periods. Capacity is not an issue on Route 56.

Weekend ridership activity is shown in Appendix B.











FIGURE 242 | ROUTE 56 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

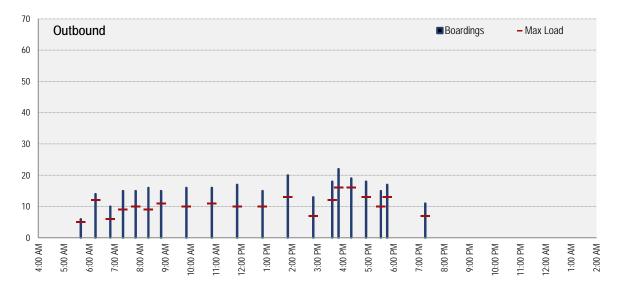
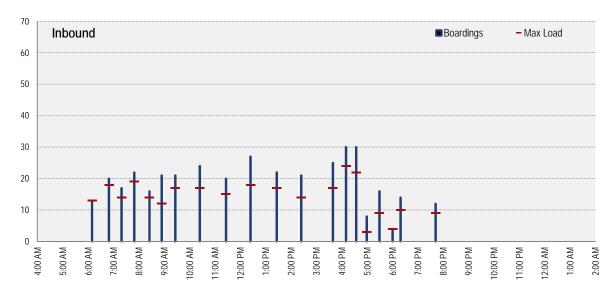


FIGURE 243 | ROUTE 56 WEEKDAY INBOUND RIDERSHIP BY TRIP



Route 58

Ridership on Route 58 is also fairly well balanced throughout the day, with slightly more riders using the service in the afternoon and more people traveling inbound as compared with outbound (see Figure 244 and Figure 245). There are no clear demand peaks associated with traditional commuter times.

Peak loads never exceed 18 riders on any one trip, so capacity is not an issue on Route 56.

Weekend ridership activity is shown in Appendix B.



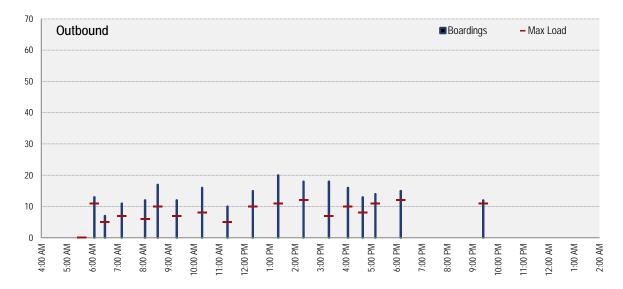






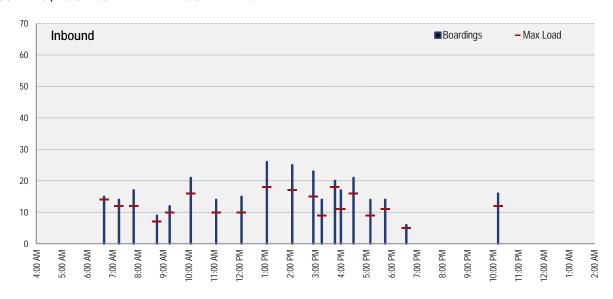


FIGURE 244 | ROUTE 58 WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: No data for the 7:35 AM outbound trip.

FIGURE 245 | ROUTE 58 WEEKDAY INBOUND RIDERSHIP BY TRIP



Note: No data for the 8:15 AM inbound trip.

Ridership by Stop

The most heavily used inbound stops on Route 56 and 58 are in downtown Hartford. There are three additional stops along Albany Avenue that generate 50 or more boardings or alightings per day, as does the terminus of Route 58 at Bishops Corner (see Figure 246). The University of Hartford is also another major trip generator on Route 56 with 45 boardings and alightings per day. The University of St. Joseph generates somewhat lower ridership, as it is also served by Route 72 on Asylum Avenue.

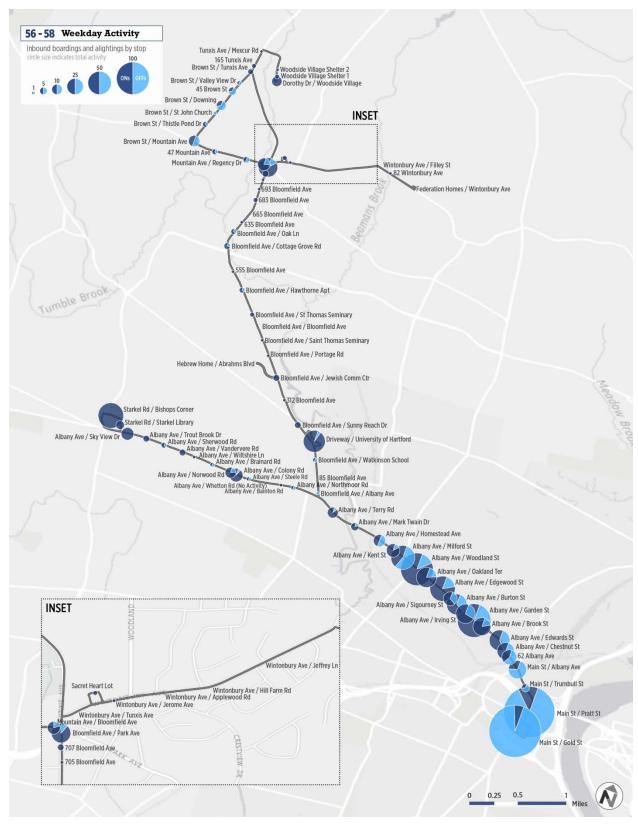








FIGURE 246 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Combined, Routes 56 and 58 perform better than other Hartford Division routes in terms of operating cost per passenger (see Figure 247), with Saturday and Sunday performing significantly better than other Hartford Division routes. In terms of riders per hour and per mile, Route 56/58 is very close to the division average, sometimes slightly higher and sometimes slightly lower.

FIGURE 247 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEI	CDAY	SATUI	RDAY	SUN	DAY
	ROUTE 56/58	DIVISION AVG	ROUTE 56/58	DIVISION AVG	ROUTE 58	DIVISION AVG
Operating Cost per Passenger	\$4.68	\$4.84	\$4.44	\$6.30	\$4.79	\$6.66
Passengers per Revenue Vehicle Hour	27.4	28.9	28.8	27.0	26.7	29.7
Passengers per Revenue Vehicle Mile	2.7	2.6	2.5	2.4	3.5	2.9

Source: CTtransit performance data

Combined, Routes 56 and 58 have on-time performance that is slightly below the Hartford Division average, with 78.7% of time point checks showing buses on schedule (see Figure 248).

FIGURE 248 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 56/58	DIVISION AVG
Early	0.0%	0.2%
Late	21.3%	18.9%
On-Time	78.7%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Routes 56 and 58 are radial route serving downtown Hartford, Albany Avenue, West Harford and Bloomfield Center. The two routes split at Albany Avenue and Bloomfield Avenue. Route 56 follows Bloomfield Avenue into Bloomfield Center, where the route splits into three variant services. Route 58 continues on Albany Avenue to Bishops Corner in West Hartford.

Operational performance on Routes 56 and 58 is consistent with the overall average for the Hartford Division. However, most of the ridership is generated along the common Albany Avenue segment between downtown Hartford and Bloomfield Avenue. Ridership on the unique segment of Route 56 is primarily associated with the University of Hartford and Bloomfield Center. Ridership on the unique segment of Route 58 is primarily tied to Bishops Corner. Despite the fact that service frequency is higher during the peak periods, ridership is fairly constant throughout the day.









SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 50, 56, and 58:

Route 56

Service Design

The proposed Route 56 would operate as a radial route between downtown Hartford and the Hebrew Home in Bloomfield via Asylum Avenue, Ashley Street, Woodland Street, and Bloomfield Avenue. The route would also serve the University of Hartford and Union Station where connections could be made to the CT*fastrak* network (see Figure 249).

The new alignment is designed to better connect key activity centers in this corridor (see Figure 250 and Figure 251). It would provide new direct connections between the Hebrew Home and St. Francis Hospital, as well as between the University of Hartford and Union Station. Route 76, which currently operates via Ashley Street, Woodland Street, Cornwall Street and Copaco Center, would be realigned to operate via Albany Avenue. Service to Bloomfield Center would be consolidated on Route 50 via Copaco, rather than via the underutilized segment of Route 56 north of the Hebrew Home.

FIGURE 249 | PROPOSED ROUTE 56 ALIGNMENT

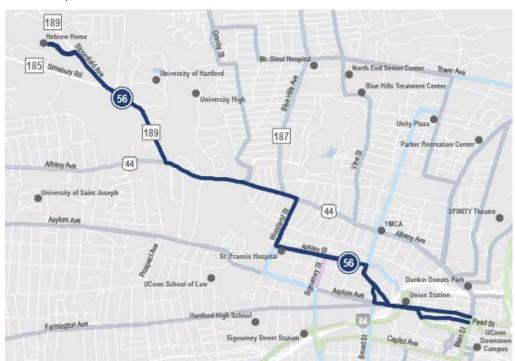






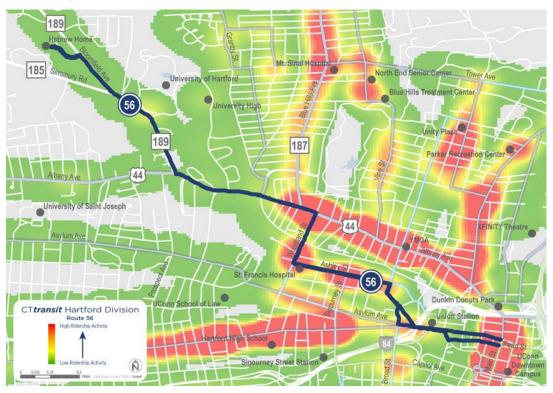




FIGURE 250 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 56 ALIGNMENT



FIGURE 251 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 56 ALIGNMENT











Service Characteristics

Route 56 would operate at 30 minute frequency for most of the day, including the mid-day period (when it operates hourly today). During the early morning and late evening hours, service would be hourly (see Figure 252).

Route 56 could be interlined with proposed Route 87 in downtown Hartford to create a 2-hour cycle time and optimize layover time for both routes. This would also create a one-seat ride between the University of Hartford, East Hartford, and Goodwin College.

FIGURE 252 | PROPOSED ROUTE 56 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS			
Downtown Hartford			
Union Station			
St. Francis Hospital			
 Westbrook Village 			
 University of Hartford 			
 Jewish Community Center 			
Hebrew Home			

Route 58

Service Design

The proposed Route 58 would operate as a radial route between downtown Hartford and Bishops Corner in West Hartford, via Albany Avenue. The alignment would be unchanged from the current Route 58 alignment (see Figure 253). The route would continue to serve the densely populated and high ridership corridor along Albany Avenue, as well as the major retail destination in Bishop's Corner (see Figure 254). At Bishop's Corner, connections could be made to West Harford Center, CT*fastrak*'s Flatbush Station, the Cigna/Met campus and Copaco Center.

Route 58 would continue to be an important component of high frequency service along the high ridership Albany Avenue corridor (see Figure 255). Together with Routes 46, 50, 54 and 76, Route 58 would provide 6-minute or better frequency during peak-periods along Albany Avenue, and 10-minute frequency during off-peak times. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments. Limiting the number of bus stops along this busy corridor would also help improve the speed and flow of transit service.











FIGURE 253 | PROPOSED ROUTE 58 ALIGNMENT

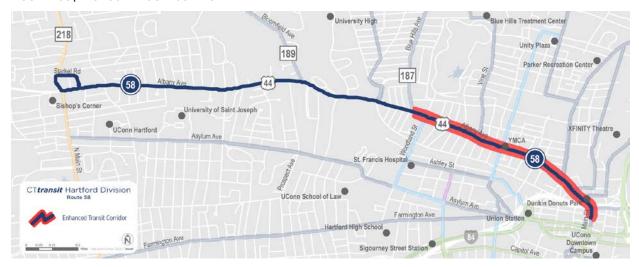


FIGURE 254 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 58 ALIGNMENT



FIGURE 255 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 58 ALIGNMENT











Service Characteristics

Route 58 would operate at a 30-minute frequency during peak periods and at a 60-minute frequency during off-peak times (see Figure 256). This is the same as operated today.

Route 58 could be interlined with proposed Route 72 in downtown Hartford to create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 58 service and Route 72 service every other trip. Drivers would change headsigns on Main Street near State House Square.

FIGURE 256 | PROPOSED ROUTE 58 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown North Community Health Center, Albany Street Hartt Community School Westbrook Village University of Saint Joseph Bishops Corner

Route 50

Service Design

The proposed Route 50 would operate as a radial route between downtown Hartford and Bloomfield Center via Albany Avenue, Blue Hills Avenue, Cottage Grove Road and Park Avenue. It would continue beyond Bloomfield Center to provide local Bloomfield service on Mountain Avenue, Brown Street, and to the Woodside Apartments on Dorothy Drive (see Figure 257).

Route 50 is proposed to become the primary service to Bloomfield Center, replacing Route 56, which has low ridership between the University of Hartford and Bloomfield Center. In order to consolidate these services, Route 50 would be extended north of Bloomfield Center to provide bi-directional service on Mountain Avenue and Brown Street (rather than the loop followed by Route 56 today). Route 50A between Copaco Center and the Cigna/Met campus would be discontinued, as this segment attracts few riders and is now served by CT**fastrak** Route 153.

Route 50 would also be an important component of the proposed enhanced transit corridor along Albany Avenue.





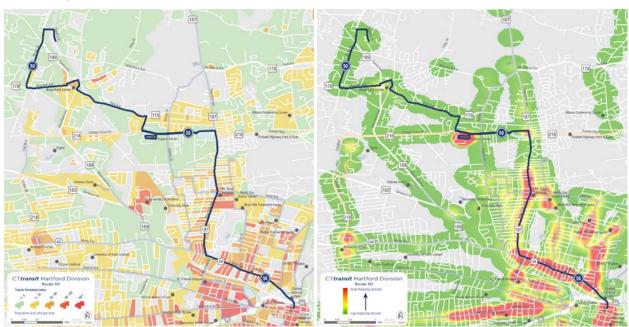




FIGURE 257 | PROPOSED ROUTE 50 ALIGNMENT



FIGURE 258 | TRANSIT POTENTIAL AND EXISTING RIDERSHIP ALONG PROPOSED ROUTE 50 ALIGNMENT











Service Characteristics

Route 50 would operate at a 20-minute frequency during peak periods and at a 30-minute frequency during the off-peak (see Figure 259). During the very early morning hours, hourly service would be provided.

Route 50 could be interlined with proposed Route 46 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 46 service and Route 50 service every other trip.

FIGURE 259 | PROPOSED ROUTE 50 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 8:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening*	6:00 pm – 8:00 pm	30
Night	_	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Community Health Center / YMCA Mount Sinai Hospital Blue Hills Library Copaco Center Bloomfield Center
Woodside Village Apartments











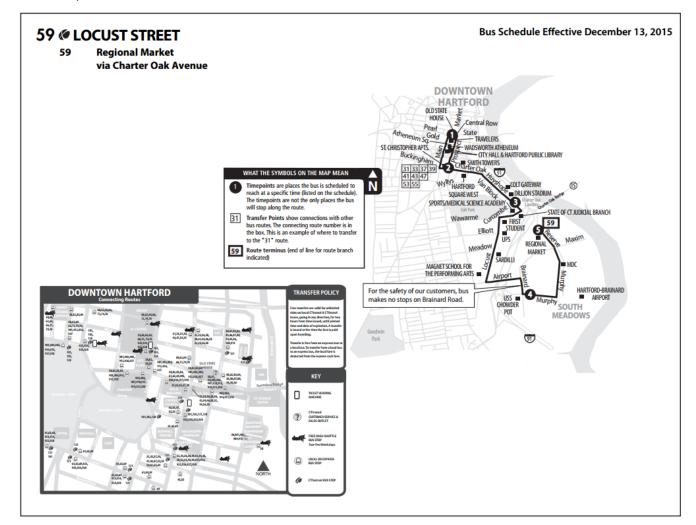
17 LOCUST STREET

59 | Regional Market via Charter Oak Avenue

SERVICE OVERVIEW

Route 59 is a radial route that originates in downtown Hartford and serves Hartford Regional Market and Brainard Industrial Park in South Meadows (Figure 260). The route operates primarily along Main Street, Charter Oak Avenue, Huyshope Avenue, Locust Street, and Murphy Road.

FIGURE 260 | ROUTE 59 MAP













Service Schedule

Route 59 operates six days a week. There are 18 outbound and 19 inbound trips per weekday, operating every 30 minutes during peak periods and every 60 minutes off-peak. There are 12 outbound and 11 inbound trips on Saturdays, with service provided every 60 minutes. There is no service on Sundays.

FIGURE 261 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	6:10 AM – 7:08 PM	30/60	18/19
Saturday	7:20 AM – 6:31 PM	60	12/11
Sunday	-	-	-

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 59 carries 432 daily passengers or 11.7 passengers per trip on an average weekday. This is almost 35% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 262).

On Saturdays, the route carries about half as many passengers per trip as the division average. This is likely a reflection of the route's role in facilitating access to industrial jobs along Locust Street and in the South Meadows and Brainard Industrial Park areas.

FIGURE 262 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 59	ROUTE 59	DIVISION AVG
Weekday	432	11.7	17.7
Saturday	168	7.3	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 59 carries an average of 11.7 passengers per trip on weekdays. Ridership peaks during traditional morning and evening commute times, but morning ridership is highest in the outbound direction (away from downtown) and evening ridership is highest in the inbound directions (see Figure 263 and Figure 264). This suggests that Route 59 primarily serves commuters, with riders using the route as a "last leg" connector to the industrial park jobs. It also suggests that passengers transfer from other services in downtown Hartford.

Maximum loads on Route 59 do not exceed 30 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route.

Weekend ridership activity is shown in Appendix B.











FIGURE 263 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

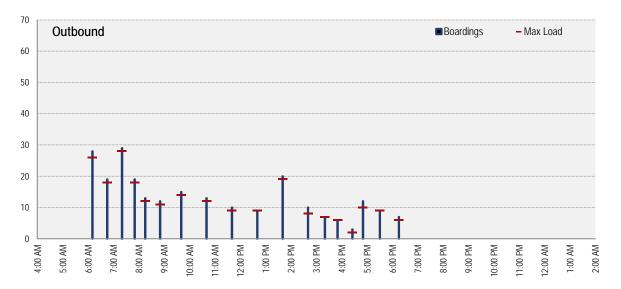
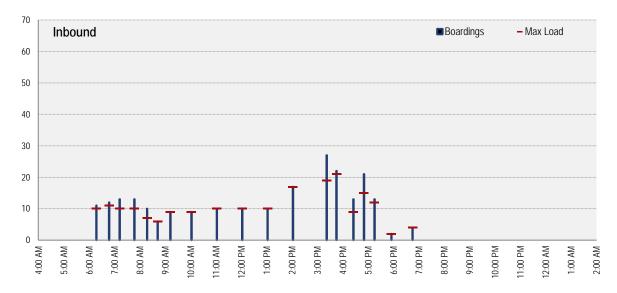


FIGURE 264 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stop on Route 59 is its downtown terminus of Main Street and Old State House. Outside of the downtown, there are no stops that generate 50 or more boardings or alightings per day (see Figure 265). The two inbound stops with the highest levels of activity are Hartford Regional Market (23 boardings) and the corner of Wawarme Avenue and Huyshope Avenue (26 boardings).

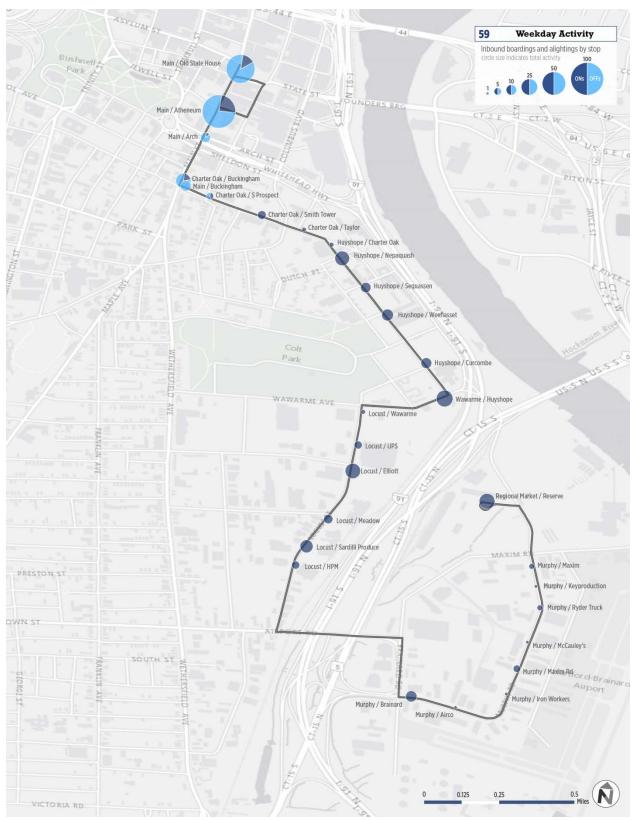








FIGURE 265 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 59 performs slightly below average in terms of passengers per revenue hour and per revenue mile on weekdays. The productivity drops further below average on weekends as demand for service to the industrial areas decreases.

However, when interpreting Route 59's Saturday passengers per revenue hour average of 21.4, it is important to note that this number far exceeds the ridership of any individual trip on Saturday, even though Saturday service operates once per hour. The higher number reflects the fact that Route 59 is interlined with Route 74, so some of the data shown in Figure 266 include riders on both Route 59 and Route 74.

Operating costs for Route 59 are lower than the Division average for weekdays and Saturdays. This may also be attributed to extensive use of interlining which results in an optimized use of resources.

FIGURE 266 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEKDAY		SATURDAY		SUNDAY	
	ROUTE 59	SYSTEM AVG	ROUTE 59	SYSTEM AVG	ROUTE 59	SYSTEM AVG
Operating Cost per Passenger	\$4.71	\$4.84	\$5.98	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	27.2	28.9	21.4	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.7	2.6	1.7	2.4	-	2.9

Source: CTtransit performance data

Route 59 has an 81.7% on-time arrival rate, with a slightly lower percentage of late buses than the Hartford Division average (see Figure 267). Early departures do not appear to be an issue for this route.

FIGURE 267 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 59	DIVISION AVG
Early	0.0%	0.2%
Late	18.3%	18.9%
On-Time	81.7%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 59 is a radial route that provides critical jobs access connections to several industrial parks along the I-91 corridor, south of downtown. The route performs close to average on several weekday productivity measures but is below average in terms of passengers per revenue mile, passengers per revenue hour, and cost per passenger on Saturdays.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 59:

Route 59

Service Design

The proposed Route 59 would operate as a radial route between downtown Hartford and the South Meadows / Brainard Airport area via Charter Oak Avenue, Huyshope Avenue, and Locust Street. The southern end of the route would operate as a one-way clockwise loop beginning and ending at Huyshope Avenue and Wawarme Avenue (see Figure 268).

While bi-directional service is generally preferable to a one-way loop, an exception is warranted in the case of Route 59 because the route primarily serves to connect passengers transferring from other routes in downtown Hartford to employment opportunities on the southern end of the route (see Figure 269). Very few passengers are traveling between stops south of Wawarme Avenue. By closing the existing gap along Reserve Road between Regional Market and Wawarme Avenue to create a loop, a significant amount of time could be shaved off the route, improving the route's service productivity.

FIGURE 268 | PROPOSED ROUTE 59 ALIGNMENT

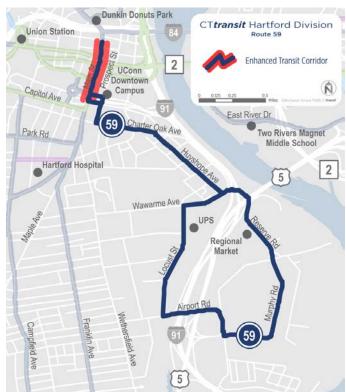












FIGURE 269 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 59 ALIGNMENT



Service Characteristics

The proposed Route 59 would operate every 20-minutes during peak periods, dropping to 40-minute service in the off-peak. This would make Route 59 one of only two proposed routes in the Hartford Division to have a non-clockface service frequency during part of the service day.

Route 59 could be interlined with proposed Route 38 in downtown Hartford, resulting in a combined hour and 20-minute cycle that would optimize layover time for both routes.

FIGURE 270 | PROPOSED ROUTE 59 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 9:00 pm	
Early	-	-
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	40
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	40
Night	-	-
Owl	_	_
Saturday	7:00 am - 7:00 pm	80
Sunday	9:00 am - 5:00 pm	80

KEY DESTINATIONS	
Downtown Hartford	
■ UPS	
Brainard Airport	
Regional Market	









18 FARMINGTON AVENUE

60 | West Hartford Center

62 | Bishops Corner

64 | Webster Hill Boulevard

64W | Westfarms Mall

66 | Westgate

66F | Unionville

66H | UCONN Health Center

66T | Tunxis Community College

SERVICE OVERVIEW

Routes 60, 62, 64, and 66 operate primarily along Farmington Avenue, providing radial service between downtown Hartford and the towns of West Hartford (Routes 60, 62, and 64) and Farmington (Route 66). The four routes function as variants of a single service, with a common alignment and unique outer ends. The four routes include:

- Route 60 serves only the common alignment along Farmington Avenue before terminating at West Hartford Center (Figure 271).
- Route 62 travels north from West Hartford Center via North Main Street, terminating at Bishops Corner on Starkel Road (Figure 272).
- Route 64 travels south from West Hartford Center via South Main Street, with one variant continuing onto Webster Hill until Boswell and another variant continuing along South Main Street and New Britain Avenue before terminating at Corbin's Corner (Figure 273).
- Route 66 continues on Farmington Avenue past West Hartford Center, with variants serving Westgate Plaza (66), the UCONN Health Center (66H), Unionville on School Street and South Main Street (66F) and Tunxis Community College (66T) (Figure 274).











FIGURE 271 | ROUTE 60 MAP

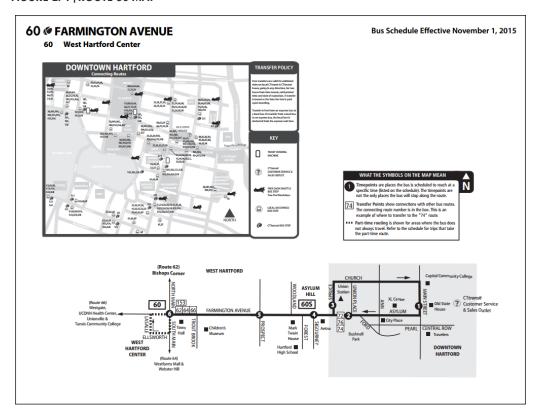


FIGURE 272 | ROUTE 62 MAP

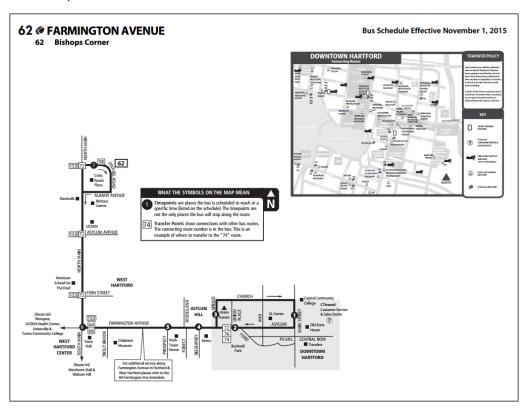












FIGURE 273 | ROUTE 64 MAP

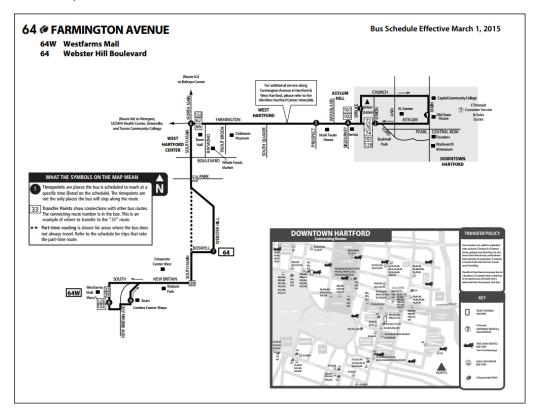
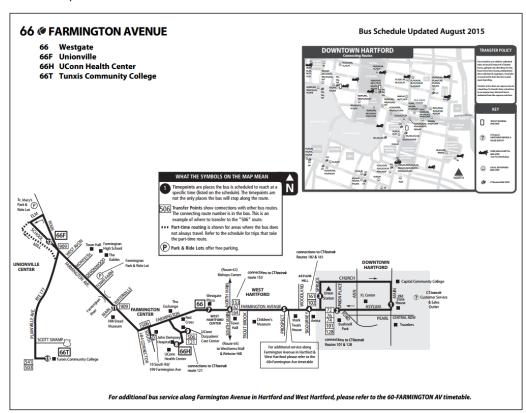


FIGURE 274 | ROUTE 66 MAP













Service Schedule

Weekdays

Routes 60, 62, and 66 operate seven days a week, while Route 64 operates on weekdays and Saturdays. Combined, the four routes operate 90 outbound and 100 inbound trips on weekdays. Along the common alignment, weekday frequency is between 3 and 20 minutes until 7:15 PM (see Figure 275). Service levels are lower on the unique portions of the individual routes:

- Only 12 trips per day (six inbound/six outbound) operate as Route 60, beginning or ending in West Hartford Center. These are generally early morning or late evening trips. Most of the service along the common segment, therefore, is provided by other routes.
- Route 62 operates at about 30-minute headways all day (26 trips each direction).
- Route 64 operates at about 30-minute headways all day (31 inbound, 32 outbound), with hourly service after 7:15 PM. Almost all service operates as 64W to Westfarms Mall, with only seven daily trips terminating at Boswell Avenue.
- Route 66 operates on 30 minute headways all day (27 inbound, 30 outbound). Only four trips per
 day start or end at Westgate Center (66). Otherwise, trips alternate between 66T and 66H until 6
 PM; after 6 PM, all trips start and end in Unionville (66F).

Saturdays

All four routes operate on Saturdays and provide a combined 71 outbound and 80 inbound trips. Among the 71 inbound trips, 20 are on Route 60, 14 are on Route 62, 25 are on variants of Route 64, and 12 are on variants of Route 66. Of the 80 outbound trips, 24 are on Route 60, 14 are on Route 62, 27 are on variants of Route 64, and 13 are on variants of Route 66. Along the common alignment, buses run at 10 minute frequencies throughout the day until 6:00 PM, followed by frequencies varying from 20 minutes to 80 minutes.

On Saturday, Route 62 runs roughly hourly to Bishops Corner, with more frequent AM outbound trips, and Route 64W runs every 30 minutes to Westfarms Mall. Almost all Saturday Route 66 service operates as Route 66H to UConn Health Center and provides hourly service; there is no Saturday service to Unionville or Tunxis Community College.

Sundays

Routes 60, 62 and 66 operate on Sundays. Routes 62 and 66 operate with 70 minute headways; there is no Route 66H, 66F or 66T service beyond Westgate. There are 19 total outbound trips (two on Route 60, 10 on Route 62, and seven on Route 66) and 20 total inbound trips (one on Route 60, 11 on Route 62, and eight on Route 66). This means buses run at 35 minute frequencies along the common alignment all day until 4:45 PM, followed by 70 minute frequencies.

An additional outbound trip to West Hartford Center operates on Saturdays and Sundays and an additional inbound trip to West Hartford Center operates on weekdays and Saturdays between Thanksgiving and New Year's Eve.











FIGURE 275 | SCHEDULE OVERVIEW (ALL ROUTES 60, 62, 64, 64W, 66, 66F, 66H AND 66T)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:00 AM – 1:05 AM	10/15	90/100
Saturday	5:59 AM – 12:04 AM	10	71/80
Sunday	6:19 AM – 7:57 PM	35	19/20

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Combined, Routes 60, 62, 64, 66 carry about 5,639 passengers per weekday or about 29.8 passengers per trip. This is significantly higher than the Hartford Division average of 17.7 passengers per trip (see Figure 276). On Saturday, the four routes carry about 21.1 passengers per trip, and on Sunday Routes 62 and 66 carry about 24.3 passengers per trip; both of these ridership levels are well above the division averages.

FIGURE 276 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 60/62/64/66	ROUTE 60/62/64/66	DIVISION AVG
Weekday	5,639	29.8	17.7
Saturday	3,096	21.1	16.3
Sunday	998	24.3	17.6

Source: CTtransit performance data

Ridership by Trip

Weekday - Routes 60 and 62

Ridership on Routes 60 and 62 is strong overall and well balanced throughout the day in the inbound and outbound directions (see Figure 277 and Figure 278). The data shows a slight peaking pattern with the highest ridership trips occurring during commute times and in both directions.

Strong demand leads to several trips with more than 30 riders and a handful with nearly 40 riders per trip. Peak loads, however, rarely exceed 30 passengers, so crowding does not appear to be a problem.

The gap in service between 7:00 and 11:00 PM is filled by Route 64 trips. The 11:00 PM trips on Route 62/62 shown below are well utilized, but ridership after 11:00 PM is low.

Weekend ridership activity is shown in Appendix B.









FIGURE 277 | ROUTE 60/62 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

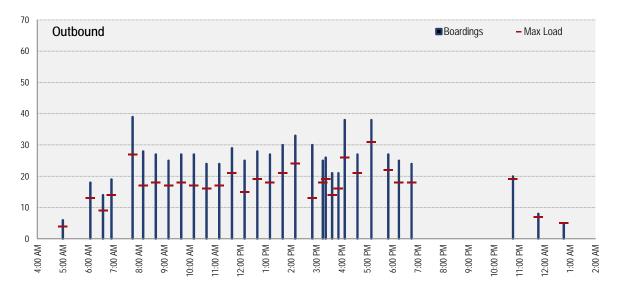
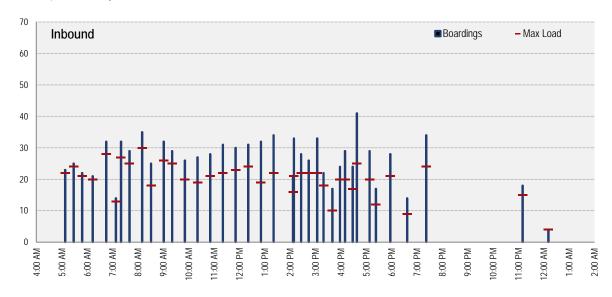


FIGURE 278 | ROUTE 60/62 WEEKDAY INBOUND RIDERSHIP BY TRIP



Weekday - Route 64

Consistent with Routes 60 and 62, ridership on Route 64 is strong throughout the day and in both the inbound and outbound direction (see Figure 279 and Figure 280). The demand profile, however, does not align with commuter travel times. Instead, demand is strongest on the afternoon and evening trips.

A handful of trips have very high ridership, with individual trips carrying more than 40 passengers. While peak loads are manageable overall, there are a number of trips (8:15 AM, 8:42 PM inbound and 8:20 PM outbound) that appear to be overcrowded on a regular basis, with peak loads averaging 40 passengers. The typical seating capacity of a 40-foot transit bus is approximately 40 passengers; therefore, trips with 40 or more passengers carry standees. Late evening trips carry more than 30 passengers, demonstrating that more frequent evening service could be warranted. Note that the charts below do not include late night holiday season service on Route 64. Weekend ridership activity is shown in Appendix B.







FIGURE 279 | ROUTE 64/64W WEEKDAY OUTBOUND RIDERSHIP BY TRIP

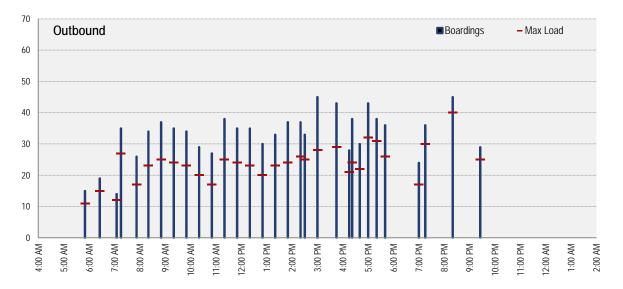
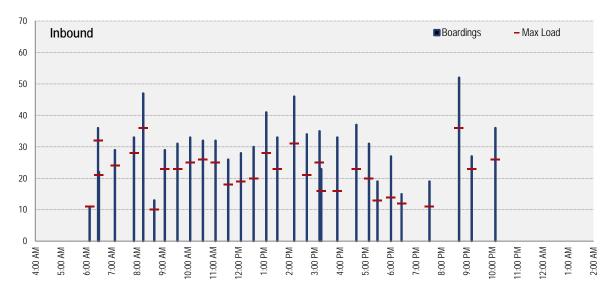


FIGURE 280 | ROUTE 64/64W WEEKDAY INBOUND RIDERSHIP BY TRIP



Weekday - Route 66

Weekday ridership by trip for Route 66, serving Westgate Center, UConn Health Center, Farmington, Unionville, and Tunxis Community College, is shown in Figure 281 and Figure 282. Ridership on Route 66 is also strong throughout the day and is well balanced between inbound and outbound travel. The data shows a slight reverse commute pattern, with demand peaking on the 7:35 AM outbound trip and a handful of the inbound afternoon trips.

Most Route 66 trips carry between 30 and 40 riders, but the majority of the peak loads do not exceed 30 riders. However, two trips have overcrowding problems. The 7:35 AM outbound (66T) trip has an average of 73 riders and peak loads of 49 riders, which are well in excess of a typical 40-foot transit bus with a seating capacity of 40 passengers. In addition, peak loads on the 6:35 AM inbound trip average 35 passengers, which is nearing seating capacity. Weekend ridership activity is shown in Appendix B.









FIGURE 281 | ROUTE 66 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

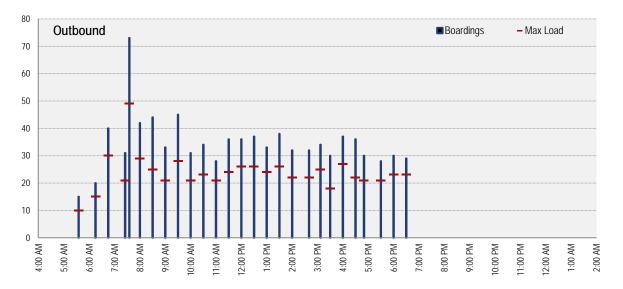
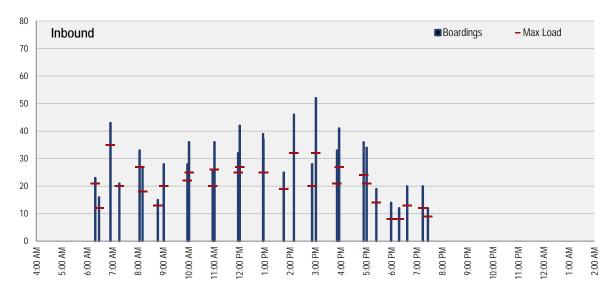


FIGURE 282 | ROUTE 66 WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Routes 60, 62, 64 and 66 are the downtown Hartford stops at Gold and Lewis Streets, and Main Street at Travelers Insurance. About 1,300 passengers get on or off Farmington Avenue routes at these downtown stops each day.

As shown in Figure 283 and Figure 284, a number of additional stops generate 50 or more boardings or alightings per day, and most are located along the primary Farmington Avenue alignment between West Hartford Center and downtown. Four stops outside of downtown generate 200 or more riders per day: West Hartford Center (217 boardings and alightings), Sigourney Street (209), Westfarms Mall (201), and Girard Avenue (200).







FIGURE 283 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

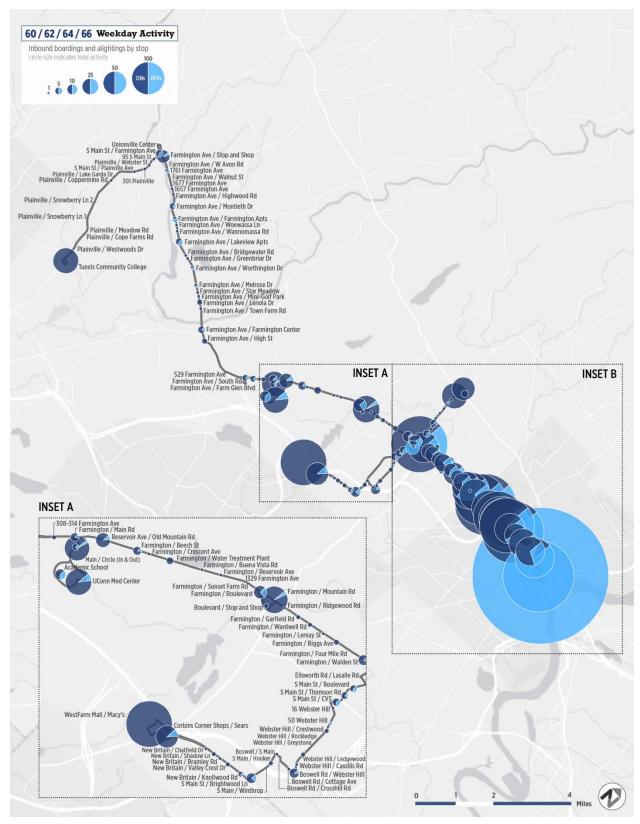


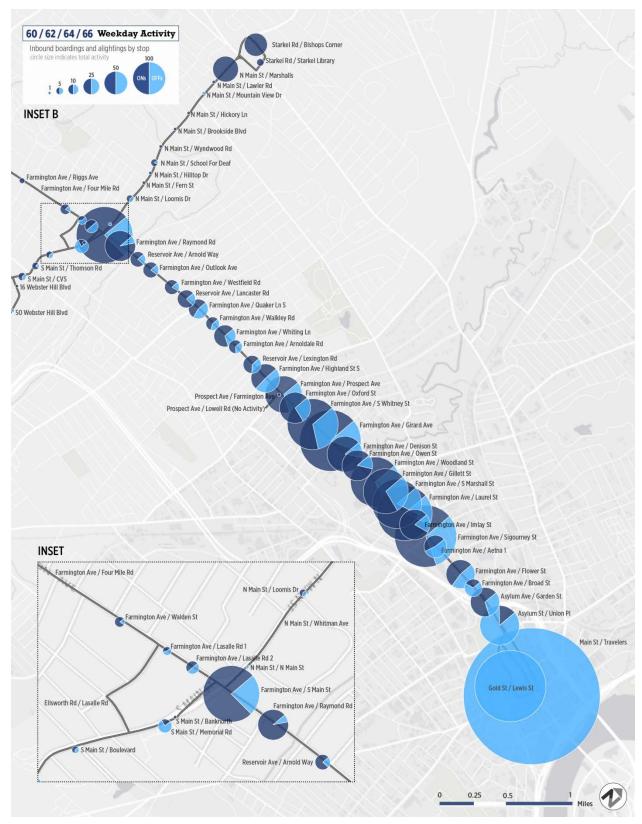








FIGURE 284 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET B)













Productivity and On-Time Performance

Combined, Routes 60, 62, 64 and 66 perform well above the Hartford Division average by all measures (see Figure 285). Operating cost per passenger on weekdays is \$3.52, which is below the division average of \$4.84. On Saturday, the cost per passenger is nearly half that for the division and on Sunday the cost is 40% of the division average. The number of passengers per revenue vehicle hour and vehicle mile also greatly exceed the division averages, demonstrating that the Farmington Avenue corridor is highly productive for transit.

FIGURE 285 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SATU	JRDAY	SUNI	DAY
	ROUTE 60/62/ 64/66	DIVISION AVG	ROUTE 60/62/ 64/66	DIVISION AVG	ROUTE 60/62/ 64/66	DIVISION AVG
Operating Cost per Passenger	\$3.52	\$4.84	\$3.51	\$6.30	\$2.71	\$6.66
Passengers per Revenue Vehicle Hour	36.3	28.9	36.5	27.0	47.3	29.7
Passengers per Revenue Vehicle Mile	3.6	2.6	3.5	2.4	4.5	2.9

Source: CTtransit performance data

Combined, Routes 60, 62, 64 and 66 have on-time performance that is marginally better than the Hartford Division average, with roughly 82.9% of time point checks showing buses on schedule (see Figure 286).

FIGURE 286 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 60/62/64/66	DIVISION AVG
Early	0.3%	0.2%
Late	16.8%	18.9%
On-Time	82.9%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Farmington Avenue connects downtown Hartford with West Hartford Center and is one of the region's most transit-oriented corridors, with a high density of population and employment. It also serves a major retail destination (West Hartford Center) and has an excellent pedestrian environment. CT*transit* serves Farmington Avenue with a series of routes, Routes 60, 62, 64 and 66, which share a common alignment between downtown Hartford and West Hartford Center. From West Hartford Center, routes diverge to serve Bishops Corner (62) Westfarms Mall (64), Westgate Shopping Center (66), UConn Health Center (66H), Unionville (66F) and Tunxis Community College (66T).

Strong ridership in the Farmington Avenue corridor is a product of the rich transit environment as well as the fact that service is direct, frequent and fast. Together, these routes are highly productive, particularly along the shared Farmington Avenue corridor. Outer segments each serve highly productive trip generators at the end of the line, but are less productive along the corridors leading to these destinations. In particular, Routes 66F and 66T involve relatively long operating segments west of UConn Health Center, with very low ridership except in Unionville and at Tunxis Community College.

The primary challenges facing transit service along Farmington Avenue is ensuring there is sufficient transit capacity (enough seats at the right times), while not over-serving the outer ends of the individual routes. A secondary challenge involves adjusting service in this market to better complement CT*fastrak* services in the area. Farmington Avenue routes intersect with CT*fastrak* routes at Union Station and pass close to Sigourney Street station. In addition, CT*fastrak* Routes 153 and 128 provide service alternatives to several of Routes 60, 62, 64 and 66's highest ridership destinations including UConn Health Center, Westfarms Mall, West Hartford Center and Bishops Corner; it is likely some riders have switched to these new services.

Finally, both Farmington and Tunxis Community College are served by other bus routes. Farmington is served by six weekday trips on the Route 909 Farmington-Unionville Express, and the college (which is about six miles west of UConn Health Center) is served by New Britain Route 503.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 60, 62, 64, and 66, as well transitioning CT**fastrak** Route 153 to a new Route 99 Regional Loop.

Route 60

Service Design

The proposed Route 60 would operate as a radial route between downtown Hartford and West Hartford Center via Farmington Avenue (see Figure 287). Service would be operated every 10 minutes during peak periods and every 15 minutes during the off-peak. This high level of service is warranted to serve the density of development along Farmington Avenue (see Figure 288), as demonstrated by current transit demand (see Figure 289).

West Hartford Center would become a key transit hub, where passengers could make multiple connections, including to routes serving Bishops Corner, the Cigna/MetLife campus on Hall Boulevard, Westfarms Mall, Charter Oak Marketplace, CCSU, UConn Health Center, and Unionville.

Together with Routes 88 and 90, Route 60 would help establish a continuous enhanced transit corridor from West Hartford Center to I-84 in Manchester via Farmington Avenue, downtown Hartford, and Burnside Avenue. Over the long-term, establishing an enhanced transit corridor along Farmington









Avenue would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments. Limiting the number of bus stops along these busy corridors would also help improve the speed and flow of transit service. Future corridor improvements along Burnside Avenue should also be considered.

FIGURE 287 | PROPOSED ROUTE 60 ALIGNMENT



FIGURE 288 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 60 ALIGNMENT

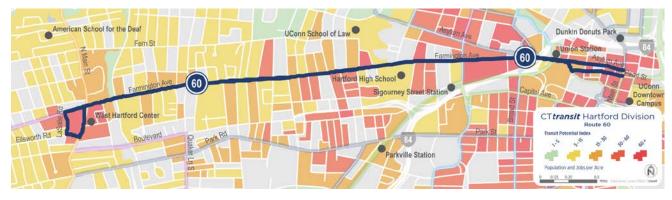
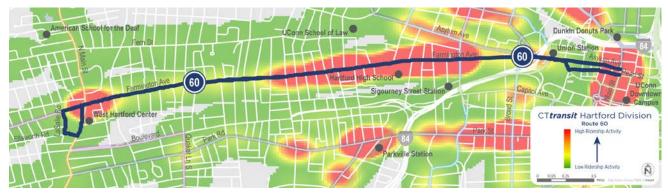


FIGURE 289 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 60 ALIGNMENT



Service Characteristics

Route 60 would be interlined with proposed Routes 88 and 90 in downtown Hartford to create a 6-hour cycle time and optimize layover time for these routes. Buses would operate from West Hartford Center to









downtown Hartford then continue east, alternating to serve either Buckland Hills Mall or Middle Turnpike in Manchester.

During peak periods, 10-minute service frequency would be available between West Hartford Center and I-84, where buses would diverge to serve either Buckland Hills Mall or Middle Turnpike in Manchester. Service would be available every 15 minutes during off-peak periods.

FIGURE 290 | PROPOSED ROUTE 60 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

	SERVICE	PROPOSED SPAN	PROPOSED SERVICE
	PERIOD OF SERVICE		FREQUENCY (MIN)
Weekdays 4:00 am – 11:00 pm		4:00 am – 11:00 pm	
	Early	4:00 am - 6:00 am	15
	AM Peak	6:00 am - 9:00 am	10
	Midday	9:00 am - 3:00 pm	15
	PM Peak	3:00 pm - 6:00 pm	10
	Evening	6:00 pm – 9:00 pm	15
	Night	9:00 pm - 11:00 pm	30
	Owl	-	-
Saturday 5:00 am – 10:00 pm		5:00 am - 10:00 pm	
Daytime 5:00 am – 9:00 pm		5:00 am - 9:00 pm	30
	Evening	9:00 pm – 10:00 pm	60
	Sunday 6:00 am – 9:00 pm		
	Daytime	6:00 am - 6:00 pm	30
	Evening	6:00 pm – 9:00 pm	60

KEY DESTINATIONS
Downtown HartfordUnion Station
■ Aetna
Hartford High SchoolWest Hartford Center
■ Blue Back Square

Routes 62 and 64

Routes 62 and 64 are proposed to be consolidated as part of Route 99, a new Regional Loop. This proposed new regional service connecting outlying activity centers and hubs would incorporate segments of existing Routes 50A, 62, 64 91 and 92, plus CT*fastrak* Routes 144 and 153 that currently serve outlying area of the Hartford region, including segment of North and South Main Street in West Hartford where Routes 62 and 64 operate today.

Route 66

Service Design

The proposed Route 66 would operate as a Connector Route, linking West Hartford Center with Unionville via Farmington Avenue (see Figure 291). The route would also serve the UConn Health Center in Farmington and Westgate Plaza and apartments in West Hartford. At West Hartford Center, passengers would be able to make multiple connections, including to routes serving Bishops Corner, the Cigna/MetLife campus on Hall Boulevard, Westfarms Mall, CCSU, Charter Oak Marketplace, and downtown Hartford.

West of UConn Health Center, the density of land uses in the Farmington Avenue corridor drops significantly (see Figure 292). However, there are some apartments, residential areas and other potential trip generators in Farmington Center and Unionville. Service beyond Unionville to Tunxis Community College would be provided only via CT*fastrak* service and New Britain Route 503.











FIGURE 291 | PROPOSED ROUTE 66 ALIGNMENT

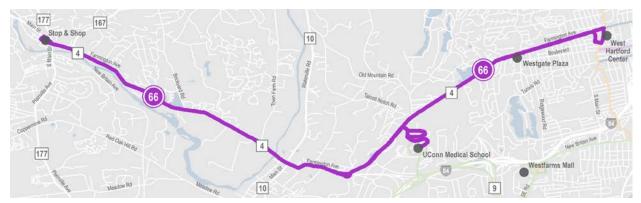


FIGURE 292 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 66 ALIGNMENT

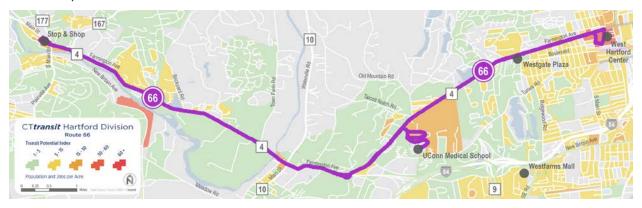
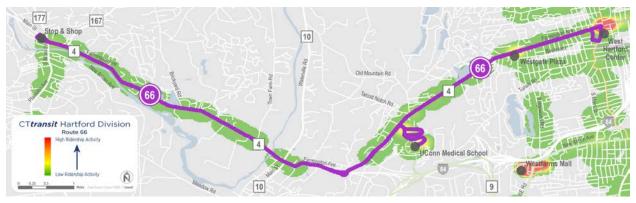


FIGURE 293 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 66 ALIGNMENT



Service Characteristics

Route 66 would operate every 30 minutes during peak hours and every 60 minutes during off-peak hours. Service would end at 8:00 PM, with later evening service to UConn Health Center provided via CT*fastrak* Route 121.

Route 66 would be interlined with proposed Routes 41 in West Hartford Center to create a 4-hour cycle time and optimize layover time for these routes. This would also provide a direct one-seat ride between various locations in West Harford and Newington, including the Flatbush CT**fastrak** station, and would











complement CT**fastrak** Route 121 which serves UConn Health Center via the Cedar Street CT**fastrak** station.

FIGURE 294 | PROPOSED ROUTE 66 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 8:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 8:00 pm	60
Night	-	_
Owl	_	-
Saturday	6:00 am - 8:00 pm	60
Sunday	No Service	

KEY DESTINATIONS		
West Hartford Center		
 Blue Back Square 		
 Westgate Shopping Center 		
 UConn Health Center 		
Farmington City Hall & Library		
Unionville		

Route 153

Service Design

CT**fastrak** 153 is proposed to be consolidated with other suburban crosstown routes as a new Regional Loop. This new route would provide bi-directional service and more directly link major destinations on the periphery of the Greater Hartford region. It would incorporate segments of several existing routes including 50A, 62, 64, 91, 92, and CT**fastrak** 144 to create a continuous loop service (see Figure 295).

Traveling in a clockwise direction beginning at Copaco Center in Bloomfield, the route would follow Cottage Grove Road and State Route 218 to the Windsor Shopping Center on Windsor Avenue. It would then follow I-291 across the Connecticut River to South Windsor and continue via John Fitch Boulevard, Chapel Road and Pleasant Valley Road. It would circulate through the Shoppes at Buckland Hills and serve the Buckland Park-and-Ride, continuing through Manchester via Buckland Street and New State Road. In East Harford, it would follow Burnside Avenue and serve the Sunset Hills neighborhood, Forbes Street, Brewer Street and Main Street. The Loop would again cross the River using Route 3 in Glastonbury, after serving Somerset Square.

In Wethersfield, the Loop would head north on Silas Deane Highway to Jordan Lane and the Berlin Turnpike. Heading south on the Belin Turnpike to Cedar Street, the route would serve Newington Center and the Cedar Street CT*fastrak* station. It would serve Central Connecticut State University via Ella Grasso Boulevard, then follow Stanley Road and SE Road to the Westfarms Mall in West Harford. From the Mall, the route would follow New Britain Avenue to South Main Street and West Hartford Center, then North Main Street to the Cigna campus and back to Copaco Center on Cottage Grove Road in Bloomfield







FIGURE 295 | PROPOSED REGIONAL LOOP ALIGNMENT



FIGURE 296 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE REGIONAL LOOP











FIGURE 297 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED REGIONAL LOOP



The Regional Loop would allow passengers to more easily travel between key corridors and key outlying destinations without having to travel to downtown Hartford first. The route would intersect with dozens of other routes, including CT**fastrak** service, to provide a wide range of transfer opportunities.

Service Characteristics

The Regional Loop would operate at 30 minute frequency during peak periods and every 60 minutes during the off peak, in both directions (see Figure 298).

FIGURE 298 | PROPOSED REGIONAL LOOP SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	_
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Buckland Hills Mall
Copaco Center
■ Cigna
■ Bishop's Corner
West Hartford Center
Westfarms Mall
Cedar Street Station
Jordan Lane Shopping Center
■ Putnam Plaza
 East Hartford High School











19 BROAD STREET

61 | Jordan Lane

61R | Ridge Road

61D | Silas Deane Highway

SERVICE OVERVIEW

Route 61 is a radial route that begins in downtown Hartford, and travels south along Broad Street to Wethersfield. The route has three separate variants that terminate near Super Stop & Shop on Jordan Lane (61), Price Rite on Jordan Lane (61D), and the intersection of Prospect Street and Willow Street (61D) (see Figure 299). All three variants serve the Broad Street entrance of Trinity College.

Route 61D provides an element of cross-town service to the mostly radial CT*transit* Hartford network, allowing passengers to transfer between several north-south corridors without traveling all the way to Park Street or downtown Hartford.



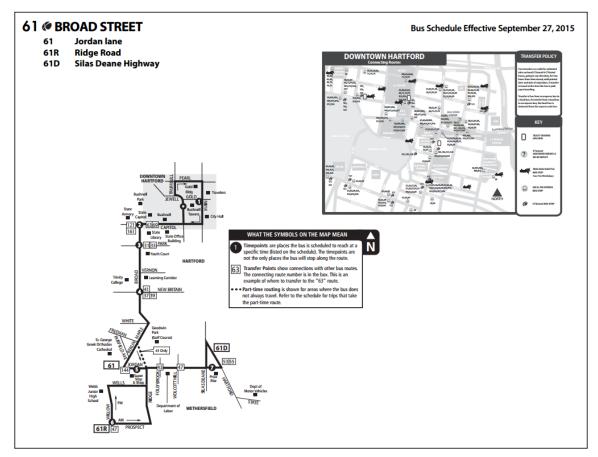








FIGURE 299 | ROUTE 61 MAP



Service Schedule

Route 61 operates six days a week. There are 34 outbound and 39 inbound trips per weekday, operating every 20 minutes during peak hours and every 30 minutes during off-peak. Of the 34 outbound trips, 12 follow the Route 61 alignment, seven trips follow Route 61R and 15 trips use the 61D alignment. During peak periods service alternates between Route 61R and 61D with no trips following the 61 alignment. Off-peak the service pattern generally follows two trips on Route 61, followed by two trips on 61D. There is one 61R trip at 11:30 AM but otherwise, Route 61R operates during peak periods only. The last trips of the day operate as Route 61.

On Saturdays, Route 61 provides 23 outbound trips and 22 inbound trips, with service every half-hour. Fourteen of those trips operate as Route 61 and nine as Route 61D; roughly every third trip is scheduled as Route 61D.

FIGURE 300 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:28 AM – 1:13 AM	20/30	34/39
Saturday	7:20 AM – 6:41 AM	30	23/22
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











SERVICE PERFORMANCE

Route 61 carries 1,012 daily passengers or 13.9 passengers per trip on an average weekday. This is more than 20% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 301).

Saturday ridership is about half of weekday levels, and is just about 25% lower than the division average for Saturday riders per trip.

FIGURE 301 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 61	ROUTE 61	DIVISION AVG
Weekday	1,012	13.9	17.7
Saturday	555	12.3	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 61 carries an average of 13.9 passengers per trip on weekdays. Ridership appears to be a mix of peak period commuting trips and midday non-work trips. Inbound service has a concentrated period of elevated ridership between approximately 6:00 AM and 8:00 AM, while outbound ridership increases as the day goes on and peaks in the early afternoon.

Maximum loads on Route 61 generally do not exceed 30 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route.

Weekend ridership activity is shown in Appendix B.

FIGURE 302 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

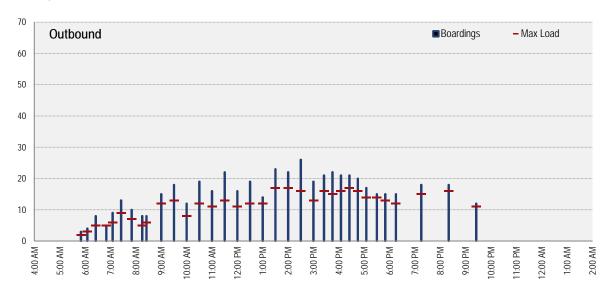
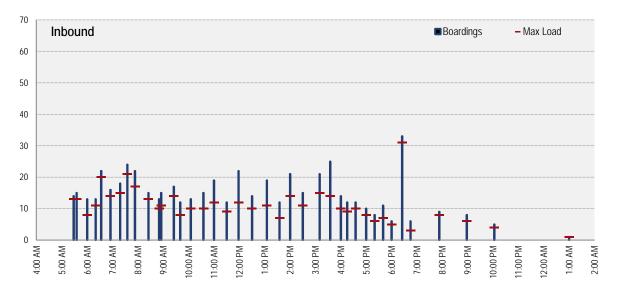








FIGURE 303 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Two of the most heavily used stops on Route 61 are at Trumbull Street and Pearl Street, and Main Street and Ancient Burying Ground, along the route's downtown loop. Outside of the downtown, stops serving the Juvenile Detention Center in Hartford and the Super Stop & Shop in Wethersfield are the only two that generate 50 or more boardings or alightings per day (see Figure 304).







FIGURE 304 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 61 performs slightly below average in terms of passengers per revenue hour on weekdays and Saturdays. The route carries 2.5 passengers per revenue mile both on weekdays and on Saturdays, which is slightly below the Hartford Division weekday average, but slightly above the Saturday average (see Figure 305). Saturday service productivity benefits for the fact that the Route 61R variant, which adds a mile but very few riders to the route, does not operate on Saturdays (see Figure 305). On weekdays, Route 61 has an operating cost per passenger that is nearly on par with the Hartford Division average. Cost per passenger increases on Saturdays, but is below the division average.

FIGURE 305 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUN	DAY
	ROUTE 61	SYSTEM AVG	ROUTE 61	SYSTEM AVG	ROUTE 61	SYSTEM AVG
Operating Cost per Passenger	\$4.82	\$4.84	\$5.11	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	26.6	28.9	25.0	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.5	2.6	2.5	2.4	-	2.9

Source: CTtransit performance data

Route 61 has relatively strong on-time performance, with an 88% on-time arrival rate. Buses are late more often than early, but late arrivals on Route 61 happen less frequently than the Hartford Division average for late arrivals (see Figure 306).

FIGURE 306 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 61	DIVISION AVG
Early	0.8%	0.2%
Late	11.3%	18.9%
On-Time	88.0%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 61 is a relatively frequent, direct, and moderately productive route between downtown Hartford and Jordan Lane, where it splits into three variants. Based on available ridership data, neither the 61R branch to Ridge Road, nor the 61D branch to Silas Deane Highway generate more than a handful of passengers per day. These low-ridership branches weigh on the over-all productivity of the service.









SERVICE RECOMMENDATIONS

Route 61

To address the issues and opportunities presented above, the study team recommends the following changes to Route 61:

Service Design

The proposed Route 61 would operate as a crosstown route between Jordan Lane Shopping Center in Wethersfield and Windsor Shopping Center in Windsor via Maple Avenue, Broad Street, Garden Street, Tower Avenue and Windsor Avenue (see Figure 301). This new alignment would pick up much of the service coverage of existing Routes 44 and 61.

The route would give passengers a one-seat ride from Wethersfield and south Hartford to north Hartford and Windsor. It would also serve several key destinations including Trinity College, Union Station, and the Connecticut Department of Social Services. In addition, the proposed crosstown route would provide a "bridge" between several emerging enhanced transit corridors including North Main Street, Albany Avenue, Farmington Avenue, and Park Street (see Figure 308). Connections to CT**fastrak** service would be available at Union Station.

FIGURE 307 | PROPOSED ROUTE 61 ALIGNMENT

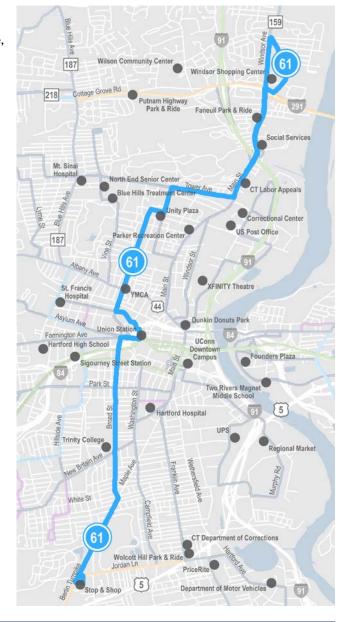








FIGURE 308 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 61 ALIGNMENT













Service Characteristics

The proposed Route 61 would operate every 30 minutes for much of the service day, with the exception of hourly service in the early morning and after the evening peak (see Figure 309). 30-minute service frequency will provide convenient and predictable connections between key corridors and key destinations.

FIGURE 309 | ROUTE 61 PROPOSED SERVICE CHARACTERISTICS AND KEY DESINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night		
Owl	_	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Jordan Lane Shopping Center Trinity College Union Station Community Health Services / YMCA Unity Plaza CT Department of Social Services Faneuil Park-and-Ride Windsor Shopping Center











20 HILLSIDE AVENUE

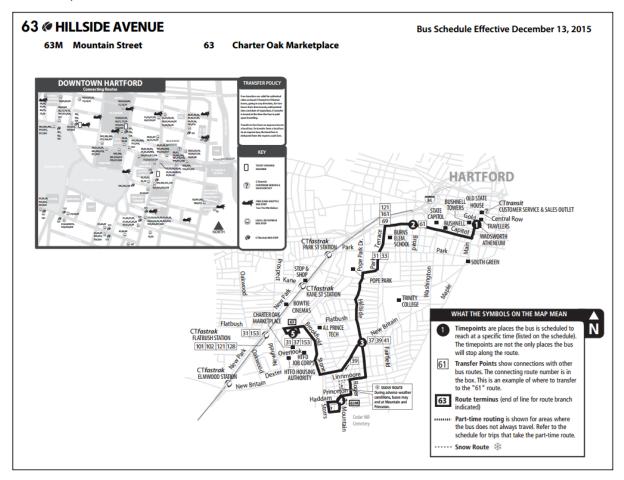
63M | Mountain Street

63A | Charter Oak Marketplace

SERVICE OVERVIEW

Route 63 is a radial route that originates in downtown Hartford and serves Hillside Avenue. The route has two variants; 63M, which is the primary alignment and serves the South West neighborhoods in Hartford; and 63A, which serves the Charter Oak Marketplace (see Figure 310).

FIGURE 310 | ROUTE 63 MAP













Service Schedule

Route 63 operates seven days a week. Weekday service runs every 20 minutes during peak hours and every half hour during off-peak hours. Service operates every 60 minutes on Saturdays, and every 70 minutes on Sundays.

FIGURE 311 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:45 AM – 6:46 PM	20/30	31/33
Saturday	7:05 AM – 7:03 PM	60	12/12
Sunday	6:50 AM – 8:20 PM	70	11/11

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 63 carries 870 daily passengers or 13.6 passengers per trip on an average weekday. This is more than 20% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 312).

On Saturdays, the route carries approximately 367 passengers or 15.3 passengers per trip, which is slightly below the division average of 16.3 passengers per trip. Total ridership for Route 63 is lowest on Sundays, but per trip, Sunday ridership is about the same as on weekdays.

FIGURE 312 | RIDERSHIP STATISTICS

SERVICE DAY			EE RIDERSHIP R TRIP	
	ROUTE 63	ROUTE 63	DIVISION AVG	
Weekday	870	13.6	17.7	
Saturday	367	15.3	16.3	
Sunday	302	13.7	17.6	

Source: CTtransit performance data

Ridership by Trip

Route 63 carries an average of 13.6 passengers per trip on weekdays. Ridership patterns suggest that Route 63 serves many downtown commuters. Inbound service has a concentrated period of elevated ridership between approximately 6:00 AM and 8:00 AM, while outbound ridership is highest in the afternoon.

The highest maximum load on Route 63 is on the 7:15 AM inbound trip, with 34 passengers. No other weekday trip exceeds a load of 30 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route. However, the ridership spike on the last outbound trip of the day suggests strong demand for later outbound service on weekdays.

Weekend ridership activity is shown in Appendix B.











FIGURE 313 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

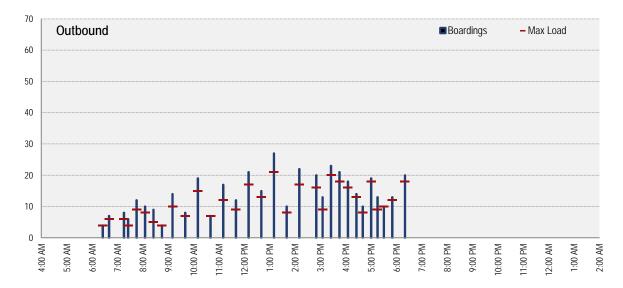
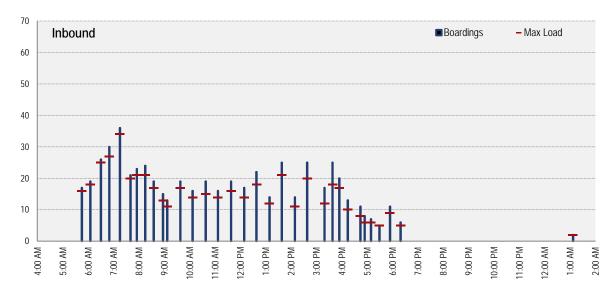


FIGURE 314 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stop on Route 63 is its downtown terminus of Main Street near Traveler's Insurance. Outside of the downtown, several stops along Hillside Avenue generate 50 or more boardings or alightings per day (see Figure 315).

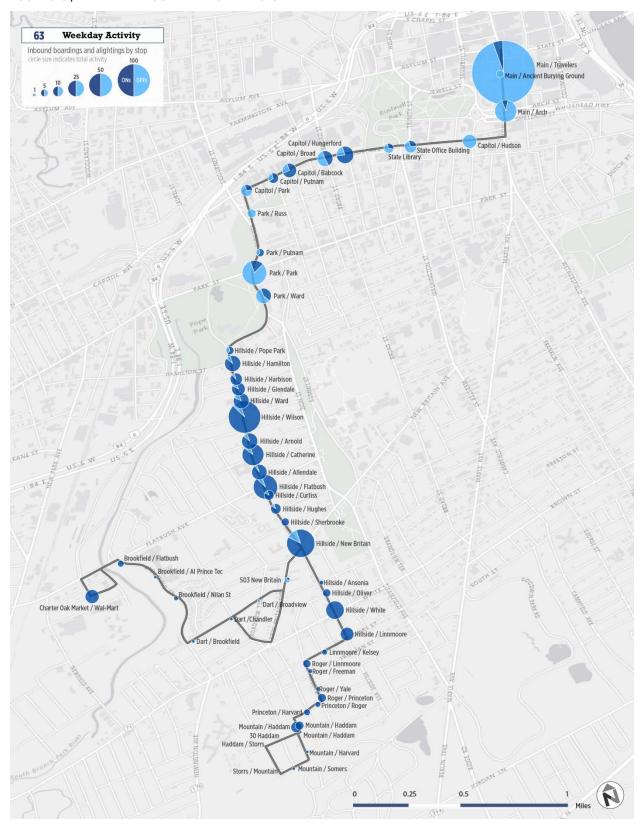








FIGURE 315 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

On weekdays, Route 63 performs slightly below average in terms of passengers per revenue hour, but above average for passengers per revenue mile (see Figure 316). This can be attributed to the route's relatively short length compared to other Harford Division routes. The route has above average productivity on Saturdays. Sunday productivity follows a similar pattern to weekdays.

Route 63 has a lower cost per passenger than the Hartford Division average for all service days. This reflects both the relatively short length of the route, and the significant reduction in weekend service frequency.

FIGURE 316 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 63	DIVISION AVG	ROUTE 63	DIVISION AVG	ROUTE 63	DIVISION AVG
Operating Cost per Passenger	\$4.55	\$4.84	\$4.17	\$6.30	\$5.44	\$6.66
Passengers per Revenue Vehicle Hour	28.2	28.9	30.7	27.0	23.5	29.7
Passengers per Revenue Vehicle Mile	3.1	2.6	3.4	2.4	3.0	2.9

Source: CTtransit performance data

Route 63 has below average on-time performance, with a 77% on-time arrival rate. 23% of timepoint checks showed buses running at least five minutes behind schedule (see Figure 317). Route 63 is interlined with Route 72 on most weekday trips. Route 72 has an 82% on-time performance rate, so shifting some running time from Route 72 to Route 63 could help address on-time performance issues on Route 63. However, it appears that more recovery time is needed for both routes to consistently provide on-time service.

FIGURE 317 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 63	DIVISION AVG
Early	0.0%	0.2%
Late	23.0%	18.9%
On-Time	77.0%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 63 is a relatively frequent, direct, and moderately productive route linking downtown Hartford with the South West neighborhood of Hartford and Charter Oak Market Place. The route is most heavily used along Hillside Avenue, giving residents access to both downtown and Charter Oaks retail destinations. Between Hillside Avenue and Charter Oak Marketplace, the route overlaps with Route 37. In addition, several CT*fastrak* routes now provide a faster alternative to the Route 63A variant for travel between Flatbush Station and downtown Hartford.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 63:

Route 63

Service Design

The proposed Route 63 would operate as a Connector Route linking residential areas along Hillside Avenue in Hartford with the Sigourney Street CT*fastrak* station (see Figure 318). The route would also facilitate transfers to other routes operating along New Britain Avenue and Park Street. The proposed route would not, however, serve downtown Hartford. Passengers wishing to travel to downtown Hartford could choose from multiple connection opportunities including CT*fastrak* Routes 101 and 102 at Sigourney Street Station.

FIGURE 318 | PROPOSED ROUTE 63 ALIGNMENT











The proposed Route 31 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure. To simplify the service, the Charter Oak Marketplace variant (63A) would be eliminated and service would be concentrated where ridership is highest (see Figure 319). Frequent connections to Charter Oak Marketplace would be available at Hillside Avenue and Flatbush Avenue via the proposed Routes 20 and 37.

FIGURE 319 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 63 ALIGNMENT



Service Characteristics

Route 63 would operate every 30 minutes during peak periods, and hourly at all other times (see Figure 320).

FIGURE 320 | PROPOSED ROUTE 63 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
	0.02	11124021101 (111111)
Weekdays	5:00 am - 8:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 8:00 pm	60
Night	-	_
Owl	-	_
Saturday	To Be Determined	
Sunday	To Be Determined	

KEY DESTINATIONS
 Sigourney Street Station Goodwin Memorial Branch Library South West Hartford











21 CAPITOL AVENUE

69C | Veterans Hospital - Central CT State University

69F | Veterans Hospital via Fenn Road

SERVICE OVERVIEW

Route 69 is a radial route with service between downtown Hartford, Veteran's Hospital in Newington, and the Connecticut Department of Transportation building on Berlin Turnpike (see Figure 321). Prior to the introduction of CT*fastrak* Route 140, Route 69 served Veteran's Hospital and Central Connecticut State University, rather than CTDOT. The analysis of Route 69 described in this document refers to the route's previous alignment, prior to the opening of CT*fastrak*.



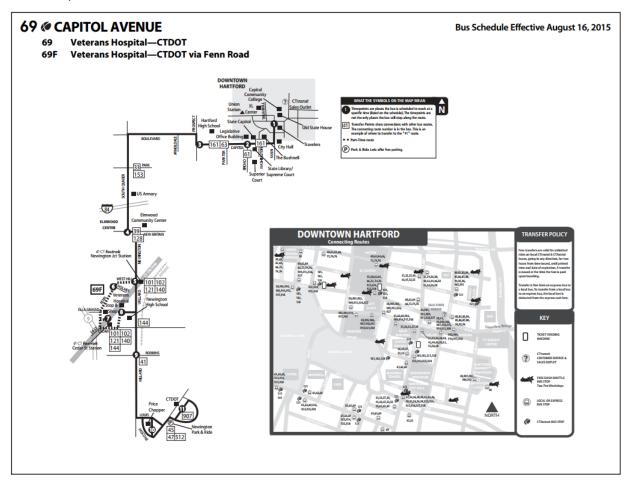








FIGURE 321 | ROUTE 69 MAP



Service Schedule

Route 69 operates on weekdays and Saturdays. Weekday service operates every hour, with service every 30-40 minutes during peak hours. Saturday service operates every hour.

FIGURE 322 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	6:07 AM – 8:08 PM	40 / 60	18 / 19
Saturday	7:05 AM – 6:28 PM	60	11 / 11
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











SERVICE PERFORMANCE

Route 69 carries 628 daily passengers or 17.4 passengers per trip on an average weekday. This is nearly on par with the Hartford Division average of 17.7 weekday passengers per trip (see Figure 323). Ridership drops considerably on Saturdays to 6.9 passengers per trip. Route 69 does not operate on Sundays.

FIGURE 323 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 69	ROUTE 69	DIVISION AVG
Weekday	628	17.4	17.7
Saturday	152	6.9	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 69 carries an average of 17.4 passengers per trip on weekdays. Ridership is strongest during morning and afternoon peak periods, as well as on the noontime inbound trip. One of the highest ridership trips is the 8:20 outbound departure. This ridership spike is likely due to the fact that this is the last trip before service frequency drops to once per hour (see Figure 324 and Figure 325).

Maximum loads on Route 69 do not exceed 25 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route, and service frequency appears to be sufficient for demand.

Weekend ridership activity is shown in Appendix B.

FIGURE 324 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

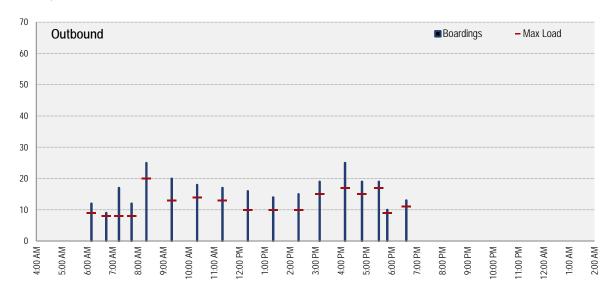


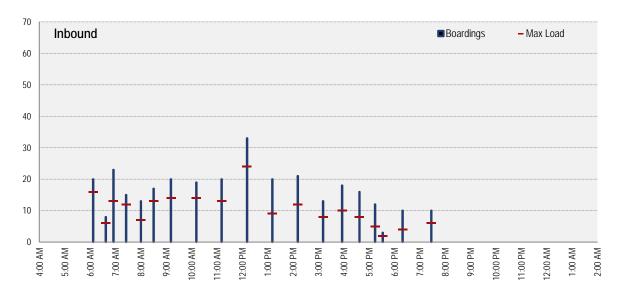








FIGURE 325 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

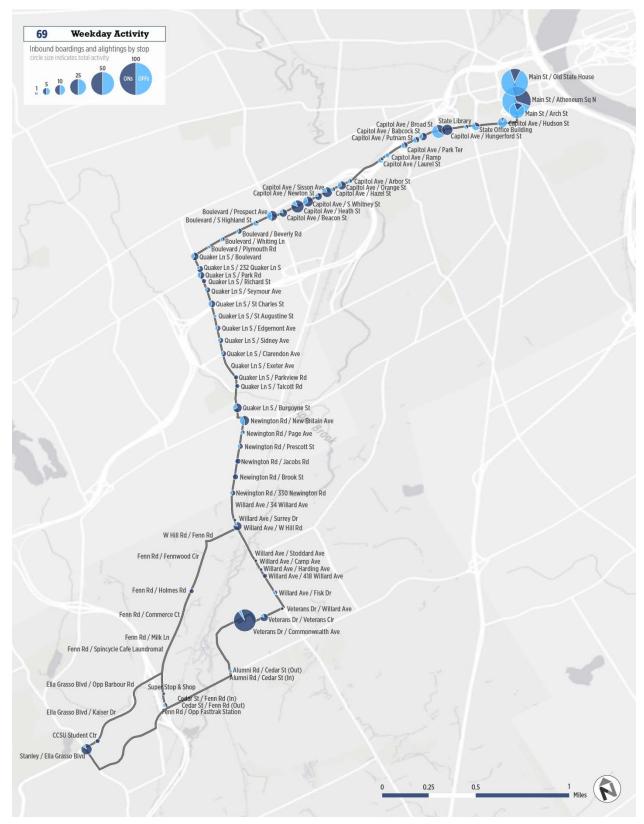
The most heavily used stops on Route 69 are at Main Street and Athenaeum Square in downtown Hartford, and at Veterans Hospital in Newington. However, no stops along the route generate more than 50 boardings or alighting per day (see Figure 326).







FIGURE 326 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

The operating cost per passenger for Route 69 exceeds the weekday Division average by 14% and is more than double the Division average on Saturdays. Similarly, the route performs below average in terms of passengers per revenue hour and revenue mile on weekdays, and far below average for these metrics on Saturday (see Figure 327).

FIGURE 327 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 69	DIVISION AVG	ROUTE 69	DIVISION AVG	ROUTE 69	DIVISION AVG
Operating Cost per Passenger	\$5.50	\$4.84	\$13.12	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	23.3	28.9	9.8	27.0	-	29.7
Passengers per Revenue Vehicle Mile	1.8	2.6	0.7	2.4	-	2.9

Source: CTtransit performance data

Route 69 has a 76.9% on-time arrival rate, with a higher percentage of late buses than the Hartford Division average (see Figure 328). Given that ridership is not particularly high on Route 69, poor on-time performance suggests insufficient recovery time to consistently provide on-time service on the route. Stop spacing may also be contributing to slow operating speeds, particularly along Capital Avenue, where stops are placed every block in some segments.

FIGURE 328 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 69	DIVISION AVG
Early	0.0%	0.2%
Late	23.1%	18.9%
On-Time	76.9%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 69 is a fairly direct radial route connecting downtown Hartford with the Elmwood area of West Hartford, Veterans Hospital, and CTDOT. The route previously served CCSU, but that service has now been replaced with CT**fastrak** Route 140.

The route has relatively low ridership due, in part, to competition from other routes. The northern part of the route, along Boulevard and Capital Avenue competes with other CT*transit* services operating along the parallel corridors of Farmington Avenue to the north and Park Street to the south. Both corridors provide more frequent service than Route 69 service along Boulevard and Capital Avenue. Similarly, for service between Elmwood Center and downtown Hartford, passengers can choose between Route 69 and Route 39, which operates more frequently. Portions of Route 69 that do not compete with other routes, such as Quaker Lane in West Hartford, tend to have relatively low transit propensity, as well as easy access to I-84.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 69 and Route 67:

Route 69

Service Design

The proposed Route 69 would operate as a Connector Route linking residential areas along the Fenn Road and Willard Avenue corridors in Newington with nearby retail destinations, medical facilities, and regional transit hubs (see Figure 329). Transit hubs that would be served by the route include the Cedar Street and Newington Junction CT**fastrak** stations. The route would also serve Newington High School and the Veterans Affairs Connecticut Healthcare Center. Route 69 would not serve downtown Hartford, Newington Road, Quaker Lane, or Boulevard. Passengers traveling to downtown Hartford can do so via CT**fastrak**. Ridership along Newington Road is extremely low and the corridor can be accessed from West Hill Road to the south and New Britain Avenue to the north. Quaker Lane coverage would be provided via the proposed Route 41. Route 69 ridership along Boulevard is also very low, and Route 33 service is available on Park Road, one block to the south.

The proposed Route 69 would operate as a one-way loop. While bi-directional service is generally preferable to a one-way loop, an exception is warranted in the case of Route 69 because the loop is relatively short and connections to CT*fastrak* service can be made at two opposite points on the loop. For example, a passenger traveling from downtown Hartford to the VA Medical Center could take CT*fastrak* to Cedar Street Station and then connect to Route 69 for the last mile connection to the medical center. On the return trip, the same passenger could take Route 69 north to Newington Junction Station to connect to CT*fastrak* service back to downtown Hartford.









FIGURE 329 | PROPOSED ROUTE 69 ALIGNMENT



Compared to the current Route 69, the proposed route would be very short and would concentrate service where the potential for ridership is highest (see Figure 330). Several apartment complexes line both Willard Road and Fenn Road, and key destinations along the route include the VA Medical Center, Newington High School, and Stop & Shop. Connections to CCSU would also be available via the proposed Route 67.

FIGURE 330 | TRANSIT POTENTIAL AND EXISTING RIDERSHIP ALONG PROPOSED ROUTE 69 ALIGNMENT













Service Characteristics

Route 69 would operate every half hour from the morning peak until early evening. Service would be hourly after 6:00 PM. The route could be interlined with proposed Route 45 at Cedar Street Station in order to create a 2-hour cycle time and optimize layover time for both routes. Each Route 45 trip to Cedar Street Station would complete a clockwise loop on Route 69 before beginning its return trip on Route 45.

FIGURE 331 | PROPOSED ROUTE 69 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 10:00 pm	
Early	_	-
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
 Newington Junction Station Newington High School VA Connecticut Healthcare Center Cedar Street Station CCSU Super Stop & Shop

Route 67

Service Design

The proposed Route 67 would replace the current CT**fastrak** Route 140, which connects the CCSU campus to the nearby Cedar Street CT**fastrak** station. The Route would operate clockwise, following a similar, but more streamlined alignment through the CCSU (see Figure 332). Rebranding this service as a Connector Route more accurately describe its role in the regional transit network. The proposed Connector category of service refers to routes, like the proposed Route 67, that provide feeder service to key transit hubs, but do not directly serve downtown Hartford. Service to downtown Hartford is available via a transfer to several CT**fastrak** routes at Cedar Street Station.

CCSU is a key regional destination and has the density and land-use to support frequent transit service (see Figure 333). Ridership on the CCSU campus has historically not been high very (see Figure 334), but the potential for ridership is now much stronger given the convenience and appeal of nearby CT**fastrak** service. It should be noted that the intersection of Cedar Street and Fenn Road experiences heavy congestion during peak periods, and this could impact the on-time performance of Route 67 during peak times. Given the localized nature of this congestion, this intersection is well suited for a pilot program to test the effectiveness of transit priority treatments. The trend in transportation planning now is to consider the intersection throughput of people rather than vehicles. A simplified CCSU shuttle (proposed Route 67) serving a CT**fastrak** station has very strong ridership potential, and would very likely justify prioritization at this intersection. In addition, signal prioritization for transit vehicles at this intersection would benefit proposed route 69, 99, and 121, in addition to Route 67.











FIGURE 332 | PROPOSED ROUTE 67 ALIGNMENT

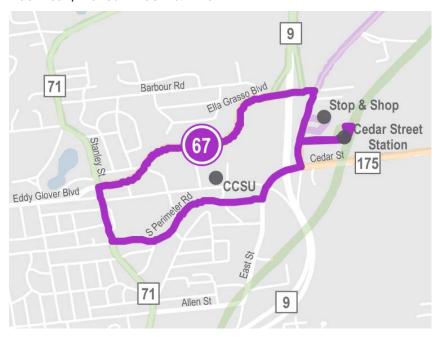


FIGURE 333 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 67 ALIGNMENT

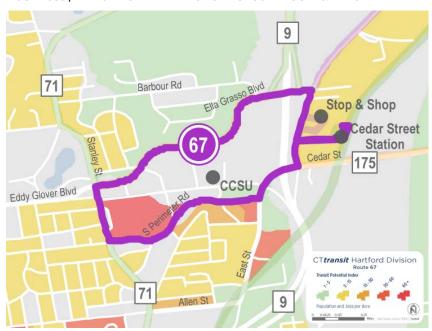








FIGURE 334 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 67 ALIGNMENT



Service Characteristics

Route 69 would operate every 15 minutes for its entire service day, providing both on-campus circulation and connections to CT*fastrak* and other services at Cedar Street Station (see Figure 335).

FIGURE 335 | PROPOSED ROUTE 69 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	6:00 am - 11:00 pm	
Early	_	-
AM Peak	6:00 am - 9:00 am	15
Midday	9:00 am - 3:00 pm	15
PM Peak	3:00 pm - 6:00 pm	15
Evening	6:00 pm – 9:00 pm	15
Night	9:00 pm – 11:00 pm	15
Owl	_	-
Saturday	To Be Determined	
Sunday	To Be Determined	

KEY DESTINATIONS
■ CCSU
Super Stop & Shop
Cedar Street Station









22 ASYLUM AVENUE

72A | Bishops Corner-CIGNA

72F | Fern Street

SERVICE OVERVIEW

Route 72 provides weekday service between Hartford and the Cigna/MetLife campus off of Hall Boulevard in Bloomfield via Asylum Avenue in Hartford and North Main Street in West Hartford. Route 72A serves Main Street, the Bishops Corner shopping center, and the Cigna/MetLife campus, while Route 72F operates via Fern Street in West Hartford.



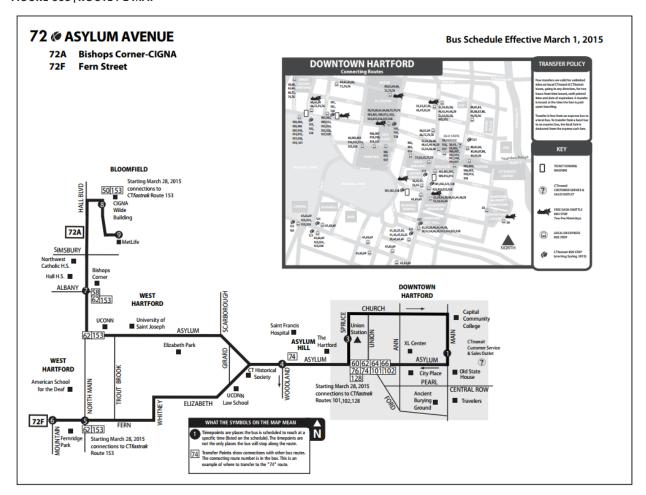








FIGURE 336 | ROUTE 72 MAP



Service Schedule

Route 72 operates on weekdays only, with service ending shortly before 7 PM each day. Peak hour service runs every 15 to 25 minutes, while off-peak service operates every 30 minutes. There are 34 outbound and 34 inbound trips daily, alternating between the Routes 72A and 72F alignments.

SERVICE PERFORMANCE

Together, Routes 72A and 72F carry 912 daily passengers or about 13.4 passengers per trip (see Figure 337). This is below the division average of 17.7 passengers per trip (see Figure 338). There is no weekend service on Route 72A or 72F.











FIGURE 337 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	6:10 AM – 6:58 PM	20/30 (irregular)	34/34
Saturday	-	-	-
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

FIGURE 338 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 72	ROUTE 72	DIVISION AVG
Weekday	912	13.4	17.7
Saturday	-	-	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 72 carries an average of 13.4 passengers per weekday. The route demonstrates a reverse commuting market, with greater demand on outbound trips during the AM peak and on inbound trips during the PM peak. However, demand is fairly well balanced throughout the day outside of these peaks (see Figure 339 and Figure 340).

Maximum loads on Route 72 are less than 30 passengers per trip, with the exception of the 8:45 AM outbound trip which carries about 33 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route.

Weekend ridership activity is shown in Appendix B.











FIGURE 339 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

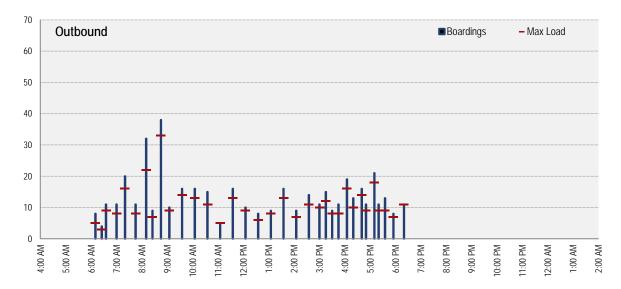
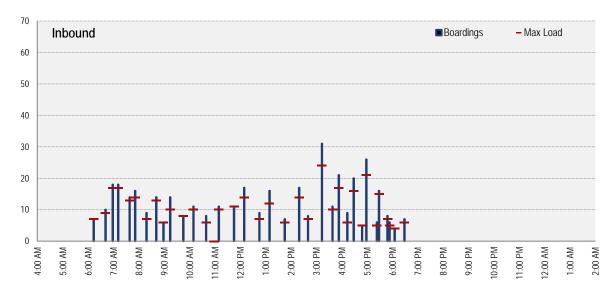


FIGURE 340 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

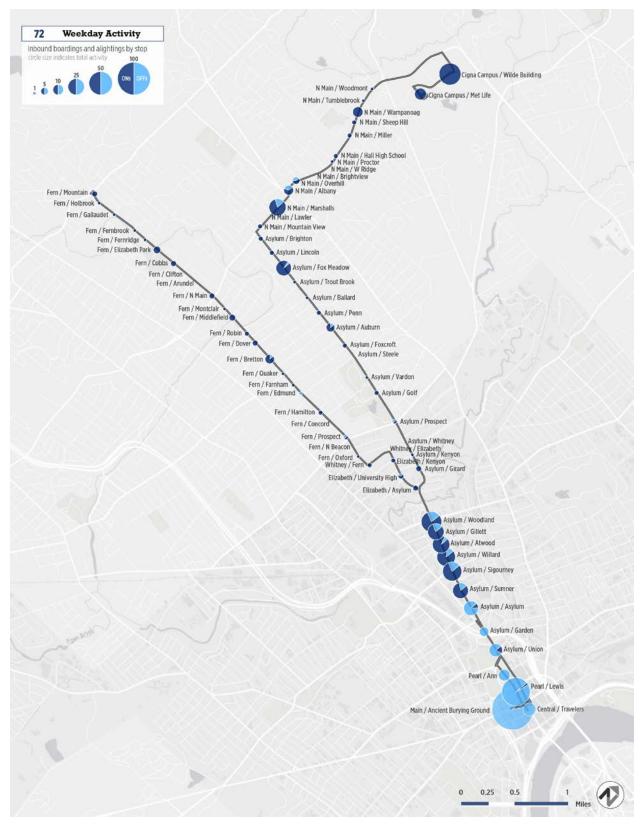
The most heavily used stops on Route 72 are its downtown Hartford stops at Pearl and Lewis Streets, and on Main Street at the Ancient Burying Ground. Outside of downtown, there are no stops that generate 50 or more boardings or alightings per day (see Figure 341), however the two stops on the Cigna/MetLife campus combine to generate a total of 58 boardings a day.







FIGURE 341 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 72 performs somewhat below average when compared to other Hartford Division local routes (see Figure 342). While performance data is not available for the separate Route 72A and 72F segments, it is likely based on ridership data that the Route 72A segment is outperforming the Route 72F segment.

FIGURE 342 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SATI	JRDAY	SUNI	DAY
	ROUTE 72	DIVISION AVG	ROUTE 72	DIVISION AVG	ROUTE 72	DIVISION AVG
Operating Cost per Passenger	\$5.29	\$4.84	-	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	24.2	28.9	-	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.1	2.6	-	2.4	-	2.9

Source: CTtransit performance data

Overall, Route 72 has slightly better on-time performance than other routes in the Hartford Division (see Figure 343).

FIGURE 343 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 72	DIVISION AVG
Early	0.0%	0.2%
Late	17.4%	18.9%
On-Time	82.6%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 72 is a radial route serving downtown Hartford, Asylum Hill, West Harford and Bloomfield. Two legs of the route split at Asylum Avenue and Elizabeth Street. Route 72A continues along Asylum turning on North Main Street in West Hartford to serve Bishops Corner and the Cigna/MetLife campus in Bloomfield. Route 72F operates along Fern Street terminating at Mountain Road in West Hartford.

Two new CT**fastrak** routes provide service along shared segments of Route 72's alignment, but only for short distances. CT**fastrak** Route 153 connects Copaco Center in West Hartford with the Flatbush Station. It shares a segment with Route 72 along North Main Street in West Hartford and Hall Road in Bloomfield, with both serving Bishops Corner and the Cigna/MetLife campus. CT**fastrak** Route 161 shares only a short segment with Route 72 along Asylum Avenue, running between Sigourney Street Station and St. Francis Hospital. Although these routes give riders an alternative service option for accessing Route 72's highest ridership destinations – the Cigna/MetLife campus, Bishops Corner and Asylum Avenue at Sigourney Street – they ultimately serve different markets.

The key challenge associated with the design of Route 72 is the Route 72F variant. While the overall performance and productivity of the route is below average, the northern Route 72A segment is significantly more productive.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 72:

Route 72

Service Design

The proposed Route 72 would operate as a radial route between downtown Hartford and the Cigna/MetLife campus in Bloomfield. The route would operate primarily along Asylum Avenue and North Main Street (see Figure 344). This alignment would be the same as Route 72A operated by CT*transit* today. The Route 72F variant is proposed for discontinuation due to low ridership.

Route 72 would serve a high concentration of employment near Asylum Hill, including The Hartford and St. Francis Hospital (see Figure 345), residential neighborhoods and the University of Saint Joseph along Asylum Avenue, and at Bishops Corner. It would also connect the insurance businesses on Asylum Hill with the Cigna/MetLife campus in Bloomfield while serving several other high-ridership destinations such as Bishops Corner, St. Francis Hospital, and Union Station. While the UConn Hartford campus off Asylum Avenue will be relocating to downtown Hartford in 2017, the UConn School of Law off Elizabeth Street will remain and is about one-quarter mile from the proposed Route 72 alignment.









FIGURE 344 | PROPOSED ROUTE 72 ALIGNMENT



FIGURE 345 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 72 ALIGNMENT

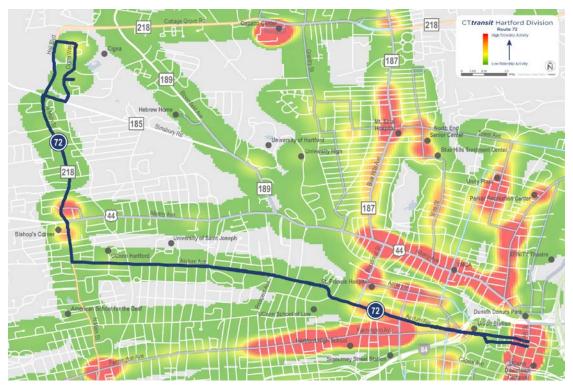








FIGURE 346 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 72 ALIGNMENT



Service Characteristics

Route 72 would operate every 30 minutes during peak periods and every 60 minutes during the off-peak. Service would be extended to 10 PM on weekday evenings to better serve the universities, retail destinations, and other activity centers along the route.

Route 72 would be interlined with proposed Route 58 in downtown Hartford to create a 2-hour cycle time and optimize layover time for both routes. Buses operating along the two routes would alternate between Route 72 service and Route 58 service every other trip. Drivers would change headsigns when approaching Union Station.

FIGURE 347 | PROPOSED ROUTE 72 SERVICE CHARACTERISTICS KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown Hartford
Union Station
The Hartford
Asylum Hill
St. Francis Hospital
 University of Saint Joseph
 UConn Hartford (current campus)/School of Law
Bishops Corner
Cigna/MetLife campus









23 GRANBY STREET

74 | Copaco - Seabury

745 | University High School

SERVICE OVERVIEW

Route 74 is a radial route connecting downtown Hartford to the Copaco Shopping Center and Seabury Retirement Center in Bloomfield. It serves Asylum Hill and the western side of downtown, before turning north towards Bloomfield. Route 74 has one variant (74S) that provides weekday service to University and Weaver high schools.



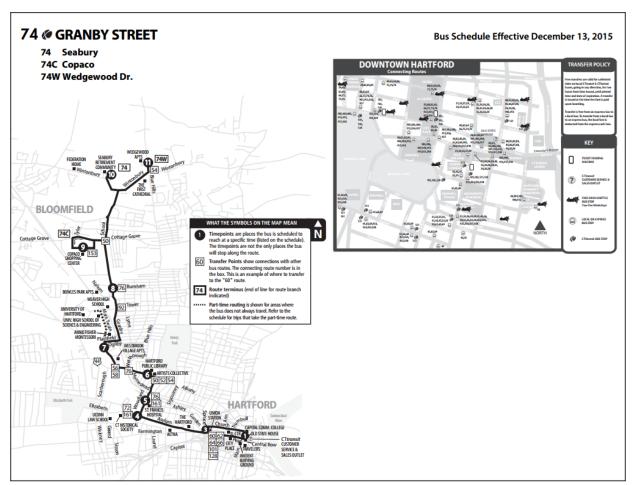








FIGURE 348 | ROUTE 74 MAP



Service Schedule

Route 74 operates on weekdays and Saturdays. Weekday service begins at 5:15 AM and ends shortly after 7 PM (see Figure 349). Peak-period service operates about every 25-30 minutes. Off-peak service operates roughly every 45 minutes. Saturday service begins at 6:40 AM and ends around 7:30 PM, and operates on a consistent hourly basis except for the first and last trips of the day. There are two inbound and two outbound trips each weekday operating as Route 74S; these trips serve local high schools.

FIGURE 349 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:15 AM – 7:13 PM	30 / 45 (Irregular)	23 / 23
Saturday	6:40 AM – 7:28 PM	60	12 / 12
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











SERVICE PERFORMANCE

Route 74 carries about 904 passengers per weekday or about 19.2 passengers per trip. This is slightly higher than the Hartford Division average of 17.7 passengers per trip (see Figure 350). Saturday service carries about 267 passengers per day, or an average of 11.1 per trip, which is a well below the division average.

FIGURE 350 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 74	ROUTE 74	DIVISION AVG
Weekday	904	19.2	17.7
Saturday	267	11.1	16.3
Sunday	-	-	17.6

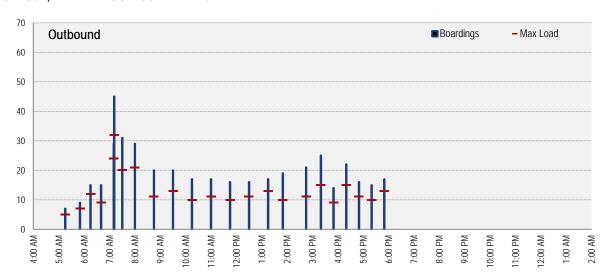
Source: CTtransit performance data

Ridership by Trip

Route 74 carries an average of 19.2 passengers per weekday. The route demonstrates fairly consistent ridership in both directions, but also demonstrates a reverse-peak orientation (stronger demand outbound in the morning) with the demand likely coming from high school students and commuters going to work at St. Francis, Copaco Center or other sites along the route (see Figure 351 and Figure 352). The highest ridership trips in each direction are the 7:10 AM outbound and 3:00 PM inbound that serve University and Weaver high schools. Maximum loads are between 10 and 20 passengers per trip, with the exception of these school trips which exceed 30 riders.

Weekend ridership activity is shown in Appendix B.

FIGURE 351 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP



Note: Extra 7:10 AM outbound trip into University High



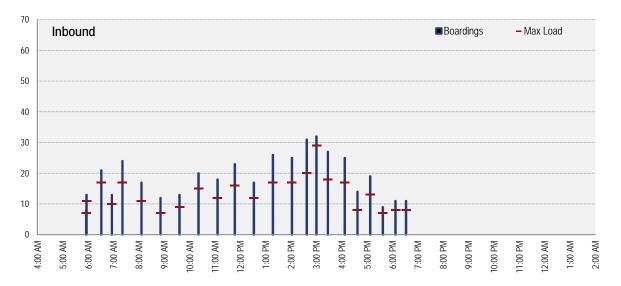








FIGURE 352 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Note: 3:00PM inbound trip from University High

Ridership by Stop

The most heavily used stops on Route 74 are in downtown Hartford and at the Stop & Shop in Copaco Center (see Figure 353). Other stops have 25 boardings per day or less.

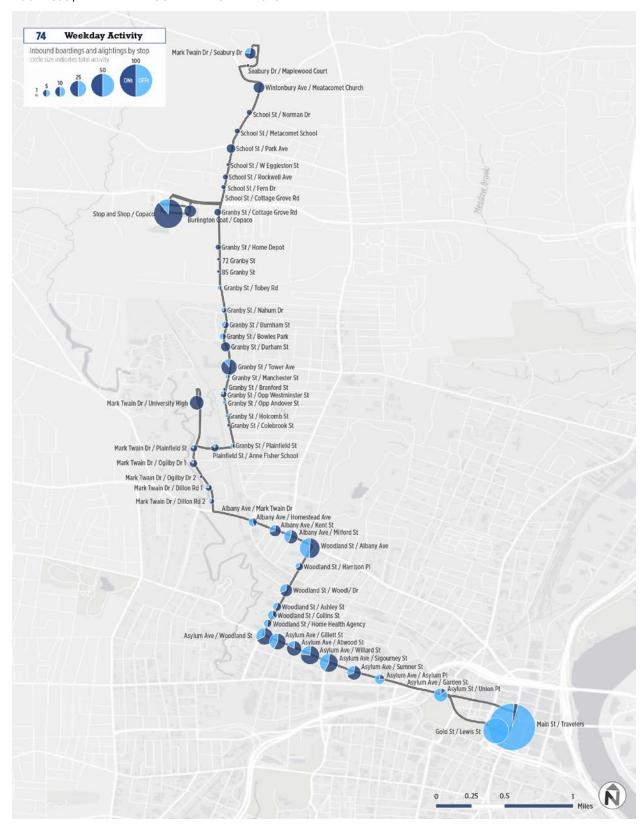








FIGURE 353 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 74's weekday service performs very close to the Hartford Division average, while Saturday service performs less well and falls significantly below the division average. Service productivity on Saturday is low even with reduced levels of service on the route (Figure 354).

FIGURE 354 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEE	KDAY	SATU	URDAY	SUNI	DAY
	ROUTE 74	DIVISION AVG	ROUTE 74	DIVISION AVG	ROUTE 74	DIVISION AVG
Operating Cost per Passenger	\$4.82	\$4.84	\$7.73	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	26.6	28.9	16.5	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.6	2.6	1.5	2.4	-	2.9

Source: CTtransit performance data

Route 74 has an excellent on-time performance record, with 88.3% of trips considered on time as compared to 80.9% for the division as a whole (Figure 355).

FIGURE 355 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 74	DIVISION AVG
Early	1.1 %	0.2 %
Late	10.7 %	18.9 %
On-Time	88.3 %	80.9 %

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 74 is a radial route connecting Hartford with Bloomfield via Asylum Avenue, Albany Avenue and Granby Street. At over eight miles the route is relatively long, but it serves a number of key trip generators including employers along Asylum Avenue (The Hartford, St. Francis Hospital), University High School, Weaver High School, Copaco Center and Seabury Retirement Center. Ridership is high along Asylum and Albany Avenues, and the route appears to partially serve as a crosstown route connecting Granby Street and Albany Avenue to the Asylum Hill neighborhood, and connecting these neighborhoods to Copaco Center.

Route 74 operates in a similar corridor as Route 76, but does not perform as well due to an indirect alignment and a lack of active ridership generators located along Mark Twain other than University High School. Segments of Route 74 also overlap with other routes. Both Routes 74 and 76 provide service between Asylum Hill and the Blue Hills neighborhood; CT*fastrak* Route 161 also serves the St. Francis Hospital area on Woodland Street. Route 92 serves Granby Street between Tower Avenue and Copaco Center.

Both the Bowles Park housing development on Granby Street and the Westbrook Village apartments on Mark Twain are largely vacant at this time, affecting demand along this route. Bowles Park redevelopment is beginning in 2016 and anticipated to provide an initial 90 new units in 2018. Westbrook Village is being considered as part of a potential mixed use redevelopment. Both developments should generate new transit ridership demand once complete.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 74, 42, 56 and 76, as well as the introduction of a new Route 20 Crosstown Connector:

Route 74

Route 74 is proposed to be discontinued, with route segments consolidated as part of Routes 161, 76, 56 and 42. The two inbound and two outbound Route 74S trips serving local high schools may still be operated.

Route 76

Service Design

The proposed Route 76 would operate as a radial route between downtown Hartford, Copaco Center and the Wedgewood Village Apartments in Bloomfield. The route would operate primary along Albany Avenue, Lyme Street, Granby Street, and School Street (see Figure 356).

The route's alignment would be modified or shifted along several segments to become more direct and to better coordinate with parallel services. It would be redirected to operate along Albany Avenue, rather than via Ashley Street and Woodland Street. CT**fastrak** Route 161 and proposed Route 56 would provide connections between downtown and St. Francis Hospital. A proposed new Route 20 Crosstown Connector would also connect Blue Hills Avenue with St. Francis and Sigourney Street.

North of Albany Street, Route 76 would shift to serve Lyme and Granby Street, rather than Cornwall. This pulls service further to the west in this corridor and reflects the proposed discontinuation of Route 74, extension of Route 42 via Tower and Palm, and the high frequency of service operated on Blue Hills Avenue.









Together with Routes 46, 50, 54, and 58, Route 76 would help establish an enhanced transit corridor along Albany Avenue, providing 10-minute or better service frequency between Blue Hills Avenue and downtown Hartford during peak periods. As shown in Figure 357, this corridor has the density and existing ridership demand needed to support high frequency service. Over the long-term, establishing an enhanced transit corridor would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

Service Characteristics

Route 76 is proposed to operate at a consistent 30 minute frequency all day (see Figure 358).

FIGURE 356 | PROPOSED ROUTE 76 ALIGNMENT











FIGURE 357 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 76 ALIGNMENT

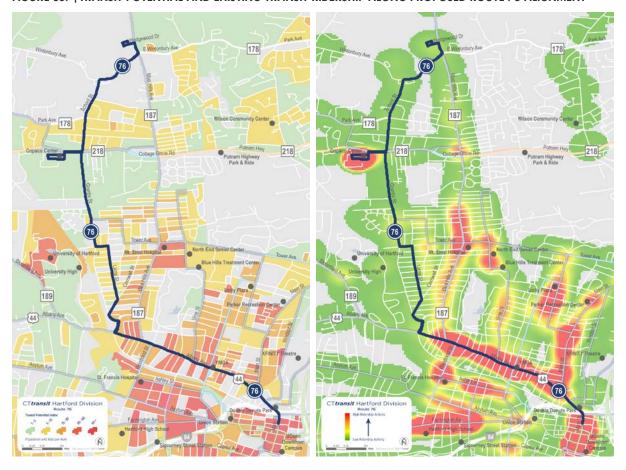


FIGURE 358 | PROPOSED ROUTE 76 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	30
Owl	-	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am - 8:00 pm	45

KEY DESTINATIONS
Downtown Hartford
 Community Health Center / YMCA
Weaver High School
 University of Hartford (via proposed new
pedestrian crossing at Tower Avenue)
Bowles Park Apartments
Copaco Center
 Wedgewood Village Apartments









Route 42

Service Design

The proposed Route 42 would operate as a radial route between downtown Hartford and Copaco Center in Bloomfield via North Main Street, Capen Street, Barbour Street, Palm Street, Burnham Street, Tower Avenue and Granby Street (see Figure 359).

Together with Routes 40 and 34, Route 42 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 42 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 360). To improve the route's ridership potential and to replace Route 92 Tower Avenue (which has been transition to more direct crosstown route), the proposed alignment would be extended along Tower Avenue to the west, ultimately serving Copaco Center. The route would also connect residents living along Capen and Barbour Streets more directly with the North End Senior Center, services at Mt. Sinai Hospital and Copaco Center.

FIGURE 359 | PROPOSED ROUTE 42 ALIGNMENT



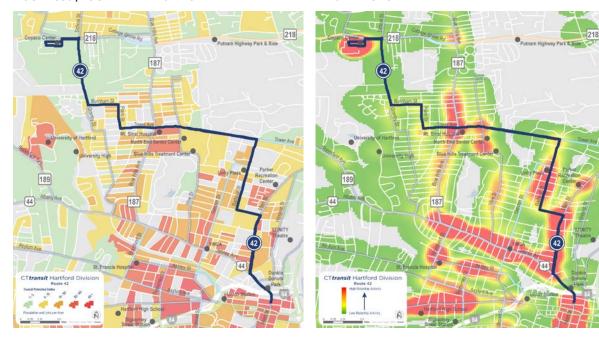








FIGURE 360 | ROUTE 42 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 42 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Routes 40 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's DoNo neighborhood. Service would also be extended to include Sundays (see Figure 361).

Route 42 could be interlined with proposed Route 53 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.

FIGURE 361 | PROPOSED ROUTE 42 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Downtown Hartford
Dunkin Donuts Park
■ Unity Plaza
 Tower Avenue/Chappelle Garden Apartments
Mt. Sinai Hospital
 Granby Street/Bowles Park Apartments
 Copaco Center









Route 56

Service Design

The proposed Route 56 would operate as a radial route between downtown Hartford and the Hebrew Home in Bloomfield via Asylum Avenue, Ashley Street, Woodland Street, and Bloomfield Avenue. The route would also service the University of Hartford and Union Station where connections can be made to the CT*fastrak* network (see Figure 362).

The proposed alignment would be designed to better connect key activity centers in this corridor (see Figure 363 and Figure 364). It would provide new direct connections between the Hebrew Home and St. Francis Hospital, as well as between the University of Hartford and Union Station. Route 76, which current operates via Ashley Street, Woodland Street, Cornwall Street and Copaco Center, would be realigned to operate via Albany Avenue. Service to Bloomfield Center would be consolidated on Route 50 via Copaco, rather than via the underutilized segment of Route 56 north of the Hebrew Home.

FIGURE 362 | PROPOSED ROUTE 56 ALIGNMENT

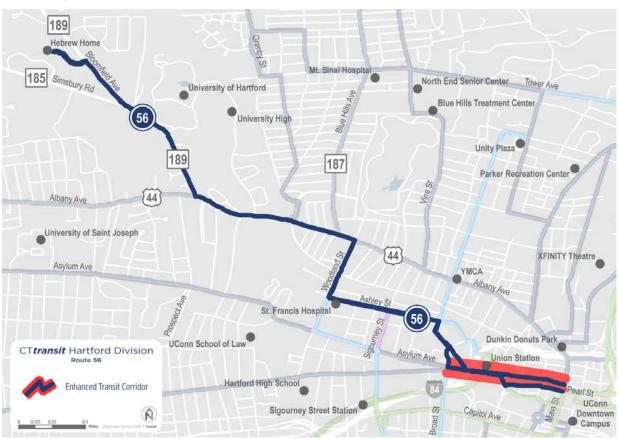










FIGURE 363 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 56 ALIGNMENT

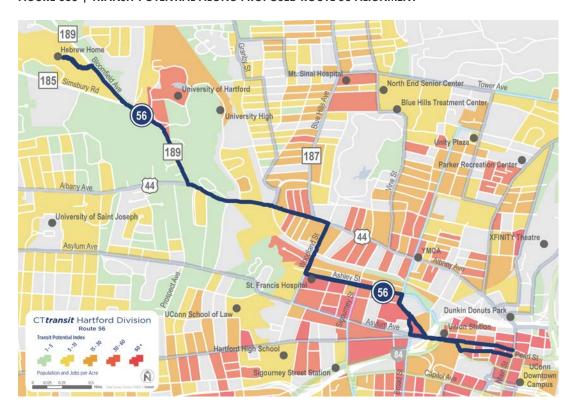
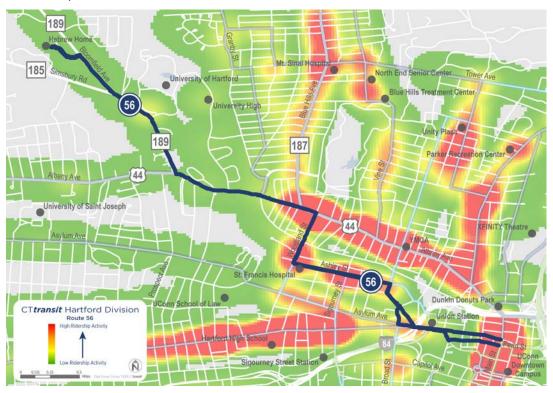


FIGURE 364 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 56 ALIGNMENT











Service Characteristics

Route 56 would operate at 30 minute frequency for most of the day, including the midday period (when it operates hourly today). During the early morning and late evening hours, hourly service would be operated (see Figure 365).

Route 56 would be interlined with proposed Route 87 in downtown Hartford to create a clean 2-hour cycle time and optimize layover time for both routes. This would also create a one-seat ride between the University of Hartford, East Hartford and Goodwin College.

FIGURE 365 | PROPOSED ROUTE 56 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays		
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	_	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

 KEY DESTINATIONS Downtown Hartford Union Station St. Francis Hospital Westbrook Village University of Hartford
Jewish Community Center
Hebrew Home

Route 20 (New)

Service Design

Route 20 is a proposed new route that would provide crosstown service between Copaco Center and West Hartford Place via Blue Hills Avenue and Hillside Avenue. The route would allow passengers to travel directly between Bloomfield and West Hartford without having to make transfers or travel to downtown Hartford first. Route 20 would also provide a "bridge" between several emerging enhanced transit corridors including Albany Avenue, Farmington Avenue, and Park Street (see Figure 366). In addition, the route would serve CT*fastrak* with on-street stops adjacent to Sigourney Street Station and Flatbush Station.









FIGURE 366 | PROPOSED ROUTE 20 ALIGNMENT

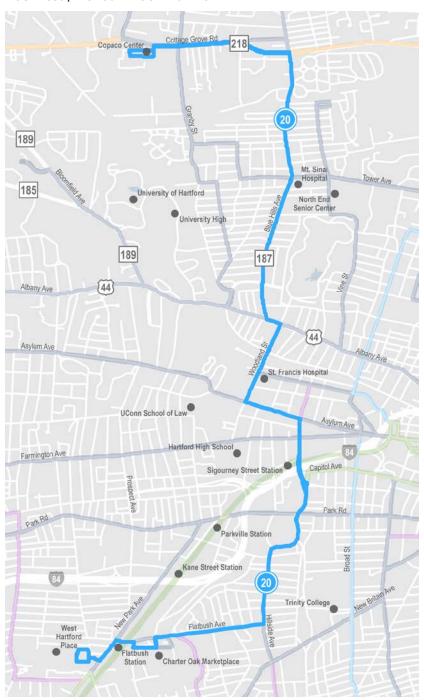
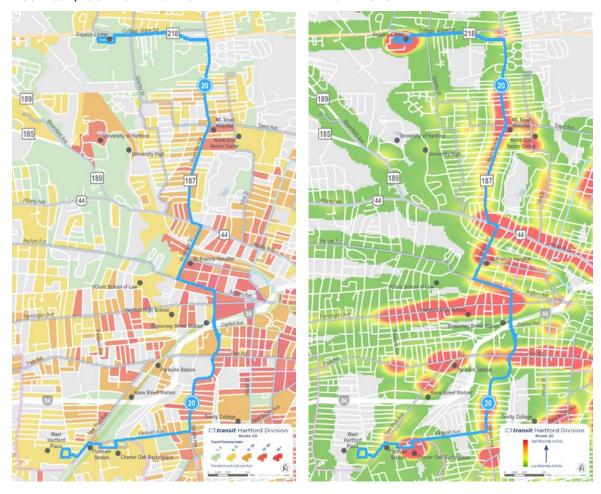








FIGURE 367 | ROUTE 20 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

The proposed Route 20 would operate every half hour throughout the service day to provide convenient and predictable connections between key corridors and key destinations (see Figure 368).

FIGURE 368 | PROPOSED ROUTE 20 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 10:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 10:00 pm	30
Owl	_	-
Saturday	No Service	
Sunday	No Service	

KEY DESTINATIONS
Copaco Center
Blue Hills Library
Mt. Sinai Hospital
St. Francis Hospital
Sigourney Street Station
Charter Oak Marketplace
Flatbush Station
 West Hartford Place









24 ASHLEY STREET

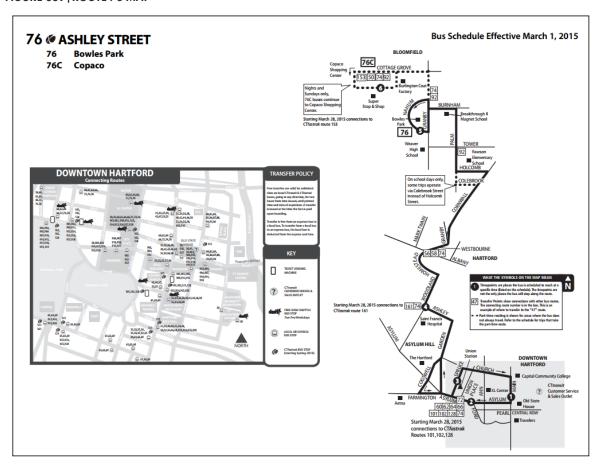
76 | Bowles Park

76C | Copaco

SERVICE OVERVIEW

Route 76 is a radial route that travels northwest from downtown Hartford. Most trips terminate at Bowles Park on Nahum Drive in Hartford, with the 76C variant serving the Copaco Shopping Center in Bloomfield (Figure 369). Route 76 operates seven days per week.

FIGURE 369 | ROUTE 76 MAP











Service Schedule

Route 76 operates seven days a week. On weekdays, Route 76 service operates every 10 to 15 minutes throughout the day (see Figure 370). Route 76C also provides weekday service with four outbound trips and five inbound trips; all trips operate in the evening and begin/end at the Copaco Shopping Center. Trips on Route 76C are spaced roughly every 65 minutes. Outbound Route 76C trips serve Bowles Park only by request.

On Saturday, Route 76 also operates throughout the day with the Route 76C variant operating on evening trips. Saturday service is scheduled every 30 minutes, with Route 76C service every 65 minutes in the evening, terminating at the Copaco Shopping Center and serving Bowles Park on outbound trips only by request. Sunday service runs every 70 minutes with all trips scheduled as Route 76C and serving the Copaco Shopping Center.

An additional late evening trip to the Copaco Shopping Center operates on Saturday and Sundays between Thanksgiving and New Year's Eve.

FIGURE 370 | SCHEDULE OVERVIEW (ALL ROUTES 76 AND 76C)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:18 AM – 12:15 AM	15 / 20	51 / 53
Saturday	6:45 AM – 11:38 PM	30	28 / 28
Sunday	6:50 AM – 8:40 PM	70	12 / 12

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 76 carries 1,615 passengers per weekday or about 15.5 passengers per trip. This is slightly below the Hartford Division average of 17.7 passengers per trip (see Figure 371). Saturday service carries about 13.7 passengers per trip, which is again below the division average of 16.3. However, Sunday service carries 18 passengers per trip, which is just above the division average.

FIGURE 371 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 76	ROUTE 76	DIVISION AVG
Weekday	1,615	15.5	17.7
Saturday	713	12.7	16.3
Sunday	432	18.0	17.6

Source: CTtransit performance data

Ridership by Trip

Route 76 carries an average of 15.5 passengers per trip on weekdays. Ridership is well balanced throughout the day in both directions (see Figure 372 and Figure 373). The highest maximum load on











Route 76 is the 7:00 AM inbound trip, with 37 passengers. No other weekday trip exceeds a load of 30 passengers. The typical seating capacity of a 40-foot transit bus if 40 passengers, so overcrowding is not an issue.

Ridership demand begins to drop off after 6:00 PM, suggesting that hourly evening service could begin earlier. Demand is also quite low on the last inbound and outbound trips of the day; this suggests the service span could be shortened slightly. Likewise, low demand on the first two outbound weekday morning trips suggests that the first outbound trip could be discontinued.

Weekend ridership activity is shown in Appendix B.

FIGURE 372 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

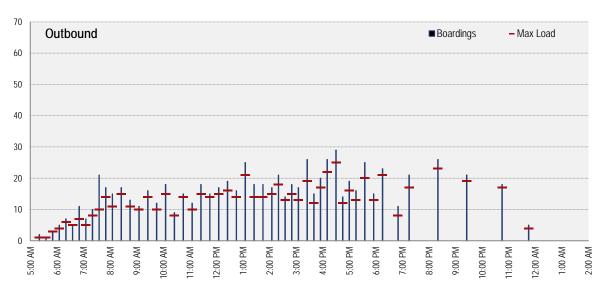
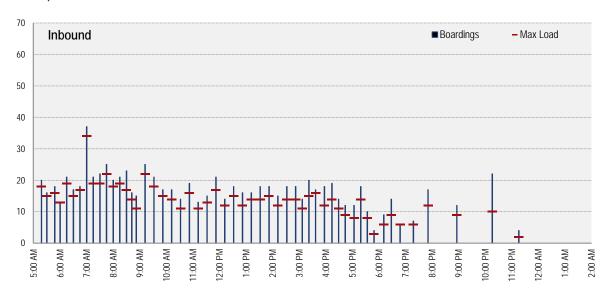


FIGURE 373 | WEEKDAY INBOUND RIDERSHIP BY TRIP













Ridership by Stop

The most heavily used stop on Route 76 is its downtown Hartford terminus on Main Street at Travelers Insurance. Other stops that generate 50 or more boardings or alightings per day are shown in Figure 374 below and primarily include stops along Woodland and Ashley Streets on the inner portion of this route.

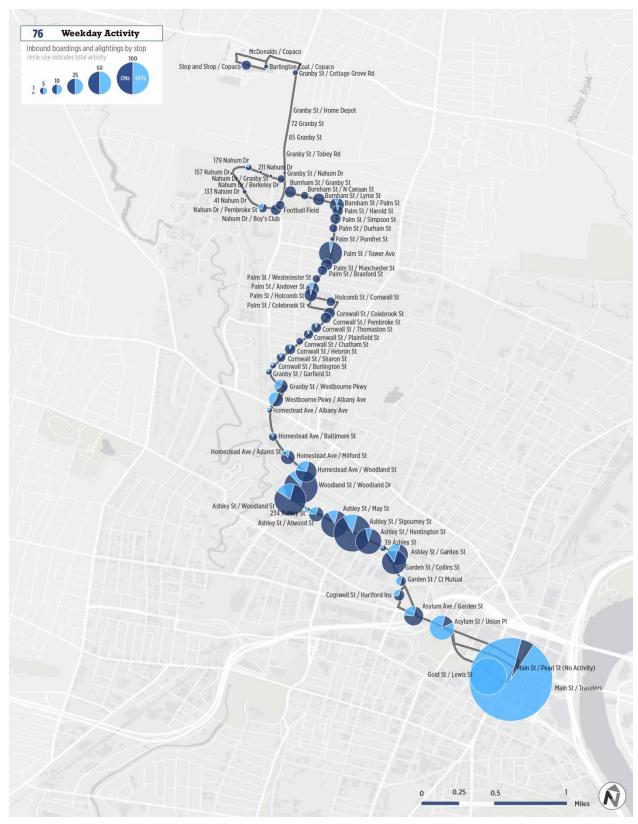








FIGURE 374 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 76 performs better than the Hartford Division average according to most measures (see Figure 375). The route has a lower cost per passenger than the division average on all service days. Sunday performs particularly well, due in part to a reduced service schedule.

The number of passengers per revenue vehicle hour is just below average on weekdays and Saturdays, but above average on Sundays. The number of passengers per revenue vehicle mile is above average on all service days, an outcome due in part to the routes relatively short length.

FIGURE 375 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEKDAY		SATURDAY		SUNDAY	
	ROUTE 76	DIVISION AVG	ROUTE 76	DIVISION AVG	ROUTE 76	DIVISION AVG
Operating Cost per Passenger	\$4.45	\$4.84	\$5.08	\$6.30	\$4.05	\$6.66
Passengers per Revenue Vehicle Hour	28.7	28.9	25.2	27.0	31.6	29.7
Passengers per Revenue Vehicle Mile	3.1	2.6	2.5	2.4	3.1	2.9

Source: CTtransit performance data

Route 76 has below average on-time performance, with 21.9% of time point checks showing buses running at least five minutes behind schedule (see Figure 376). More recovery time may be needed to consistently provide on-time service.

FIGURE 376 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 76	DIVISION AVG
Early	0.0%	0.2%
Late	21.9%	18.9%
On-Time	78.1%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 76 is a relatively frequent and moderately productive route connecting downtown Hartford with Asylum Hill, St. Francis Hospital, and residential neighborhoods to the northwest. It also provides late evening and Sunday service to Copaco Center in Bloomfield. The route is most heavily used between downtown and the hospital.

While productive, the route is indirect and slow; the indirect routing is likely at least partially responsible for its on-time performance challenges.

Portions of Route 76 overlap with Route 74, with the two routes providing service between Asylum Hill and the Blue Hills neighborhood. Each serves Copaco Center at different times of day. CT*fastrak* Route 161 also serves the St. Francis Hospital area on Woodland Street.

It bears mentioning that two large housing developments along Route 74 – Bowles Park and Westbrook Village – are largely vacant and about to be redeveloped. The first phase of Bowles Parks' redevelopment should be complete in 2018, with about 90 units, which is significantly less than the 400 units there today. Future Phase 2 build out will restore additional units. Lower demand from these underutilized apartment complexes is likely affecting Route 74 performance.

Finally, the City of Hartford is also proposing to create a pedestrian connection across Tower Avenue to Mark Twain Drive, which should improve access between University High School and bus service along Granby Street.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 76, 42, 74 and 56, and the introduction of a new Route 20 Crosstown Connector.

Route 76

Service Design

The proposed Route 76 would operate as a radial route between downtown Hartford, Copaco Center and the Wedgewood Village Apartments in Bloomfield. The route would operate primary along Albany Avenue, Lyme Street, Granby Street, and School Street (see Figure 356).

The route's alignment would be modified or shifted along several segments to become more direct and to better coordinate with parallel services. It would be redirected to operate along Albany Avenue, rather than via Ashley Street and Woodland Street. CT*fastrak* Route 161 and proposed Route 56 would provide connections between downtown and St. Francis Hospital. A proposed new Route 20 Crosstown Connector would also connect Blue Hills Avenue with St. Francis and Sigourney Street.

North of Albany Street, Route 76 would shift to serve Lyme and Granby Street, rather than Cornwall Street. This pulls service further to the west in this corridor and reflects the proposed discontinuation of Route 74, extension of Route 42 via Tower and Palm, and the high frequency of service operated on Blue Hills Avenue.

Together with Routes 46, 50, 54, and 58, Route 76 would help establish an enhanced transit corridor along Albany Avenue, providing 10-minute or better service frequency between Blue Hills Avenue and downtown Hartford during peak periods. As shown in Figure 357, this corridor has the density and existing ridership demand needed to maintain high frequency. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.







FIGURE 377 | PROPOSED ROUTE 76 ALIGNMENT



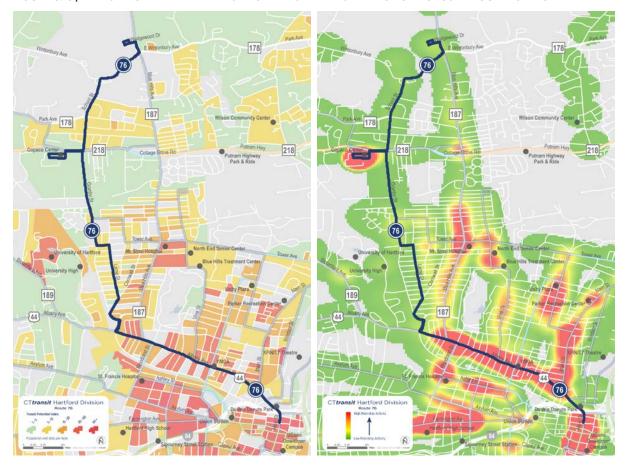








FIGURE 378 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 76 ALIGNMENT



Service Characteristics

Route 76 is proposed to operate at a consistent 30-minute frequency all day (see Figure 358).

FIGURE 379 | PROPOSED ROUTE 76 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	30
Owl	-	-
Saturday	6:00 am - 9:00 pm	30
Sunday	7:00 am – 8:00 pm	45

KEY DESTINATIONS			
Downtown Hartford			
Community Health Center / YMCA			
 Weaver High School 			
 University of Hartford (via proposed new 			
pedestrian crossing at Tower Avenue)			
 Bowles Park Apartments 			
Copaco Center			
 Wedgewood Village Apartments 			







Route 42

Service Design

The proposed Route 42 would operate as a radial route between downtown Hartford and Copaco Center in Bloomfield via North Main Street, Capen Street, Barbour Street, Palm Street, Burnham Street, Tower Avenue and Granby Street (see Route 42 could be interlined with proposed Route 53 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.).

Together with Routes 40 and 34, Route 42 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 42 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 381). To improve the route's ridership potential and to replace Route 92 Tower Avenue (which is proposed as a more direct crosstown segment of Route 99), the proposed alignment would be extended along Tower Avenue to the west, ultimately serving Copaco Center. The route would also connect residents living along Capen and Barbour Streets more directly with the North End Senior Center, services at Mt. Sinai Hospital and Copaco Center.

FIGURE 380 | PROPOSED ROUTE 42 ALIGNMENT











FIGURE 381 | ROUTE 42 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

Route 42 would operate at 20 minute frequency during peak periods and a 30-minute frequency during off-peak hours. Combined with Routes 40 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's DoNo neighborhood. Service would also be extended to include Sundays (see Figure 382).

Route 42 could be interlined with proposed Route 53 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.









FIGURE 382 | PROPOSED ROUTE 42 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	_
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am -8:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Dunkin Donuts Park Unity Plaza Tower Avenue/Chappelle Garden Apartments Mt. Sinai Hospital Granby Street/Bowles Park Apartments Copaco Center

Route 56

Service Design

The proposed Route 56 would operate as a radial route between downtown Hartford and the Hebrew Home in Bloomfield via Asylum Avenue, Ashley Street, Woodland Street, and Bloomfield Avenue. The route would also serve the University of Hartford and Union Station where connections could be made to the CT*fastrak* network (see Figure 362).

The new alignment is designed to better connect key activity centers in this corridor (see Figure 363 and Figure 364). It would provide new direct connections between the Hebrew Home and St. Francis Hospital, as well as between the University of Hartford and Union Station. Route 76, which currently operates via Ashley Street, Woodland Street, Cornwall Street and Copaco Center, would be realigned to operate via Albany Avenue. Service to Bloomfield Center would be consolidated on Route 50 via Copaco, rather than via the underutilized segment of Route 56 north of the Hebrew Home.









FIGURE 383 | PROPOSED ROUTE 56 ALIGNMENT

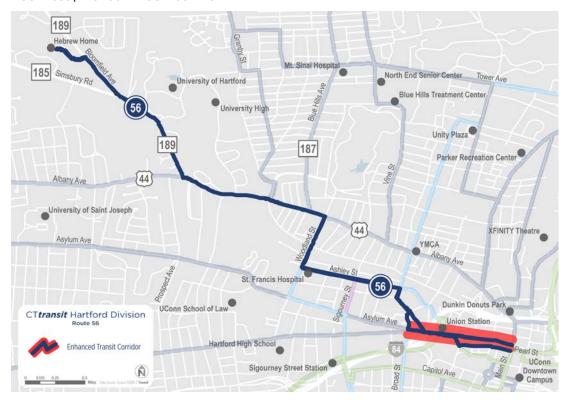


FIGURE 384 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 56 ALIGNMENT

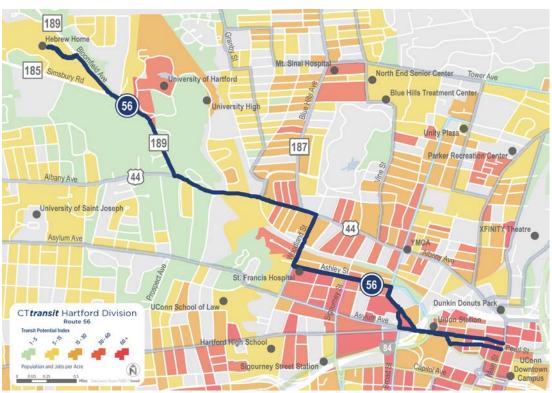


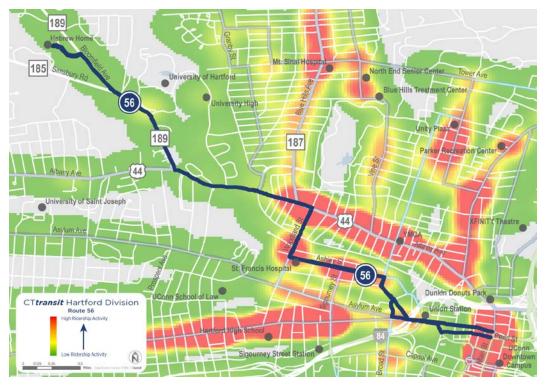








FIGURE 385 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 56 ALIGNMENT



Service Characteristics

Route 56 would operate at a 30-minute frequency for most of the day, including the midday period (when it operates hourly today). During the early morning and late evening hours, hourly service would be provided (see Figure 365).

Route 56 could be interlined with proposed Route 87 in downtown Hartford to create a 2-hour cycle time and optimize layover time for both routes. This would also create a one-seat ride between the University of Hartford, East Hartford and Goodwin College.

FIGURE 386 | PROPOSED ROUTE 56 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays		
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	_	-
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
 Downtown Hartford
Union Station
St. Francis Hospital
Westbrook Village
University of Hartford
Jewish Community Center
Hebrew Home











Route 20 (New)

Service Design

Route 20 is a proposed new route that would provide crosstown service between Copaco Center and West Hartford Place via Blue Hills Avenue and Hillside Avenue. The route would allow passengers to travel directly between Bloomfield and West Hartford without having to make transfers or travel to downtown Hartford first (see Figure 387). Route 20 would also provide a "bridge" between several emerging enhanced transit corridors including Albany Avenue, Farmington Avenue, and Park Street. In addition, the route would serve CT**fastrak** with on-street stops adjacent to Sigourney Street Station and Flatbush Station.

FIGURE 387 | PROPOSED ROUTE 20 ALIGNMENT

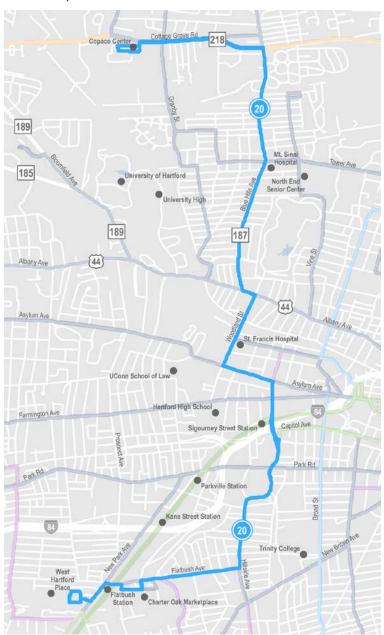


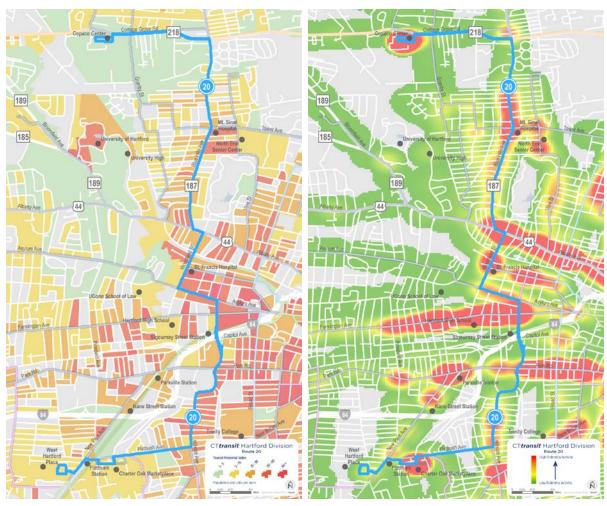








FIGURE 388 | ROUTE 20 TRANSIT POTENTIAL INDEX AND RIDERSHIP ACTIVITY MAP



Service Characteristics

The proposed Route 20 would operate every half hour throughout the service day to provide convenient and predictable connections between key corridors and key destinations (see Figure 389).

FIGURE 389 | PROPOSED ROUTE 20 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 10:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 10:00 pm	30
Owl	-	-
Saturday	No Service	
Sunday	No Service	

KEY DESTINATIONS
 Copaco Center Blue Hills Library Mt. Sinai Hospital St. Francis Hospital Sigourney Street Station Charter Oak Marketplace Flatbush Station West Hartford Place
vvest Hartford Flace









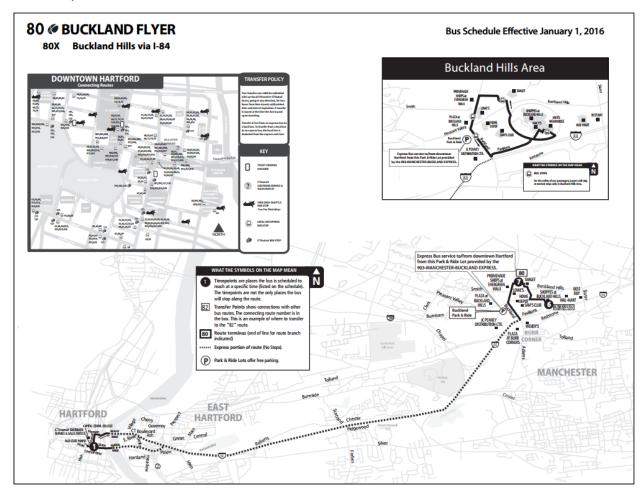
25 BUCKLAND FLYER

80X | Buckland Hills via I-84

SERVICE OVERVIEW

Route 80 is one of the Hartford Division's five Flyer routes, providing express service between downtown Hartford and retail destinations at Buckland Hills in Manchester (see Figure 390). Route 80X operates on Saturdays only.

FIGURE 390 | ROUTE MAP













Service Schedule

The Buckland Flyer operates on Saturdays throughout the year and offers additional service days and times during the holiday season. On Saturday, service runs every 60 minutes throughout the day until 6:00 PM, followed by service every 65 to 75 minutes in the evening (see Figure 391). From 6:00 PM onward, outbound trips begin at Travelers on Main Street rather than on Market Street. From 5:30 PM onward, inbound trips terminate at Central Row North rather than at Market Street.

FIGURE 391 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	-	-	-
Saturday	1:00 PM - 9:23PM	60	8/9
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 80 carries 349 daily passengers or 20.5 passengers per trip (average for Saturday). This is 16% higher than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 392).

FIGURE 392 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP AVER PER DAY		AGE RIDERSHIP PER TRIP	
	ROUTE 80	ROUTE 80	DIVISION AVG	
Weekday	-	-	17.7	
Saturday	349	20.5	16.3	
Sunday	-	-	17.6	

Source: CTtransit performance data

Ridership by Trip

Ridership by trip on Saturdays follows a typical shopping trip pattern with outbound ridership strongest from 1:00 PM (the first trip) through 4:00 PM (see Figure 393). Each of the four trips during this period carry 20 or more passengers, and ridership peaks at 30 boardings on the 3:00 PM trip. After this, ridership declines to fewer than 15 passengers on each of the remaining outbound trips. Inbound ridership slowly increases throughout the day, starting with around 15 passengers on the first trip at 1:25 PM, and builds to more than 40 passengers on the 5:30 PM trip (see Figure 394). Boardings then sharply decline, and the next three trips carry fewer than 20 passengers. No data exists for the last inbound trip of the day at 9:05 PM; however, based on the trend throughout the day, it is likely that no more than 5-10 people utilize this trip.

Overcrowding on Route 80 is unlikely a problem with the maximum load on all but one trip under 35 passengers. The 5:30 PM inbound trip, which has the highest ridership of any trip, reaches a maximum load just under 40 passengers, but the capacity of a standard 40-foot bus is still sufficient for most passengers to find a seat.

Weekend ridership activity is shown in Appendix B.











FIGURE 393 | SATURDAY OUTBOUND RIDERSHIP BY TRIP

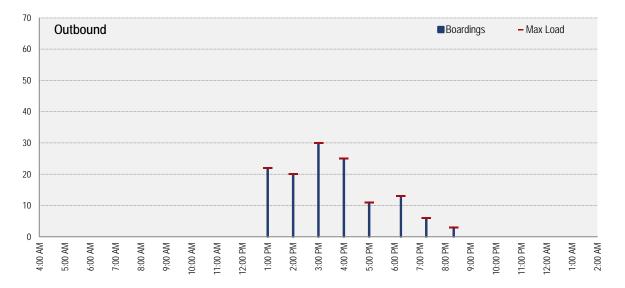
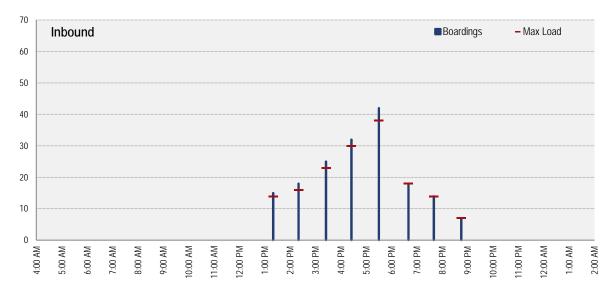


FIGURE 394 | SATURDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

More than 97% of activity on Route 80 occurs in downtown Hartford (50%) or at The Shoppes at Buckland Hills (46%). The Target/Lowe's Plaza in Manchester generates less than 3% of the route's ridership, with only 11 boardings and alightings per day. For inbound trips, this means that most riders board at Buckland Hills retail area and alight in downtown, as shown in Figure 395.

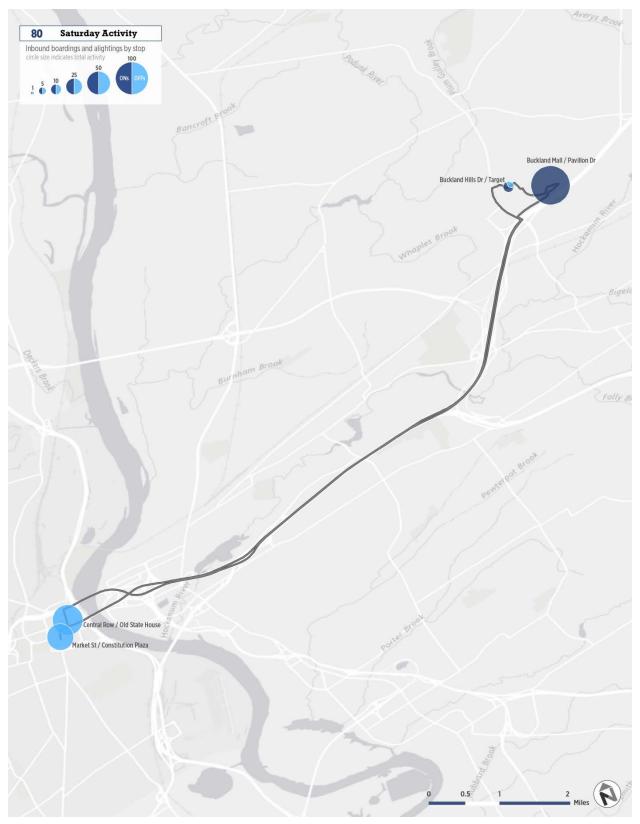








FIGURE 395 | SATURDAY INBOUND RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 80 performs near or better than average on all Saturday performance measures, as shown in Figure 396. Operating costs per passenger are less than half of the Hartford Division average, while the number of passengers per revenue hour is 60% above. The average passengers per revenue mile on Route 80 is 2.4.

FIGURE 396 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 80	DIVISION AVG	ROUTE 80	DIVISION AVG	ROUTE 80	DIVISION AVG
Operating Cost per Passenger	-	\$4.84	\$3.07	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	-	28.9	41.6	27.0	-	29.7
Passengers per Revenue Vehicle Mile	-	2.6	2.4	2.4	-	2.9

Source: CTtransit performance data

More than half of Route 80 trips run late, which is much higher than the Hartford Division average of 18.9%. Only about 46% of trips on the route are on time. With so few overall trips (17 total), even just a few trips falling outside of CTtransit's definition of "on-time" can cause poor performance. Moderate to heavy traffic around the Buckland Hills retail area may cause delays when getting on or off I-84, so these delays should be considered when scheduling the route. The current schedule allows for some slack.

FIGURE 397 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 80	DIVISION AVG
Early	0.0%	0.2%
Late	53.8%	18.9%
On-Time	46.2%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 80 is one of the Hartford Division's Flyer routes, traveling express between The Shoppes at Buckland Hills and downtown Hartford via I-84. The route provides a 15-18 minute trip between the retail area and downtown, with one additional stop at the Target/Lowe's Plaza in Manchester. Ridership on Route 80 is solid, but the route operates on Saturdays only. On weekdays, service between downtown Hartford and the Buckland Hills retail area is provided by Route 82.

Route 80 serves a clear market and performs well overall, but the route struggles with on-time performance.









SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 80 and the creation of Route 90.

Route 80

To simplify service, Route 80, which operates on Saturdays only, is proposed to be discontinued. Saturday service on a new route, Route 90, would connect Buckland Hills with downtown Hartford.

Route 90

Service Design

The proposed Route 90 would operate as a radial route between downtown Hartford and Buckland Hills Mall in Manchester via Connecticut Boulevard, Burnside Avenue and Middle Turnpike (see Figure 398).

The Burnside Avenue corridor is one of the strongest transit corridors east of the Connecticut River, based on density and existing ridership (see Figure 399 and Figure 400). The Buckland Hill retail area further complements the corridor by providing a strong anchor. Together with Routes 60 and 88, Route 90 would help establish a continuous enhanced transit corridor from West Hartford Center to I-84 in Manchester via Farmington Avenue, downtown Hartford, and Burnside Avenue. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

FIGURE 398 | PROPOSED ROUTE 90 ALIGNMENT

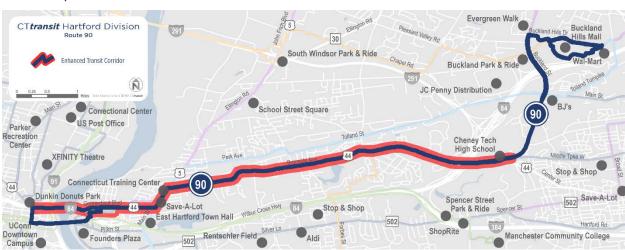








FIGURE 399 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 90 ALIGNMENT



FIGURE 400 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 90 ALIGNMENT



Service Characteristics

During peak periods, Route 90 would operate every 20 minutes (see Figure 401). Together with Routes 60 and 88, Route 90 would help establish a 10-minute peak-period frequency between West Hartford Center and I-84, where buses would diverge to serve either Buckland Hills Mall or Middle Turnpike in Manchester. Service in this corridor would be available every 15 minutes during off-peak periods.

Route 90 could be interlined with proposed Routes 60 and 88 in downtown Hartford to create a 6-hour cycle time and optimize layover time for these routes. Interlining the three routes would also provide riders with a one-seat ride between destinations in West Hartford and Manchester. Buses would operate from West Hartford Center to downtown Hartford then continue east, alternating to serve either Buckland Hills Mall or Middle Turnpike in Manchester.









FIGURE 401 | PROPOSED ROUTE 90 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	4:00 am - 11:00 pm	
Early	4:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	5:00 am - 10:00 pm	
Daytime	5:00 am - 9:00 pm	30
Evening	9:00 pm – 10:00 pm	60
Sunday	6:00 am - 9:00 pm	
Daytime	6:00 am – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60

KEY DESTINATIONS
 Downtown Hartford Save-A-Lot Connecticut Training Center Cheney Tech High School BJ's Buckland Hills Park-and-Ride Walmart Buckland Hills Mall









26 TOLLAND STREET

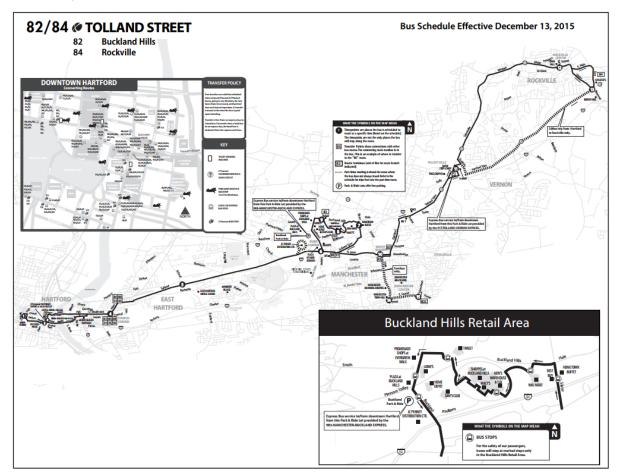
82 | Buckland Hills

84 | Rockville

SERVICE OVERVIEW

Routes 82 and 84 operate east along Tolland Street and Tolland Turnpike providing radial service between downtown Hartford and Manchester (Route 82) and Vernon (Route 84). The two routes function as variants of a single service, with a common alignment and unique outer ends (see Figure 402).

FIGURE 402 | ROUTE MAP













Service Schedule

Routes 82 and 84 operate seven days a week (see Figure 403). There are 37 total inbound trips per weekday (15 on Route 82, 4 on Route 82/84, and 18 on Route 84) and 39 total inbound trips (16 on Route 82, 3 on Route 82/84, and 20 on Route 84). Morning trips are predominantly Route 84 trips operating at about 20 minute frequencies until 8:30 AM. Routes 82 and 84 then operate mostly alternating trips until about 6:00 PM at a frequency of every 30 minutes. Two morning outbound trips on Route 82 serve the J.C. Penney Distribution Center before serving the Buckland Hills retail area, and two midday inbound trips begin at the distribution center, skipping the retail area. After 6:00 PM, most trips operate as a combined Route 82/84 beginning at Travelers on Main Street (outbound) and ending at Central Row North (inbound). There is also one additional outbound and inbound trip on weekdays during the holidays.

There are 15 outbound trips (1 on Route 82 and 14 on Route 82/84) and 15 inbound trips (one on Route 82 and 14 on Route 82/84) on Saturdays, with a frequency of roughly every 60 minutes. There is also one additional outbound and inbound trip on Saturdays between Thanksgiving and New Year's Eve.

On Sundays, there are nine Route 82C trips traveling outbound (10 on the Rockville Shuttle) and 10 Route 82C trips traveling inbound, with one additional regular Route 82 trip per direction between Thanksgiving and New Year's Eve. Service operates every 70 minutes.

FIGURE 403 | SCHEDULE OVERVIEW (ALL ROUTES 82, 82/84, AND 84)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:00 AM – 10:42 PM	20/30	39/37
Saturday	7:15 AM – 10:42 PM	60	15/15
Sunday	7:48 AM – 7:30 PM	70	9/10

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 82/84 carries 2,120 daily passengers or 27.2 passengers per trip on an average weekday. This is about 55% higher than the Hartford Division average of 17.6 weekday passengers per trip (see Figure 404). Ridership on Saturdays and Sundays declines each day but remains much stronger per trip than average, with 44.7 and 24.2 passengers per trip, respectively.

FIGURE 404 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 82/84	ROUTE 82/84	DIVISION AVG
Weekday	2,120	27.2	17.7
Saturday	1,341	44.7	16.3
Sunday	943	24.2	17.6

Source: CTtransit performance data









Ridership by Trip

Ridership on Route 82 and Route 84 is strong and relatively well balanced throughout the day and for travel inbound and outbound. Outbound ridership is strongest between 9:00 AM and 5:00 PM; inbound ridership is strongest between 7:30 AM and 4:00 PM. This demand pattern suggests riders use the route for traditional commuting purposes, reverse commute trips as well as other trips types (shopping, recreational, etc.). Ridership also dips in the early evening in both directions but then recovers after 7:00 PM when service is less frequent (see Figure 405 and Figure 406). In general, Route 84 has stronger ridership than Route 82, especially inbound, potentially because Route 84 is longer.

Although many trips carry more than 30 riders, peak loads on Route 82 and Route 84 exceed 30 passengers on only a handful of trips. As a result, overcrowding is not an issue on this route. Weekend ridership activity is shown in Appendix B.

FIGURE 405 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

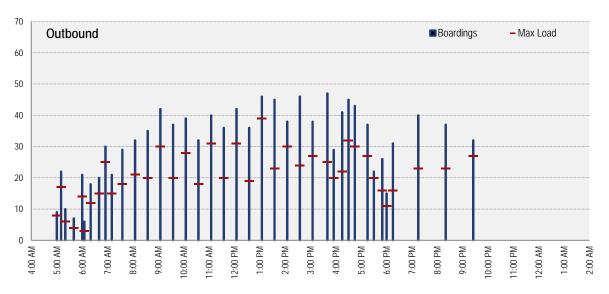
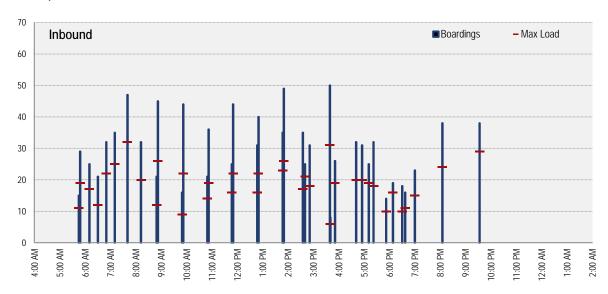


FIGURE 406 | WEEKDAY INBOUND RIDERSHIP BY TRIP













Ridership by Stop

The most heavily used stops on Route 82/84 outside of the downtown Hartford terminus include the Buckland Hills retail area, Church Corner (Connecticut Boulevard and Main Street), and Depot Square (North Main Street and North School Street), which all have more than 100 boardings or alighting on an average weekday (see Figure 407). Tolland Street and School Street, East Main Street and Park Street, Central Roadway at the Super Stop & Shop, and Union Street and War Street have over 50 boardings or alightings per weekday.









FIGURE 407 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

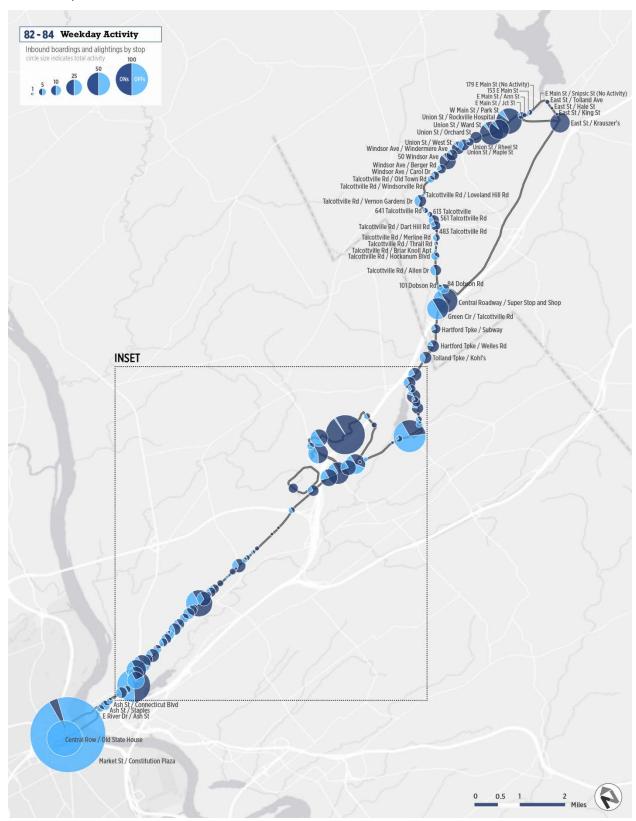










FIGURE 408 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

Route 82/84 generally performs well across all measures and all days of the week, with operating costs per passenger, passengers per revenue hour, and passengers per revenue mile near or below the Hartford Division average (see Figure 409 and Figure 410). Saturday performance is especially strong, with an operating cost per passenger 36% below average and passengers per vehicle hour 22% higher than average. Passengers per revenue mile on each day is the weakest of all performance measures for Route 82/84, which can indicate an excessively long route; however, the route shows good performance on an hourly basis.

FIGURE 409 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 82/84	DIVISION AVG	ROUTE 82/84	DIVISION AVG	ROUTE 82/84	DIVISION AVG
Operating Cost per Passenger	\$4.62	\$4.84	\$4.06	\$6.30	\$4.47	\$6.66
Passengers per Revenue Vehicle Hour	27.7	28.9	31.6	27.0	28.6	29.7
Passengers per Revenue Vehicle Mile	2.0	2.6	2.2	2.4	2.1	2.9

Source: CTtransit performance data

Route 82/84 has an on-time performance just above the Hartford Division average at 81.2% (see Figure 410). The remaining trips are late rather than early. While near average, an on-time performance close to 80% can frustrate riders and deter someone from choosing to ride. Route 82/84 has a stop roughly every 600 to 700 feet, about every tenth of a mile, which likely contributes to its on-time performance.

FIGURE 410 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 82/84	DIVISION AVG
Early	0.0%	0.2%
Late	18.8%	18.9%
On-Time	81.2%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 82 and Route 84 operate as two variants of the same route. The trunk alignment for these routes is primarily along Tolland Street. Route 82 then serves the Buckland Hills retail area, while Route 84 serves Vernon. Both are relatively direct routes with straightforward schedules and alignments. Performance on Routes 82 and 84 is strong, especially on weekend days.

Route 82's strengths include travel along a corridor with relatively high density close to downtown and a strong regional anchor (Buckland Hills). Route 84 serves the same high-density segment of Tolland Street before continuing to Vernon, which also has a relatively high density of transit dependent population.

After Tolland Street becomes Tolland Turnpike, the corridor's land use becomes more diverse and includes moderate residential and employment density as well as some rural segments. Consistent with this, the pedestrian infrastructure also varies considerably along the corridor meaning transit demand is strong in some locations and weak in others. Route 82/84 also faces competition from Route 83 Silver Lane, which serves the Buckland Hills retail area once an hour. Although the routes parallel, they operate on opposite sides of I-84, and travel via Route 82/84 is faster than Route 83.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 82, 84, 90, and 95:

Route 82

Service Design

The proposed Route 82 would operate as a Connector Route between the Rockville Park-and-Ride Lot and Buckland Hills Mall via South Street in Vernon, Talcottville Road, Hartford Turnpike, Oakland Street, North Main Street, and Buckland Street in Manchester (see Figure 411). The route would connect residential areas of Vernon and Manchester to nearby retail destinations and regional transit hubs. Transit hubs that would be served by the route include the Rockville Park-and-Ride, Vernon Park-and-Ride, and Buckland Hills Park-and-Ride. The route would also serve Buckland Hills Mall, which is an emerging transit hub as well.

The proposed Route 82 would not directly serve downtown Hartford, but would provide more connection opportunities than the current Route 82 to facilitate convenient transfers to both local and Express routes serving downtown. For example, in Vernon, the proposed route would be extended to the Rockville Parkand-Ride to facilitate transfers to Express Route 917. Frequent connections to downtown Hartford would also be available at Buckland Hills Mall, including Routes 90 and 95.

The longer a route is, the more opportunities it has to encounter traffic-related delays. Truncating Route 82 at Buckland Hills Mall rather than extending it to Hartford would improve the route's reliability. In addition, splitting the route at Buckland Hills Mall (with Route 95 serving Tolland Street and Route 90 serving downtown Hartford) would allow each new route to have the level of service that is most appropriate for the market it serves.

Between Buckland Hills Mall and much of the Talcottville Road corridor, Routes 82 and 84 would follow the same alignment to provide higher effective service frequency where there is the highest ridership and highest ridership potential (see Figure 412 and Figure 413). The routes would diverge near Rockville High School, with Route 82 providing new service along South Street, where there is a significant concentration of multi-family housing.









FIGURE 411 | PROPOSED ROUTE 82 ALIGNMENT

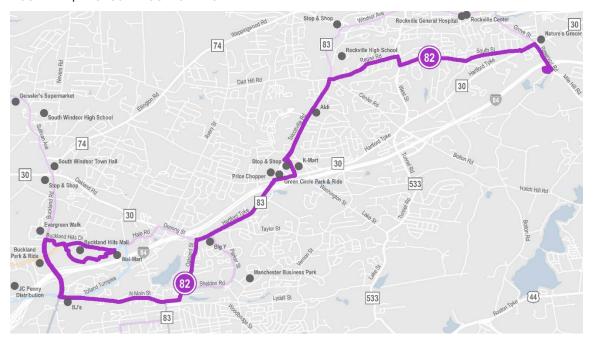


FIGURE 412 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 82 ALIGNMENT

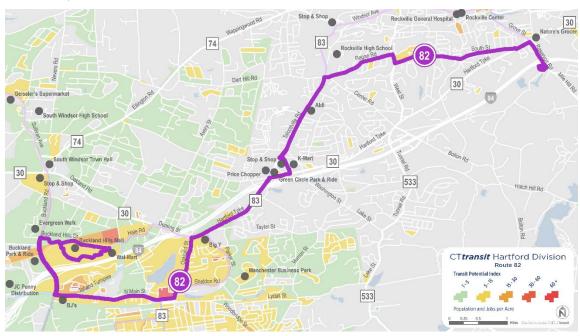
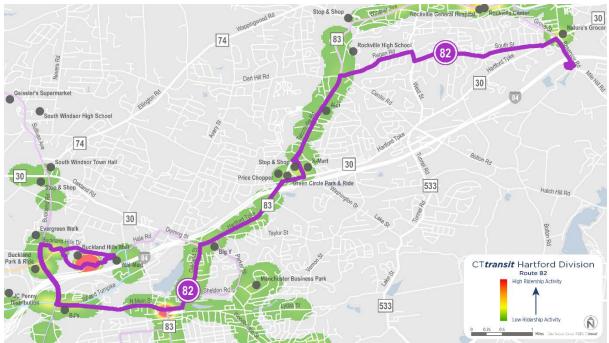








FIGURE 413 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 82 ALIGNMENT



Service Characteristics

Route 82 could be interlined with proposed Route 84 at both the Rockville Park-and-Ride and at Buckland Hills Mall to create a 5-hour cycle time and optimize layover time for both routes. With both routes operating hourly, service could be staggered to provide 30-minutes frequency where the two routes overlap between Buckland Hills and Reagan Road in Talcottville (see Figure 414). Destinations in Vernon would also be served every 30 minutes, on average, but with buses operating in opposite directions. Thus, passengers could catch a westbound bus from Rockville Center to Buckland Hills, or an eastbound bus approximately 30 minutes later that would also serve Buckland Hills after first serving the Rockville Park-and-Ride.

FIGURE 414 | PROPOSED ROUTE 82 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	60
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	60
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm - 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Buckland Hills Park-and-Ride
Buckland Hills Mall
■ Big Y
Vernon Park-and-Ride
Price Chopper
■ Stop & Shop
 Nature's Grocery
Rockville Park-and-Ride











Route 84

Service Design

Like Route 82, the proposed Route 84 would operate a Connector Route between the Rockville Park-and-Ride Lot and Buckland Hills Mall. Both routes would serve Buckland Street, North Main Street, and Oakland Street in Manchester, as well as Hartford Turnpike and Tallcottville Road, but Route 84 would serve Windsor Avenue, Union Street, Main Street, and Grove Street in Vernon (see Figure 415).

The proposed Route 84 would not directly serve downtown Hartford, but would provide more connection to the Rockville Park-and-Ride to facilitate transfers to Express Route 917. Frequent connections to downtown Hartford would also be available at Buckland Hills Mall, including Routes 90 and 95.

Between Buckland Hills Mall and much of the Talcottville Road corridor, Route 84 will follow the same alignment as Route 82 to provide higher effective service frequency where there is the highest ridership and highest ridership potential (see Figure 416 and Figure 417). The routes diverge near Rockville High School, with Route 84 serving Rockville Center, where there is a significant existing ridership.

FIGURE 415 | PROPOSED ROUTE 84 ALIGNMENT

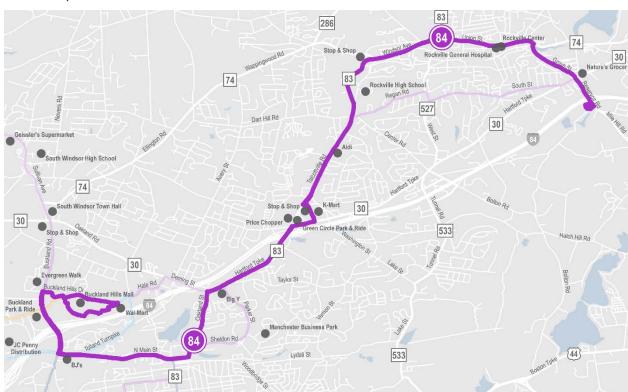










FIGURE 416 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 84 ALIGNMENT

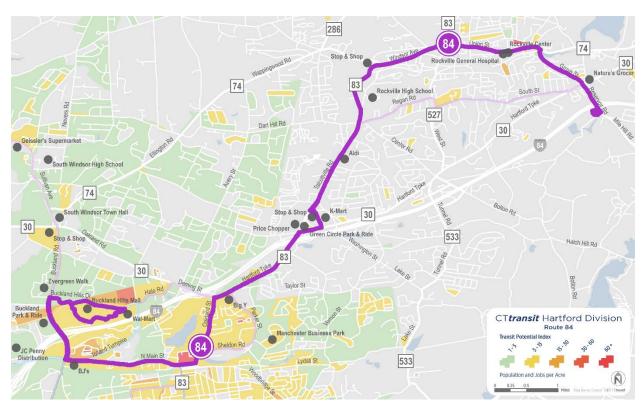
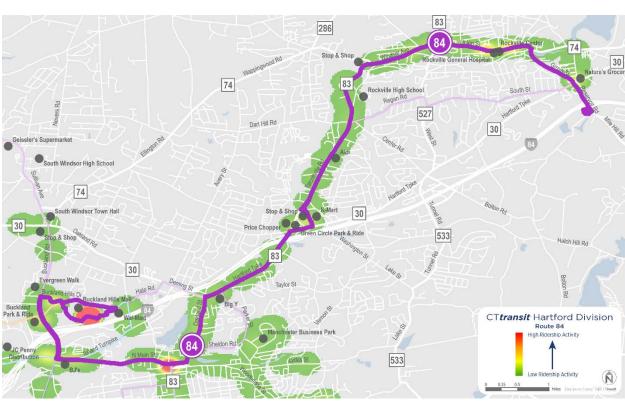


FIGURE 417 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 84 ALIGNMENT











Service Characteristics

Route 84 could be interlined with proposed Route 82 at both the Rockville Park-and-Ride and at Buckland Hills Mall to create a 5-hour cycle time and optimize layover time for both routes. With both routes operating hourly, service could be staggered to provide 30-minute frequency where the two routes overlap between Buckland Hills and Reagan Road in Talcottville (see Figure 418). Destinations in Vernon would also be served every 30 minutes, on average, but with buses operating in opposite directions. Thus, passengers could catch a westbound bus from Rockville Center to Buckland Hills, or an eastbound bus approximately 30 minutes later that would also serve Buckland Hills after first serving the Rockville Parkand-Ride.

FIGURE 418 | PROPOSED ROUTE 84 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	60
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	60
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Buckland Hills Park-and-Ride
Buckland Hills Mall
■ Big Y
Vernon Park-and-Ride
Stop & S hop
Rockville High School
 Rockville General Hospital
Rockville Center
Nature's Grocery
■ Rockville Park-and-Ride

Route 90

Service Design

The proposed Route 90 would operate as a radial route between downtown Hartford and Buckland Hills Mall in Manchester via Connecticut Boulevard, Burnside Avenue and Middle Turnpike (see Figure 398). The route would serve to replace Routes 82 and 84 service between the Buckland Hills retail area and downtown Hartford.

The Burnside Avenue corridor is one of the strongest transit corridors east of the Connecticut River, based on density and existing ridership (see Figure 399 and Figure 400). The Buckland Hill retail area further complements the corridor by providing a strong anchor. Together with Routes 60 and 88, Route 90 would help establish a continuous enhanced transit corridor from West Hartford Center to I-84 in Manchester via Farmington Avenue, downtown Hartford, and Burnside Avenue. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.











FIGURE 419 | PROPOSED ROUTE 90 ALIGNMENT

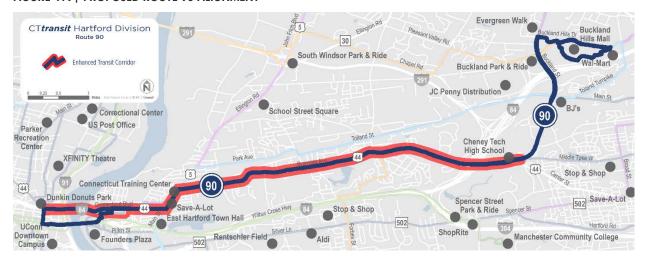


FIGURE 420 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 90 ALIGNMENT



FIGURE 421 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 90 ALIGNMENT











Service Characteristics

During peak periods, Route 90 would operate every 20 minutes (see Figure 401). Together with Routes 60 and 88, Route 90 would help establish a 10-minute peak-period frequency between West Hartford Center and I-84, where buses would diverge to serve either Buckland Hills Mall or Middle Turnpike in Manchester. Service in this corridor would be available every 15 minutes during off-peak periods.

Route 90 could be interlined with proposed Routes 60 and 88 in downtown Hartford to create a 6-hour cycle time and optimize layover time for these routes. Interlining the three routes would also provide riders with a one-seat ride between destinations in West Hartford and Manchester. Buses would operate from West Hartford Center to downtown Hartford then continue east, alternating to serve either Buckland Hills Mall or Middle Turnpike in Manchester.

FIGURE 422 | PROPOSED ROUTE 90 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	4:00 am – 11:00 pm	
Early	4:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	5:00 am - 10:00 pm	
Daytime	5:00 am - 9:00 pm	30
Evening	9:00 pm – 10:00 pm	60
Sunday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60

KEY DESTINATIONS			
 Downtown Hartford Save-A-Lot Connecticut Training Center Cheney Tech High School BJ's Buckland Hills Park-and-Ride Walmart Buckland Hills Mall 			

Route 95

Service Design

The proposed Route 95 would operate as a crosstown route between Glastonbury High School and Buckland Hills Mall in Manchester via East Hartford (see Figure 423). The route would operate primarily along Main Street in Glastonbury and East Hartford; Park Avenue and Tolland Street in East Hartford; and Tolland Turnpike in Manchester. The route would give passengers a one-seat ride between Glastonbury and Manchester. The route would also serve to replace Routes 82 and 84 service along Tolland Street in East Hartford.

The proposed Route 95 would not directly serve downtown Hartford, but would provide connection opportunities to several routs serving downtown Hartford including Routes 88 and 90, which together would provide downtown service every ten minutes during peak periods.

While the existing Routes 82 and 84 operate along Tolland Street and Burnside Avenue toward East Hartford Center, the proposed Route 95 would instead operate along Tolland Street and Park Avenue. Shifting service to Park Street would reduce redundancy along a portion of Burnside Avenue that would already be served every ten minutes during peak periods by the proposed Routes 88 and 90. Additionally,









it would provide direct connections from the high-density residential areas along Park Street to retail and employment destinations in Manchester and Glastonbury (see Figure 424 and Figure 425).

FIGURE 423 | PROPOSED ROUTE 95 ALIGNMENT

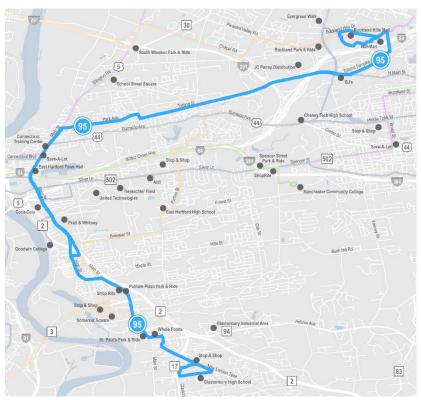










FIGURE 424 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 95 ALIGNMENT

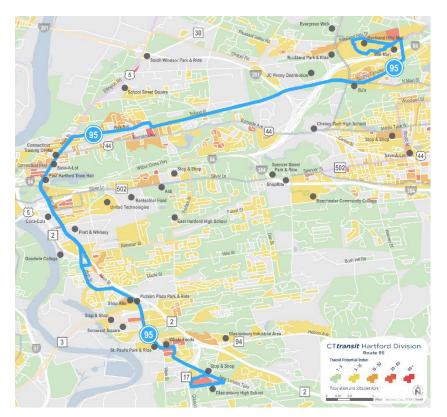


FIGURE 425 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 95 ALIGNMENT











Service Characteristics

The proposed Route 95 would operate every 30 minutes from the morning peak until early evening, and hourly at all other times (see Figure 426).

FIGURE 426 | PROPOSED ROUTE 95 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
Buckland Hills MallJC Penney Distribution
Connecticut Training CenterEast Hartford Town HallCoca-Cola Bottling Plan
Pratt & WhitneyPutnam PlazaWhole Foods
St. Paul's Park-and-Ride
Glastonbury High School









SILVER LANE

- 83A | Manchester Business Park via MCC
- 83B | Manchester Business Park via McKee Street
- 83C | Buckland Hills via MCC
- 83D | Buckland Hills via McKee Street

SERVICE OVERVIEW

Route 83 Silver Lane is a radial route originating in downtown Hartford and alternately serving Manchester Business Park and the Buckland Hills retail area of Manchester, with two variants serving Manchester Community College (see Figure 427). The route primarily operates along Silver Lane and West Center Street through East Hartford and Manchester.



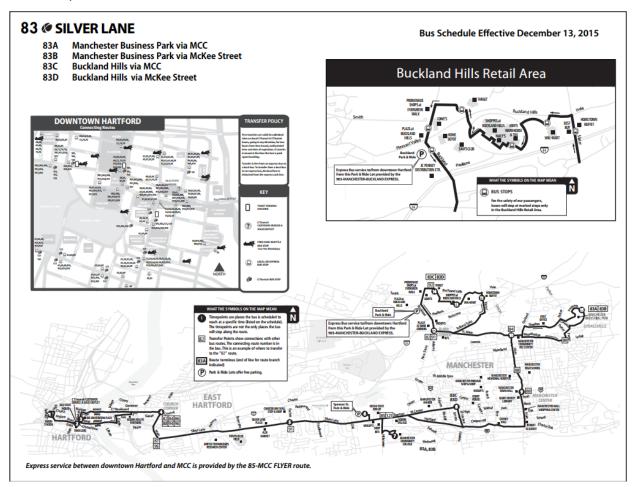








FIGURE 427 | ROUTE MAP



Service Schedule

Route 83 operates seven days a week, with service Monday through Saturday operating from early in the morning to late at night. Weekday service runs approximately every 30 minutes for most of the day on the common segment, every 20 minutes during the peak period, and hourly in the evening (see Figure 428).

On Saturday, Routes 83C and 83D run every 40 minutes on the common segment throughout the day. Sunday service runs every 70 minutes with reduced service hours and operates as Route 83.

An additional inbound trip from Buckland Hills operates on weekdays and Saturdays between Thanksgiving and New Year's Eve.

FIGURE 428 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:11 AM – 10:40 PM	20/30	31/34
Saturday	6:11 AM – 10:40 PM	40	20/21
Sunday	6:51 AM – 7:22 PM	70	11/11

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











Service Performance

Route 83 carries 2,043 daily passengers or 31.4 passengers per trip on an average weekday. This is nearly double the Hartford Division average of 17.7 weekday passengers per trip (see Figure 429). Ridership on Saturdays is lower than on weekdays in absolute terms, but is higher than weekday ridership on a per trip basis. Sunday ridership drops considerably to 284 passengers and 12.9 passengers per trip, making Sunday the only day where ridership per trip is below the Hartford Division average.

FIGURE 429 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 83	ROUTE 83	DIVISION AVG
Weekday	2,043	31.4	17.7
Saturday	1,521	49.1	16.3
Sunday	284	12.9	17.6

Source: CTtransit performance data

Ridership by Trip

Route 83 carries an average of 31.0 passengers per trip on weekdays. Ridership per trip is strongest in both directions between noon and 4:00 PM. However, greater frequency during the peak periods spreads ridership over more trips, such that overall ridership during peak periods (inbound during the AM peak and outbound during the PM peak) is approximately equal to ridership levels between noon and 4:00 PM.

Outbound trips on Route 83C (Buckland Hills via Manchester Community College) consistently reach 50 or more total boardings after 8:00 AM until the PM peak, while Route 83B (Manchester Business Park via McKee Street) typically reaches between 30 and 40 total boardings during the same period. Inbound trips show more variability, but similar trends occur after about 10:00 AM (see Figure 430 and Figure 431).

Maximum loads on Route 83 rarely exceed 30 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not an issue on this route. With the exception of the early morning outbound trips, there is rarely a trip on Route 83 that carries fewer than 20 passengers, and most carry at least 30. Thus, demand is more than sufficient for the service frequency and hours supplied on this route, and opportunities may exist for longer operating hours and/or additional trips. Weekend ridership activity is shown in Appendix B.









FIGURE 430 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

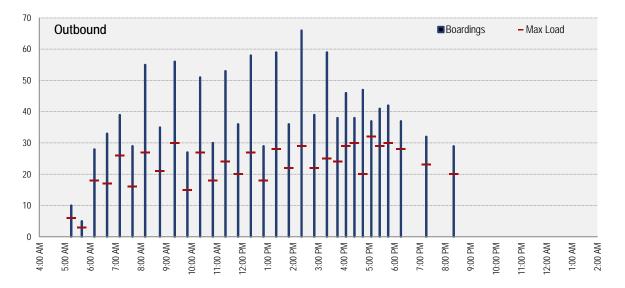
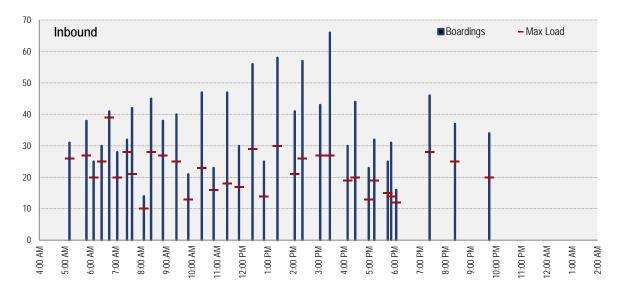


FIGURE 431 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 83 outside of the downtown terminus include Manchester Community College, The Shoppes at Buckland Hills, Church Corner (Connecticut Boulevard and Main Street), Depot Square (Main Street and Woodbridge Street), Stop & Shop on Silver Lane, and Manchester Center (Main Street and Center Park), as shown in Figure 432 and Figure 433. All other stops have fewer than 100 boardings and alightings per day, though ridership remains strong along much of the route's length.

Manchester Business Park shows the weakest ridership with a total of about 40 boardings and alightings per day at all the stops serving the business park. Likely due to predominately low-density residential development, short segments along Silver Lane between Spencer and Forbes Streets and along West Center Street near McKee Street also show low ridership.







FIGURE 432 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP











FIGURE 433 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

The operating cost per passenger for Route 83 is lower than the Division average by 10% on weekdays, 55% on Saturdays, and 20% on Sundays. On Saturdays, Route 83 carries a significantly higher number of passengers per revenue hour (73%) and per revenue mile (39%) than the average. Sundays are somewhat the opposite, with the route performing below the average on both measures. Weekday performance is mixed: passengers per revenue hour is slightly higher than average (about 2%) while passengers per revenue mile is lower than average by 15% (see Figure 434). This suggests that some deviations on the route may be unnecessary or that the route too long.

FIGURE 434 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 83	DIVISION AVG	ROUTE 83	DIVISION AVG	ROUTE 83	DIVISION AVG
Operating Cost per Passenger	\$4.35	\$4.84	\$2.85	\$6.30	\$5.33	\$6.66
Passengers per Revenue Vehicle Hour	29.4	28.9	45.0	27.0	24.0	29.7
Passengers per Revenue Vehicle Mile	2.2	2.6	3.2	2.4	1.6	2.9

Source: CTtransit performance data

Route 83 has an 80.3% on-time arrival rate, with a slightly higher percentage of late buses than the Hartford Division average (see Figure 435). High passenger volumes likely contribute to the late running times, though stop spacing may also contribute to slow operating speeds. For example, Silver Lane and Main Street in Manchester both have stops that are an average of approximately every 700 feet.

FIGURE 435 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 83	DIVISION AVG
Early	0.1%	0.2%
Late	19.6%	18.9%
On-Time	80.3%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 83 is a radial route connecting downtown Hartford with the Buckland Hills retail area, Manchester Business Park, Manchester Center, and Manchester Community College. The route has relatively high ridership, with most performance metrics near or above the Division average.

Despite high ridership and strong productivity, however, Route 83 has two fundamental challenges complexity and competition.

Route 83 is very complex with four published variants (A, B, C and D) plus additional service variations based on time of day (i.e., service to the Spencer Street Park-and-Ride Lot). Although the variants are designed to reflect ridership demand, the number of variations complicates the route. In addition, or potentially because of the service complexity, the printed schedule is difficult to read and understand.

Route 83 faces competition for riders from Route 82 Tolland Street-Buckland Hills, Route 85 MCC Flyer, and CTfastrak Route 121. These routes operate between downtown Hartford and Buckland Hills or Manchester Community College, respectively. Tolland Street runs nearly parallel to Silver Lane, and Route 82 provides significantly faster service as compared with Route 83 in part because Route 83 has more trip generators between downtown and the retail area, and therefore stops more frequently. CTfastrak Route 121 follows an almost identical alignment as Route 83 along Silver Lane between downtown Hartford and Manchester Community College. The two Silver Lane routes have similar weekday frequency as well.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 83, 85, and 86, and 121:

Route 83

Service Design

The proposed Route 83 would operate as a radial route between downtown Hartford and Buckland Hills Mall via Manchester Community College (MCC). The route would operate primarily along Silver Lane, Hartford Road, Main Street, and Buckland Street in Manchester. Along its alignment, Route 83 would serve dozens of major employers and provides transfer opportunities to routes serving destinations throughout the Greater Hartford region (see Figure 436).

Compared to the current Route 83 alignment, the proposed route would be streamlined to include just one consistent alignment. Service along West Center Street, currently served by the Route 83C and 83D variants, would instead be served by proposed Route 86. Route 86 would also serve the Manchester Industrial Park, which is currently served by the Route 83A and 83B variants. The simplified Route 83 would consist of the strongest portions of the existing route in terms of existing ridership and ridership potential (see Figure 437 and Figure 438).











FIGURE 436 | PROPOSED ROUTE 83 ALIGNMENT

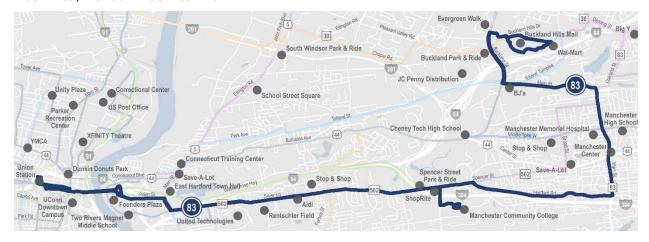


FIGURE 437 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 83 ALIGNMENT



FIGURE 438 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 83 ALIGNMENT











Service Characteristics

The proposed Route 83 would operate every 20 minutes during peak periods and every half hour during most of other time periods until 9:00 PM. After 9:00 PM, the route would operate hourly (see Figure 439).

FIGURE 439 | PROPOSED ROUTE 83 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	To Be Determined	
Sunday	To Be Determined	

VEV DESTINATIONS	
KEY DESTINATIONS	
Downtown Hartford	
Founders Plaza	
United Technologies	
Super Stop & Shop	
Shop Rite	
 Manchester Community College 	
Manchester Center	
 Manchester Memorial Hospital 	
■ BJ's	
Buckland Hills Mall	

Route 86

Service Design

The proposed Route 86 would operate as a Connector Route between Buckland Hills Mall and Manchester Community College. The route would travel primarily along Hale Road, Sheldon Road, Broad Street, and Center Street in Manchester (see Figure 440). It would link residential areas of Manchester with nearby employment, retail, and educational destinations. It would also provide transfer opportunities to other routes serving destinations throughout the Greater Hartford region.

Route 86 would pick up coverage from Route 83 along West Center Street and in the vicinity of Manchester Industrial Park. The route would also provide new coverage in parts of Manchester that have high ridership potential but no current service. This includes Broad Street, Woodland Street, and Hale Road (see Figure 441 and Figure 442).









FIGURE 440 | PROPOSED ROUTE 86 ALIGNMENT

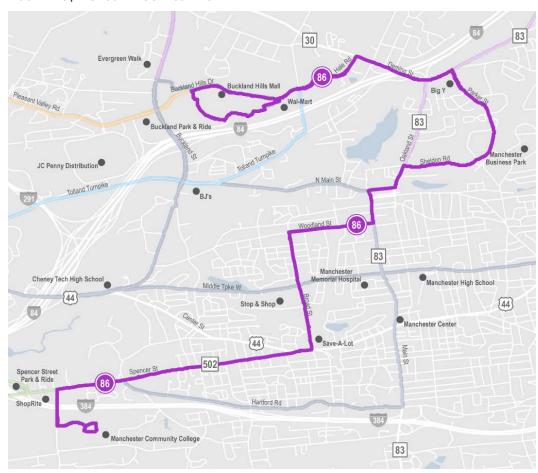








FIGURE 441 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 86 ALIGNMENT

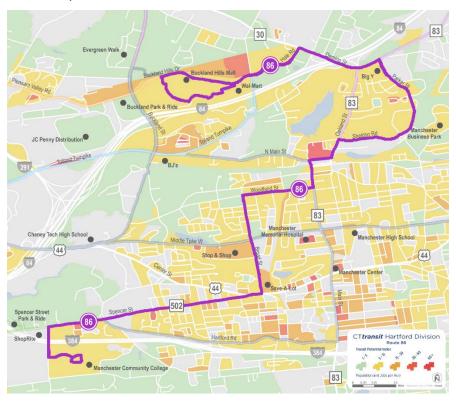
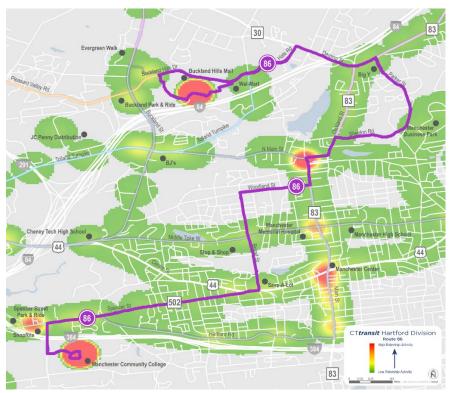


FIGURE 442 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 86 ALIGNMENT











Service Characteristics

The proposed Route 86 would operate every half hour during peak periods, and hourly at all other times (see Figure 443). The route could be interlined with proposed Route 96 at Buckland Hills Mall to create a 4-hour cycle time and optimize layover time for both routes. This interlined pair would provide a one-seat ride between South Windsor and Manchester Community College.

FIGURE 443 | PROPOSED ROUTE 83 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS	
 Manchester Community College Shop Rite Save-A-Lot Stop & Shop Manchester Business Park Big Y Walmart Buckland Hills Mall 	

Routes 85

Route 85 is proposed to be discontinued, with its coverage picked up by proposed Route 121.

Route 121

Service Design

The proposed Route 121 would operate as a CT*fastrak* service between the UConn Health campus in Farmington and Manchester Community College (MCC) via downtown Hartford. The route would be similar to the current Route 121 but would operate along I-84 rather than Silver Lane between downtown Hartford and MCC (see Figure 444). This approach would make the service faster and more fitting of the CT*fastrak* brand.

The proposed Route 121 would operate closed-door between MCC and downtown Hartford. Closed-door service generally reduces a route's ridership potential, but this approach is justifiable in the case of a very strong anchor like MCC that can generate substantial ridership on its own (see Figure 445 and Figure 446). In fact, there is the potential to generate more ridership when limited-stop service is offered, as transit trips to a destination will be faster and more attractive for more residents throughout the region. In addition, shifting MCC service from Silver Lane to I-84 would reduce redundancy with Route 83 and allow for the discontinuation of the current Route 85x (MCC Flyer).











FIGURE 444 | PROPOSED ROUTE 121 ALIGNMENT

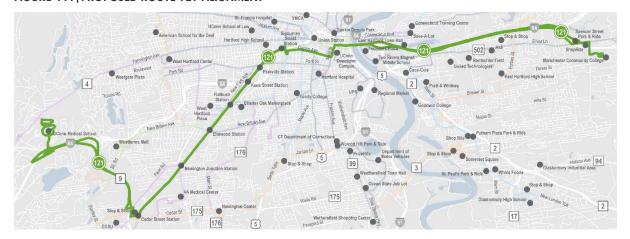
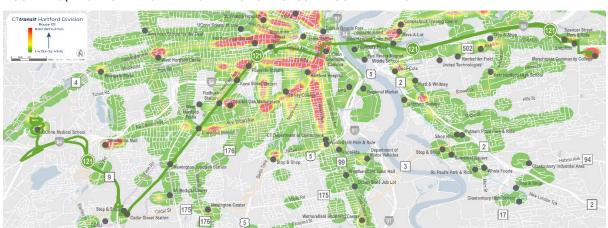


FIGURE 445 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 121 ALIGNMENT



FIGURE 446 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 121 ALIGNMENT



Service Characteristics

The proposed Route 121 would operate every twenty minutes during peak periods, every half hour in the midday and hourly at all other times (see Figure 447).











FIGURE 447 | PROPOSED ROUTE 121 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	To Be Determined	
Sunday	To Be Determined	

KEY DESTINATIONS
UConn Health
• CCSU
Downtown Hartford
Spencer Street Park-and-Ride
■ MCC









MCC FLYER 28

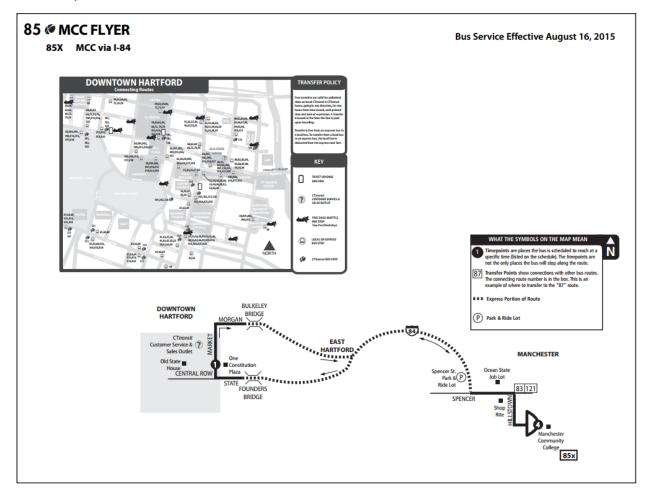
85X | MCC via I-84

SERVICE OVERVIEW

Route 85 is one of the Hartford Division's five Flyer routes, providing express service between downtown Hartford and Manchester Community College (MCC) in Manchester (see Figure 448).

The MCC Flyer operates on weekdays only. The service is also tied to the academic calendar and operates only when MCC is in session.

FIGURE 448 | ROUTE MAP











Service Schedule

The MCC Flyer runs on weekdays only during the school year (approximately mid-January through mid-May and September through mid-December); service is suspended for school holidays. Service is generally every 60 minutes throughout the day, though buses run slightly more or less frequently at the beginning and end of the day. There are 11 outbound trips and 12 inbound trips on Route 85, running from 7:30 AM to about 9:30 PM.

FIGURE 449 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	7:30 AM – 9:22 PM	60/60	11/12
Saturday	-	-	-
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 85 carries 389 daily passengers or 16.9 passengers per trip on an average weekday, which is slightly lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 450).

FIGURE 450 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	RIDERSHIP TRIP
	ROUTE 85	ROUTE 85	DIVISION AVG
Weekday	389	16.9	17.7
Saturday	-	-	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Weekday ridership on Route 85 follows a typical reverse commute-type pattern with the highest ridership outbound during the morning and then inbound during the afternoon (see Figure 451 and Figure 452). However, inbound travel is stronger and more evenly distributed throughout the day as compared with outbound travel. Data is missing for the 6:15 PM outbound trip and the 7:00 PM inbound trip, but of the available data, 11 out of 21 (52%) total trips show between 20 and 40 boardings on a typical weekday for Route 85. The 9:10 PM inbound trip shows just two riders. Weekend ridership activity is shown in Appendix B.









FIGURE 451 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

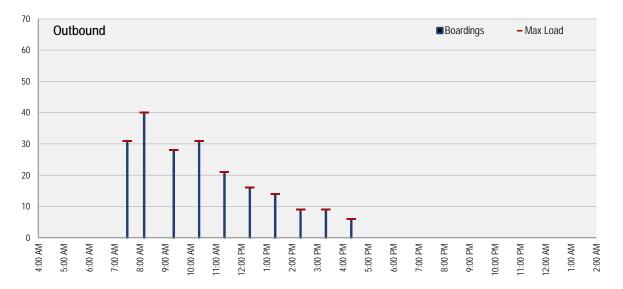
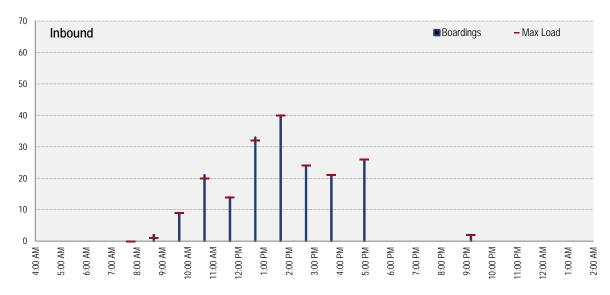


FIGURE 452 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

As an express route, Route 85 makes three stops: downtown Hartford, MCC and a stop on Spencer Street near K-Mart. Nearly all activity on Route 85 occurs at Manchester Community College (48%) or downtown Hartford (50%). The stop on Spencer Street accounts for less than 3% of activity, as shown in Figure 453.

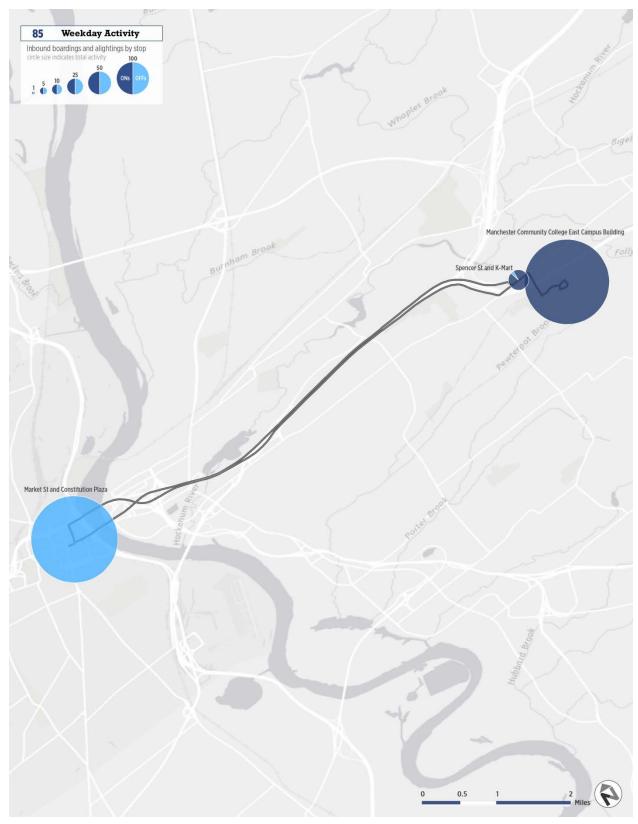








FIGURE 453 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 85 outperforms the Hartford Division average for operating cost per passenger and for ridership per revenue hour. Route 85's ridership per revenue mile is the same as the Hartford Division average (see Figure 454). Route 85 is among the top ten performing routes, but because it offers a different type of service from many of the other top routes, it is hard to draw comparisons.

FIGURE 454 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 85	DIVISION AVG	ROUTE 85	DIVISION AVG	ROUTE 85	DIVISION AVG
Operating Cost per Passenger	\$3.60	\$4.84	-	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	35.6	28.9	-	27.0	-	29.7
Passengers per Revenue Vehicle Mile	2.6	2.6	-	2.4	-	2.9

Source: CTtransit performance data

Route 85 has excellent on-time performance at over 96%, or more than 15 percentage points higher than the Division average (see Figure 455). Route 85 has a limited number of stops, operates via the freeway, and has ample layover time on both ends, meaning that there is very little reason for the route to operate late outside of infrequent and uncontrollable traffic occurrences.

FIGURE 455 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 85	DIVISION AVG
Early	0.0%	0.2%
Late	3.7%	18.9%
On-Time	96.3%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 85 is one of the Hartford Division's Flyer routes, traveling express between Manchester Community College and downtown Hartford via I-84. The route provides a 12-13 minute trip between the college and downtown, with one to two additional stops on Spencer Street depending on direction. The route is directly tied to a specific market (MCC), operates only when school is in session, has strong ridership, and performs well overall.

Route 85 currently competes with Route 83 and CTfastrak Route 121 for ridership. Route 83 offers roughly hourly service between downtown Hartford and Manchester Community College, but is a local service with frequent stops. As a result, the travel time between downtown Hartford and MCC is around 25-30 minutes. This compares with Route 85 which travels between these two points in about 15 minutes.

Route 121 also provides service between MCC and downtown Hartford and Manchester Community, but also offers a one-seat ride through Hartford to West Hartford, Newington, and the UConn Health Center. Like Route 83, Route 121 is slower but more frequent than Route 85.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 85 and 121:

Routes 85

Route 85 is proposed to be discontinued, with its coverage picked up by proposed Route 121.

Route 121

Service Design

The proposed Route 121 would operate as a CT**fastrak** service between the UConn Health campus in Farmington and Manchester Community College (MCC) via downtown Hartford. The route would be similar to the current Route 121, but would operate along I-84 rather than Silver Lane between downtown Hartford and MCC (see Figure 456). This approach would make the service faster and more fitting of the CT**fastrak** brand.

The proposed Route 121 would operate closed-door between MCC and downtown Hartford. Closed-door service generally reduces a route's ridership potential, but this approach is justifiable in the case of a very strong anchor like MCC that can generate substantial ridership on its own (see Figure 457 and Figure 458). In fact, there is the potential to generate more ridership when limited-stop service is offered, as transit trips to a destination will be faster and more attractive for more residents throughout the region. In addition, shifting MCC service from Silver Lane to I-84 would reduce redundancy with Route 83 and allow for the discontinuation of the current Route 85x (MCC Flyer).









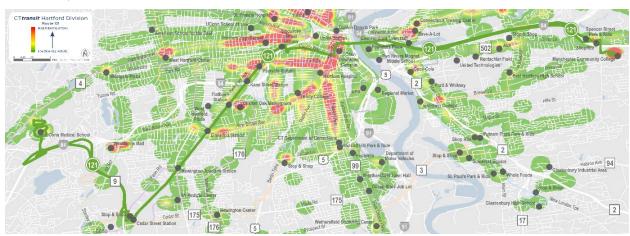
FIGURE 456 | PROPOSED ROUTE 121 ALIGNMENT



FIGURE 457 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 121 ALIGNMENT



FIGURE 458 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 121 ALIGNMENT











Service Characteristics

The proposed Route 121 would operate every twenty minutes during peak periods, every half hour in the midday and hourly at all other times (see Figure 459).

FIGURE 459 | PROPOSED ROUTE 121 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
UConn Health
■ CCSU
Downtown Hartford
Spencer Street Park & Ride
■ MCC











29 BURNSIDE AVENUE

86 | Mayberry Village via Scotland Road

86R | Mayberry Village via Roberts Street

88 | Manchester Center

88C | Lydell Street via Center Street

88M | Department of Social Services via Middle Turnpike

SERVICE OVERVIEW

Routes 86 and 88 operate east and west along Burnside Avenue, providing radial service between downtown Hartford, East Hartford (Route 86), and Manchester (Route 88). The two routes function as variants of a single service, with a common alignment and unique outer ends.



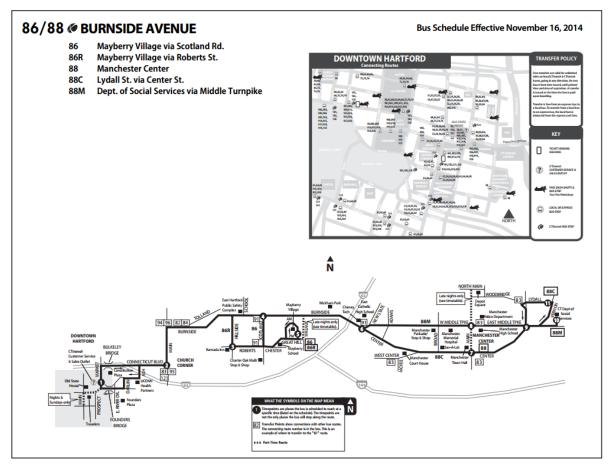








FIGURE 460 | ROUTE MAP



Service Schedule

Route 88 operates seven days a week, while Route 86 operates Monday through Friday only. There are 55 total outbound trips and 59 total inbound trips per weekday:

Route 86: 9 outbound (OB), 10 inbound (IB)

Route 86R: 6 OB, 7 IB Route 88: 2 OB, 2 IB Route 88C: 21 OB, 21 IB Route 88M: 17 OB, 10 IB

Service on the corridor operates with Routes 86, 88C, and 88M alternating inbound trips in the morning. Peak period frequency is between 5 and 15 minutes along the common alignment. During the afternoon, Routes 86R, 88C and 88M alternate trips, with peak period frequency between 5 minutes and 15 minutes along the common alignment. Route 88 operates two outbound trips in the evening and one inbound trip in the morning and one in the evening.

On Saturday, there are 26 outbound trips and 28 inbound trips, with service every 30 minutes:

Route 88: 1 OB, 2 IB Route 88C: 13 OB, 13 IB Route 88M: 12 OB, 12 IB











One additional inbound evening trip is labeled as Route 86; however, the trip begins at Burnside Avenue and Scotland Road and does not serve Mayberry Village, essentially serving the trunk alignment only

Sunday service operates as Route 88, with 11 outbound and 12 inbound trips every 70 minutes. The last evening inbound trip serves the trunk alignment only, beginning at Burnside Avenue and Scotland Road.

FIGURE 461 | SCHEDULE OVERVIEW (ALL ROUTES 86, 86R, 88, 88C AND 88M)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	4:24 AM – 12:37 AM	10 /30	55/59
Saturday	6:22 AM – 10:44 PM	30	26/28
Sunday	6:50 AM – 7:55 PM	70	11/12

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

CTtransit tracks ridership for Route 86 and Route 88 together, so the following analysis of ridership and productivity treats the two routes as a single service. Route 86/88 carries 2,459 daily passengers or 21.6 passengers per trip on an average weekday, which is about 22% higher than the Hartford Division average of 17.7 weekday passengers per trip (Figure 462).

Saturday and Sunday ridership also perform above the division average by 19% and 6%, respectively. FIGURE 462 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 86/88	ROUTE 86/88	DIVISION AVG
Weekday	2,459	21.6	17.7
Saturday	965	18.2	16.3
Sunday	457	19.9	17.6

Source: CTtransit performance data

Ridership by Trip

Weekday - Route 86

Ridership patterns on Route 86 are consistent with traditional commuter routes, with outbound PM peak trips and inbound AM peak trips showing the strongest ridership, even with increased frequency during these periods (Figure 463 and Figure 464). The average number of passengers per trip on this route according to Figure 462 is about 22; however, this is a combined average of Route 86 and Route 88. Route 86 shows significantly less ridership than Route 88 and likely brings this average down. Route 86 rarely has more than 20 boardings per trip in either direction and many trips show fewer than 10 passengers. Overcrowding is not an issue on this route. Weekend ridership activity is shown in Appendix B.







FIGURE 463 | ROUTE 86 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

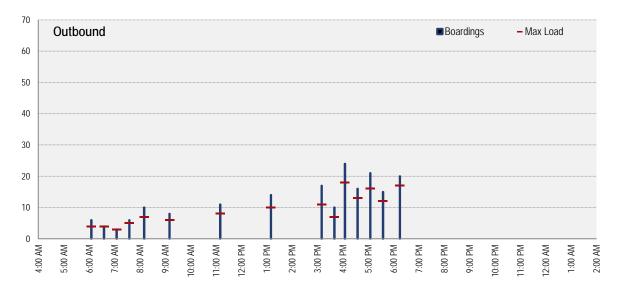
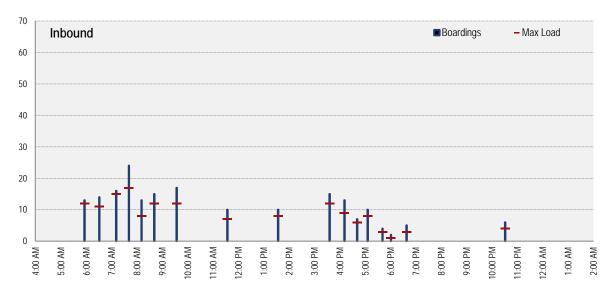


FIGURE 464 | ROUTE 86 WEEKDAY INBOUND RIDERSHIP BY TRIP



Weekday - Route 88

Ridership on Route 88 also follows a slight traditional commute pattern with stronger inbound demand in the morning and stronger demand traveling outbound in the afternoon. However, the pattern is not as distinct as it is for Route 86, and ridership on Route 88 is strong throughout most of the day.

Most trips have at least 30 boardings between about 8:00 AM and 5:30 PM. A few have 40 or more boardings. Inbound ridership tapers off in the evening after 5:30 PM, while outbound ridership gradually increases before 8:00 AM, as shown in Figure 465 and Figure 466. Maximum loads on Route 88 exceed 30 passengers on only seven trips, and no trips exceed a maximum load of 40 passengers. The typical seating capacity of a 40-foot transit bus is 40 passengers, so overcrowding is not likely an issue on this route. Weekend ridership activity is shown in Appendix B.







FIGURE 465 | ROUTE 88 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

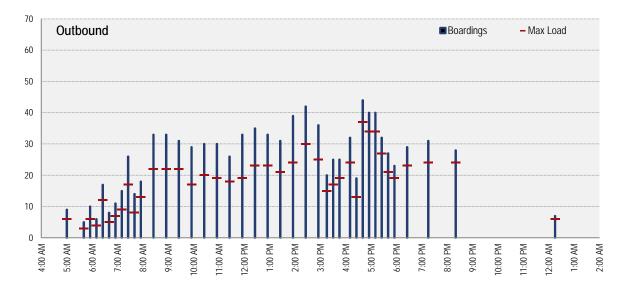
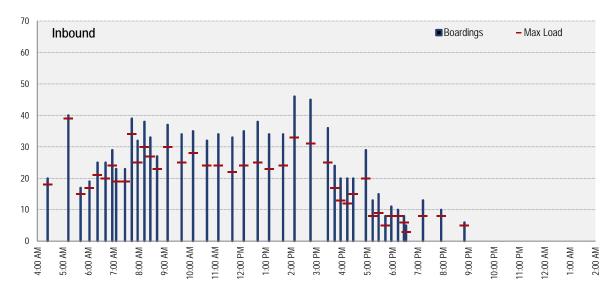


FIGURE 466 | ROUTE 88 WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 86/88 outside of the downtown terminus include Church Corner (Connecticut Boulevard and Main Street); Burnside Avenue and William Street; Burnside Avenue and Walnut Street; and Center Street and Main Street (near Manchester Center), which all have passenger activity (boardings and alightings) of more than 50 on an average day (see Figure 467 and Figure 468). All other stops have fewer than 50 boardings and alightings, though ridership remains fairly strong along a majority of Route 88. Around 25% of all activity occurs along the trunk alignment served by both Route 86 and Route 88, about 4% on the unique portions of Route 86 (both variants), 11% on Route 88C, and 9% on Route 88M. The remaining activity occurs in downtown Hartford or along the common portion of Routes 88C and 88M. Load profile data combines passenger activity by stop and shows the cumulative







passenger load as the bus travels inbound. Ridership by stop without the cumulative load is mapped in Figure 467 and Figure 468.

The weakest ridership along the route occurs on the unique portion of Route 86 and on the terminating loop of Route 88C (Vernon, Lydall, and Woodbridge Streets). An average of 80 boardings and alightings occur on the unique portion of Route 86 per day, most of those at Mayberry Village, while the Route 88C loop has an activity of 25 per day.







FIGURE 467 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

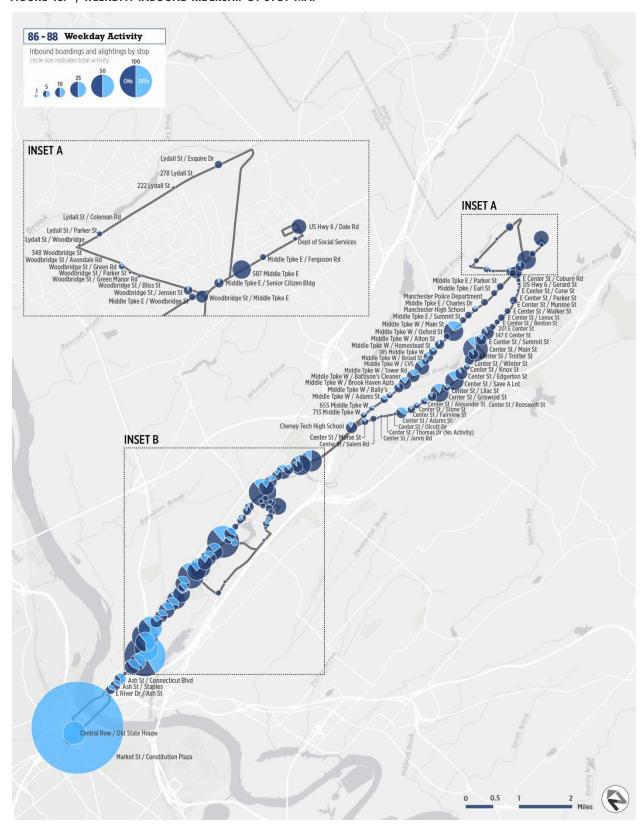








FIGURE 468 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

Route 86/88's productivity is mixed when compared to the Hartford Division average. While Route 86/88 has a lower than average operating cost per passenger on all service days, the route also has a lower than average ridership per vehicle hour on weekdays and Saturdays and lower than average ridership per vehicle mile on all service days (see Figure 469).

FIGURE 469 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 86/88	DIVISION AVG	ROUTE 86/88	DIVISION AVG	ROUTE 86/88	DIVISION AVG
Operating Cost per Passenger	\$4.62	\$4.84	\$5.01	\$6.30	\$3.59	\$6.66
Passengers per Revenue Vehicle Hour	27.7	28.9	25.5	27.0	35.6	29.7
Passengers per Revenue Vehicle Mile	2.0	2.6	1.7	2.4	2.3	2.9

Source: CTtransit performance data

Route 86/88's on-time performance almost exactly matches the Hartford Division average (see Figure 470). About 19% of buses are late and 81% are on-time. On Route 88, a stop occurs roughly every 750 feet, which could affect the route's on-time performance. A high number of stops often slows down a route and can cause delays.

FIGURE 470 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 86/88	DIVISION AVG
Early	0.1%	0.2%
Late	19.2%	18.9%
On-Time	80.8%	80.9%

Source: CTtransit performance data









SUMMARY OF ISSUES AND OPPORTUNITIES

Route 86 and Route 88 operate as variants of the same route, though Route 88 operates with greater frequency and is longer than Route 86. The trunk alignment for these routes is along Burnside Avenue, which is primarily a residential corridor with development that is relatively dense and conducive to transit. Route 88 is a direct route and is anchored in downtown Manchester and the Connecticut Department of Social Services. Route 86, on the other hand, travels to Mayberry Village, which is not as strong an anchor. In addition, combining Route 86 with Route 88 creates a complicated schedule with a multitude of service alignments, making the route difficult to understand.

Route 88 provides important service to Manchester and faces little competition from other transit service. Route 91, a crosstown route, operates along Burnside Avenue for a portion of its alignment but does not serve downtown Hartford. Route 88 also provides a connection with Route 83 Silver Lane in Manchester Center, so riders can also change direction and travel to either the Buckland Hills retail area or Manchester Community College.

From the ends of the two primary variants on Route 88, travel times into downtown are around 35 minutes, which is relatively competitive with car trips but could be improved. Frequency is also high, especially during peak periods. Route 86 serves Mayberry Village, a moderately dense residential area just south of Burnside Avenue near Walnut Street. The route has very low frequency but provides a 20 minute ride into downtown Hartford.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 86, 88, and 91:

Route 86

Service Design

The proposed Route 86 would operate as a Connector Route between Buckland Hills Mall and Manchester Community College. The proposed route is more closely related to the current Route 83 than to the current Route 86. Service along Hillside Street and Roberts Street, currently served by Route 86, would be eliminated due to low ridership. Service along Chester Street and through Mayberry Village would be picked up by proposed Route 99.

The proposed Route 86 would operate primarily along Hale Road, Sheldon Road, Broad Street, and Center Street in Manchester (see Figure 471). It would link residential areas of Manchester with nearby employment, retail, and educational destinations. It would also provide transfer opportunities to other routes serving destinations throughout the Greater Hartford region.

Route 86 would pick up coverage from Route 83 along West Center Street and in the vicinity of Manchester Industrial Park. The route would also provide new coverage in parts of Manchester that have high ridership potential but no current service. This includes Broad Street, Woodland Street, and Hale Road (see Figure 472 and Figure 473).







FIGURE 471 | PROPOSED ROUTE 86 ALIGNMENT



FIGURE 472 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 86 ALIGNMENT

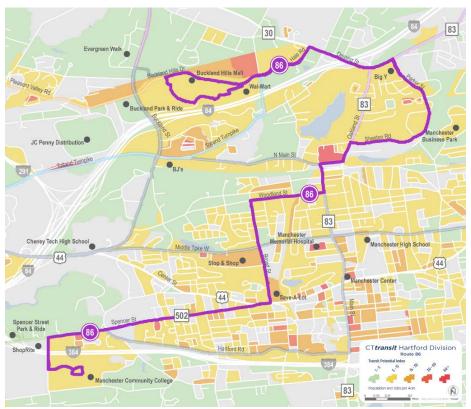
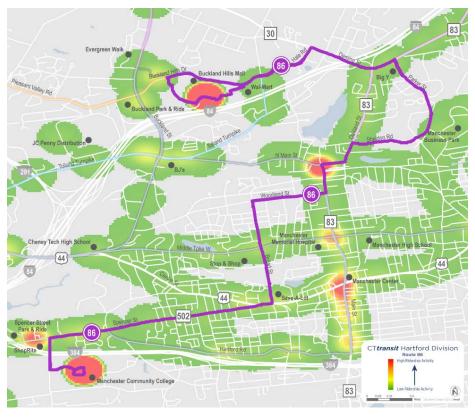








FIGURE 473 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 86 ALIGNMENT



Service Characteristics

Route 86 could be interlined with proposed Route 96 at Buckland Hills Mall to create a 4-hour cycle time and optimize layover time for both routes. This interlined pair would provide a one-seat ride between South Windsor and Manchester Community College.

FIGURE 474 | PROPOSED ROUTE 86 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
Manchester Community College
Shop Rite
■ Save-A-Lot
Stop & Shop
 Manchester Business Park
■ Big Y
■ Walmart
Buckland Hills Mall









Route 88

Service Design

The proposed Route 88 would operate as a radial route between downtown Hartford and the Department of Social Services in Manchester via Connecticut Boulevard, Burnside Avenue and Middle Turnpike (see Figure 475).

The Burnside Avenue corridor is one of the strongest transit corridors east of the Connecticut River, based on density and existing ridership (see Figure 476 and Figure 477). Together with Routes 60 and 90, Route 88 would help establish a continuous enhanced transit corridor from West Hartford Center to I-84 in Manchester via Farmington Avenue, downtown Hartford, and Burnside Avenue. Over the long-term, establishing an enhanced transit corridor provides a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

FIGURE 475 | PROPOSED ROUTE 88 ALIGNMENT



FIGURE 476 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 88 ALIGNMENT



FIGURE 477 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 88 ALIGNMENT











Service Characteristics

During peak periods, 10-minute service frequency would be available between West Hartford Center and I-84, where buses would diverge to serve either Buckland Hills Mall or Middle Turnpike in Manchester. Service would be available every 15 minutes during off-peak periods.

Route 88 could be interlined with proposed Routes 60 and 90 in downtown Hartford to create a 6-hour cycle time and optimize layover time for these routes. Interlining the three routes would also provide riders with a one-seat ride between destinations in West Hartford and Manchester.

FIGURE 478 | PROPOSED ROUTE 88 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

ı	SERVICE	PROPOSED SPAN	PROPOSED SERVICE
ı	PERIOD	OF SERVICE	FREQUENCY (MIN)
ľ	Weekdays	4:00 am – 11:00 pm	
	Early	4:00 am - 6:00 am	30
	AM Peak	6:00 am - 9:00 am	20
	Midday	9:00 am - 3:00 pm	30
	PM Peak	3:00 pm - 6:00 pm	20
	Evening	6:00 pm – 9:00 pm	30
	Night	9:00 pm – 11:00 pm	60
	Owl	_	_
	Saturday	5:00 am - 10:00 pm	
	Daytime	5:00 am - 9:00 pm	30
	Evening	9:00 pm – 10:00 pm	60
	Sunday	6:00 am – 9:00 pm	
	Daytime	6:00 am - 6:00 pm	30
	Evening	6:00 pm – 9:00 pm	60

 Downtown Hartford Save-A-Lot Connecticut Training Center Cheney Tech High School Stop & Shop Manchester Memorial Hospital Manchester High School GT Department of Social Socials Socials 	KEY DESTINATIONS
• CT Department of Social Services	 Save-A-Lot Connecticut Training Center Cheney Tech High School Stop & Shop Manchester Memorial Hospital

Route 91

Service Design

Route 91 is proposed to be consolidated with other suburban crosstown routes to form a new Regional Loop Route (Route 99). This new route would provide bi-directional service and more directly link major destinations on the periphery of the Greater Hartford region. It would incorporate segments of several existing routes including 91, 92, 144 and 153 to create a continuous loop service (see Figure 479).

In East Hartford, Route 99 would pick up the coverage of the current Route 86 along Chester Street and through Mayberry Village.

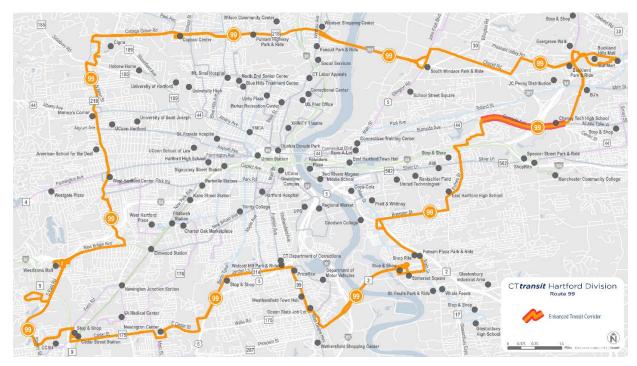








FIGURE 479 | PROPOSED REGIONAL LOOP ALIGNMENT



The Regional Loop would allow passengers to more easily travel between key corridors and key outlying destinations without having to travel to downtown Hartford first (see Figure 480 and Figure 481). The route would intersect with dozens of other routes, including CT*fastrak* service, to provide a wide range of transfer opportunities.

FIGURE 480 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE REGIONAL LOOP









FIGURE 481 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED REGIONAL LOOP



Service Characteristics

The Regional Loop would operate at 30 minute frequency during peak periods, and every 60 minutes during the off peak, in both directions (see Figure 482).

FIGURE 482 | PROPOSED REGIONAL LOOP SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Buckland Hills Mall
Copaco Center
■ Cigna
Bishop's Corner
 West Hartford Center
Westfarms Mall
Cedar Street Station
 Jordan Lane Shopping Center
Putnam Plaza
■ East Hartford High School







30 BREWER STREET

87F | Forest & Oak

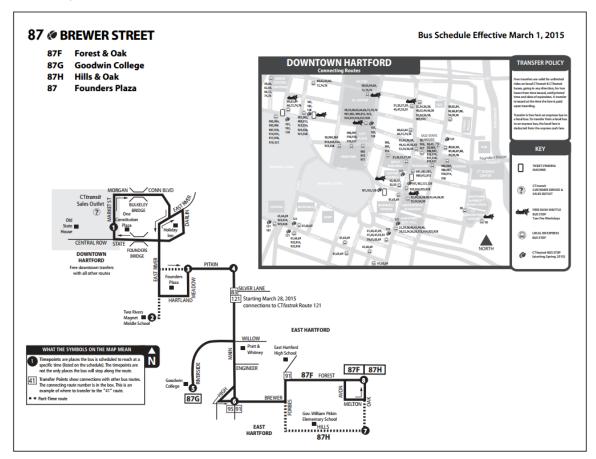
87H | Hills & Oak

87 | Founders Plaza

SERVICE OVERVIEW

Route 87 is a radial route that travels between downtown Hartford and East Hartford, serving Founders Plaza and Main Street in East Hartford (see Figure 483). Variant service includes service to Goodwin College (87G); Oak Street at Hills Street (87H); and Forest Street (87F, 87H) east of the college.

FIGURE 483 | ROUTE MAP













Service Schedule

Route 87 operates on weekdays and Saturdays. There are 18 total outbound trips per weekday (nine on Route 87F, seven on Route 87G, and two on Route 87H) and 18 total inbound trips (ten on Route 87F, six on Route 87G, and two on Route 87H). Peak period frequency varies between 15 and 45 minutes, averaging around 25 minutes in the morning and 35 minutes in the afternoon, or about 30 minutes overall. Midday service generally operates every 60 minutes (see Figure 484). In general, peak period service is operated on Route 87F, while midday service is operated on Route 87G.

Saturday service operates exclusively as Route 87 and runs every two hours.

FIGURE 484 | SCHEDULE OVERVIEW (ALL ROUTES 87, 87G, 87F, AND 87H)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:50 AM – 6:53 PM	30/60	18/18
Saturday	9:15 AM – 5:35 PM	120	5/5
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 87 carries 303 daily passengers or 8.4 passengers per trip on an average weekday, which is more than 50% below the Hartford Division average of 17.7 weekday passengers per trip (see Figure 485). Ridership drops considerably on Saturdays to 0.8 passengers per trip and eight passengers total. Route 87 does not operate on Sundays.

FIGURE 485 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 87	ROUTE 87	DIVISION AVG
Weekday	303	8.4	17.7
Saturday	8	0.8	16.3
Sunday	-	-	-

Source: CTtransit performance data

Ridership by Trip

Route 87 carries an average of 8.4 passengers per trip on weekdays, with about half of all trips in either direction reaching 10 or more boardings (see Figure 486 and Figure 487). Only one outbound trip at 7:25 AM reaches more than 20 boardings. Outbound weekday ridership is slightly stronger than the AM peak, while inbound ridership is highest in the AM peak and in the afternoon. Inbound ridership is somewhat stronger overall than outbound ridership, while midday ridership in both directions is very low in general until about 1:30 PM.

These ridership patterns generally reflect a reverse commute pattern and are likely a result of meeting school and commuter schedules as well as shift times at the industrial plants along Main Street. With most peak period service operating on the Route 87F alignment and midday service operating on the









Route 87G alignment, Route 87F is the strongest alignment for ridership and benefits from the additional stops on Main Street, more daily trips offered, and better scheduled trip times.

Maximum loads on Route 87 do not exceed 20 passengers, so overcrowding is not a concern on this route. Maximum loads for most trips tend to be very close to the total number of boardings for each trip, one indicator that most outbound passengers board and most inbound passengers alight in downtown Hartford, possibly to transfer to or from another bus. The service hours and frequency on this route are sufficient to meet demand.

Weekend ridership activity is shown in Appendix B.

FIGURE 486 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

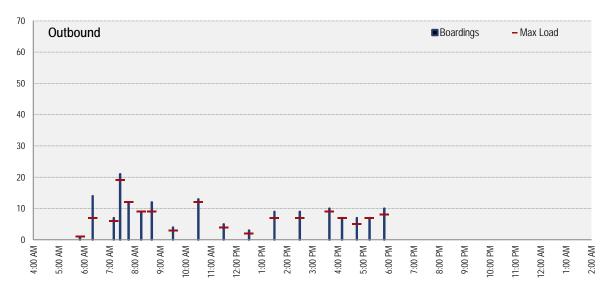
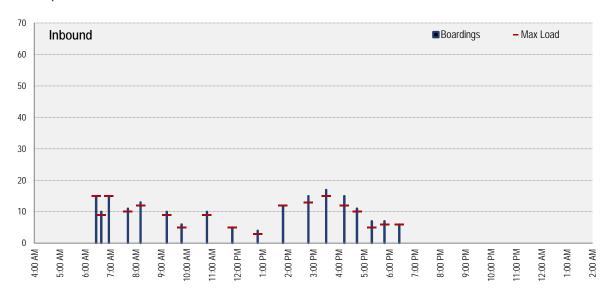


FIGURE 487 | WEEKDAY INBOUND RIDERSHIP BY TRIP











Ridership by Stop

The most heavily used stops on Route 87 outside of the downtown terminus are at Goodwin College, Main and Brown Streets, and Main and Brewer Streets (time point 6 on Routes 87F and 87H). These three stops have ridership activity between 20 and 40 passengers per day while all other stops on Route 87 have fewer than 20 boardings and alightings, as shown in the load profile data in Figure 488.









FIGURE 488 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 87 performs poorly on all measures of productivity, with an operating cost per passenger 57%higher than the division average on weekdays, a ridership per revenue hour 42% lower than average, and ridership per revenue mile 54% lower than average (see Figure 489). Similarly, on Saturdays, operating costs per passenger are more than three times as high as the division average while ridership per revenue hour and revenue mile is very low. Route 87 is among the poorest four performers of all CT*transit* Hartford routes.

FIGURE 489 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEKDAY SATURDAY		RDAY	SUNDAY		
	ROUTE 87	DIVISION AVG	ROUTE 87	DIVISION AVG	ROUTE 87	DIVISION AVG
Operating Cost per Passenger	\$7.60	\$4.84	\$20.0	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	16.8	28.9	6.4	27.0	-	29.7
Passengers per Revenue Vehicle Mile	1.2	2.6	0.5	2.4	-	2.9

Source: CTtransit performance data

Route 87 has a 96.9% on-time arrival rate, with a much lower percentage of late buses than the Hartford Division average (see Figure 490). Low ridership and sufficient recovery time in the schedule likely contribute to the excellent on-time performance of Route 87.

FIGURE 490 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 87	DIVISION AVG
Early	0.0%	0.2%
Late	3.1%	18.9%
On-Time	96.9%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 87 operates as a radial route connecting downtown Hartford and East Hartford. The route is designed to provide access to employment in East Hartford, including the office parks at Founders Plaza, small businesses along Main Street and Pratt and Whitney. Variants also provide service to Goodwin College, the Two Rivers Magnet Middle School and the neighborhoods off of Brewer Street. The route has low ridership and poor performance metrics and is among the bottom performers of all CT*transit* routes.

Route 87 suffers from a handful of challenges that impact its productivity. While the route serves a combination of employment centers, educational institutions and neighborhoods, the destinations are not generating large numbers of trips. One reason for this low ridership may be the complexity of the route. The frequency and scheduling of trips is irregular, and the variant patterns make it hard to understand. Neighborhood service, in particular, is irregular and lacks midday service. In addition, Route 87 competes with other CT*transit* service, including Route 95 along Main Street, which offers better frequency and travel times between destinations.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 87:

Route 87

Service Design

The proposed Route 87 would be a radial route operating between downtown Hartford and Goodwin College in East Hartford via Founders Bridge, East River Drive, Silver Lane, Whiting Road, Main Street in East Hartford, and Riverside Drive (see Figure 491).

The proposed route would substantially simplify service by eliminating both variants serving Oak Street and truncating service at Goodwin College. This alignment concentrates service where transit potential is highest, including adding service along Mercer Avenue and Whiting Street where there is a high concentration of multi-family housing, but currently no service (see Figure 492). A truncated route would leave some high-ridership stops along Main Street without Route 87 service (see Figure 493). However, these stops would be served by proposed Route 95.

Areas of Route 87 that would lose service altogether are primarily low-density residential neighborhoods that currently generate very little ridership on Route 87. Some residents of these neighborhoods who use transit may be driving to the Spencer Street Park-and-Ride where there is considerably better service frequency than is offered by Route 87. Low-density residential neighborhoods are inherently difficult to service with traditional fixed-route transit service, and many transit agencies have begun exploring other service options including subsidized Uber, Lyft, and taxi service. This approach can be explored in parts of East Hartford that lack the density or land-use to support fixed-route service. For more information about this type of service and how it has been employed within other transit systems, see Chapter 3.3 Subsidized Transportation Network Company (TNC) Service.









FIGURE 491 | PROPOSED ROUTE 87 ALIGNMENT



FIGURE 492 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 87 ALIGNMENT

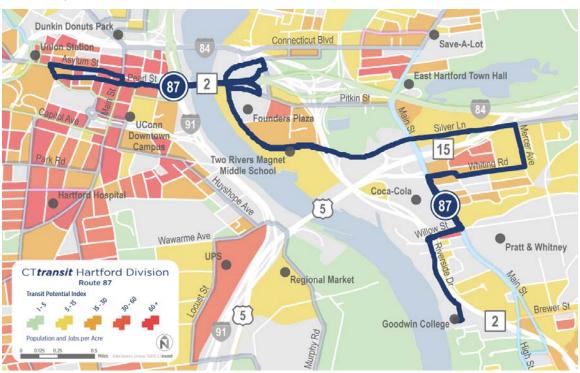
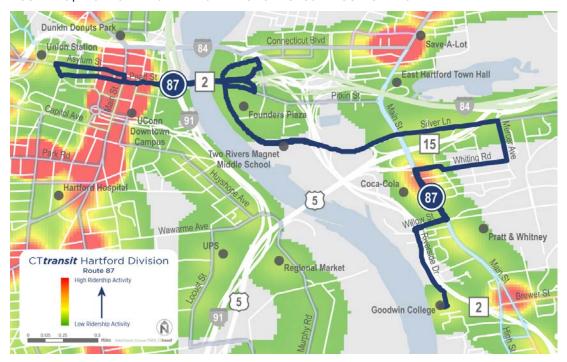








FIGURE 493 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 87 ALIGNMENT



Service Characteristics

The proposed Route 87 would operate every thirty minutes from the morning peak until early evening. During the early morning and late evening hours, service would be hourly (see Figure 494).

Route 87 could be interlined with proposed Route 56 in downtown Hartford to create a 2-hour cycle time and optimize layover time for both routes. This interlined pair would provide a one-seat ride between the University of Hartford, East Hartford, and Goodwin College.

FIGURE 494 | PROPOSED ROUTE 87 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE	PROPOSED SPAN	PROPOSED SERVICE
PERIOD	OF SERVICE	FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	_
Owl	-	_
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
 Downtown Hartford Founders Plaza Coca-Cola Bottling Plant Pratt & Whitney
■ Goodwin College









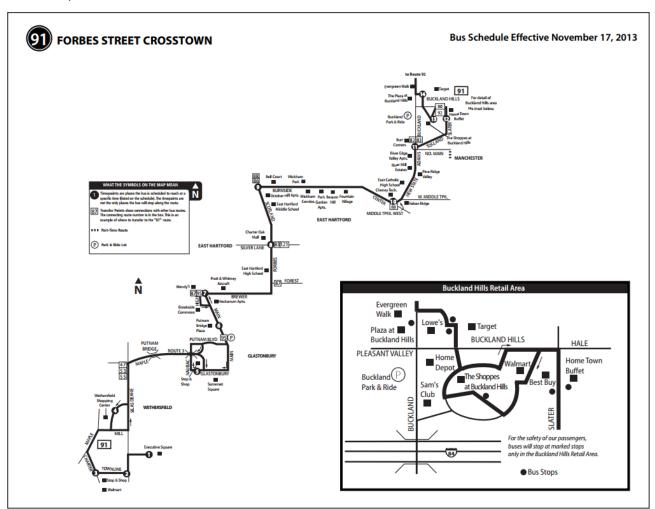
FORBES STREET CROSSTOWN 31

91 | Forbes Street Crosstown

SERVICE OVERVIEW

Route 91 is a crosstown route that travels from the Wethersfield Shopping Center in Wethersfield to Buckland Hills in Manchester via Glastonbury and East Hartford (Figure 495).

FIGURE 495 | ROUTE MAP













Service Schedule

Route 91 operates seven days a week, with weekday and Saturday service running every 60 minutes for most of the day. Route 91 service on Sunday runs every 70 minutes. An additional trip from Buckland Hills to Wethersfield operates on weekdays, Saturdays and Sundays during the holidays.

FIGURE 496 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	6:13 AM – 10:57 PM	60	16/16
Saturday	7:21 AM – 10:57 PM	60	15/15
Sunday	8:25 AM – 8:10 PM	70	10/10

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 91 carries 505 passengers, or 15.8 passengers per trip, on an average weekday. This is about 13% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 497). Ridership on Saturdays increases slightly from the weekday, and the number of passengers per trip is about 27% higher than average. Sundays ridership, however, is about 15% lower than average.

FIGURE 497 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 91	ROUTE 91	DIVISION AVG
Weekday	505	15.8	17.7
Saturday	583	19.4	16.3
Sunday	337	16.0	17.6

Source: CTtransit performance data

Ridership by Trip

Most trips on Route 91 on weekdays hover around an average of about 15 passengers (see Figure 498 and Figure 499). Three trips headed northeast and two trips headed southeast reach 20 passengers or more. Nearly all trips reach at least 10 passengers in both directions. However, ridership starts to decline after around 7:00 PM in both directions.

Maximum loads on Route 91 never exceed 20 passengers, so overcrowding is not an issue on this route. Service frequency also matches well with demand.

Weekend ridership activity is shown in Appendix B.











FIGURE 498 | WEEKDAY OUTBOUND (NORTHEAST) RIDERSHIP BY TRIP

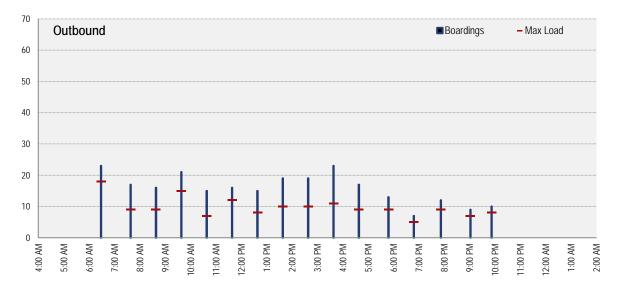
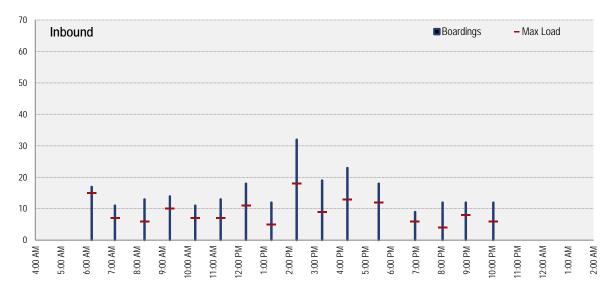


FIGURE 499 | WEEKDAY INBOUND (SOUTHWEST) RIDERSHIP BY TRIP



Ridership by Stop

The most heavily used stops on Route 91 are at The Shoppes at Buckland Hills and at Burnside Avenue and Scotland Road where riders can transfer to Route 86/88 (see Figure 500). All other stops have fewer than 50 boardings and alightings.

In general, Main Street in Glastonbury, Brewer Street, Forbes Street/Scotland Road, and Burnside Avenue show relatively strong ridership. The weakest portion of the route is along Middle Turnpike and New State Road.







FIGURE 500 | WEEKDAY INBOUND (SOUTHWEST) RIDERSHIP BY STOP MAP













Productivity and On-Time Performance

Route 91 generally performs poorly, though this is not unexpected for a crosstown route. Without serving strong anchors on each end (such as a downtown), ridership on crosstown routes tends to be lower. On weekdays, operating costs per passenger on Route 91 are 80% higher than the Hartford Division average, and passengers per revenue hour and revenue mile are 49% and 65% lower than average, respectively. Saturday performance improves somewhat but is still worse than average on all measures. Sunday performance is very similar to weekday performance (see Figure 501). Overall, Route 91 is the second to worst performer of all routes operated by the CT*transit* Hartford Division.

FIGURE 501 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 91	DIVISION AVG	ROUTE 91	DIVISION AVG	ROUTE 91	DIVISION AVG
Operating Cost per Passenger	\$8.70	\$4.84	\$6.68	\$6.30	\$8.44	\$6.66
Passengers per Revenue Vehicle Hour	14.7	28.9	19.2	27.0	15.2	29.7
Passengers per Revenue Vehicle Mile	0.9	2.6	1.1	2.4	0.9	2.9

Source: CTtransit performance data

Route 91's on-time performance is slightly better than the Hartford Division average at 83.4% (see Figure 502). Operating closed-door for a portion of the route and not traveling into downtown likely help the ontime performance of the route. The route also has a stop about every quarter mile on average, which is generally accepted as a best practice for stop spacing on local bus service.

FIGURE 502 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 91	DIVISION AVG
Early	0.0%	0.2%
Late	16.6%	18.9%
On-Time	83.4%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 91 is a crosstown route that travels between the Wethersfield Shopping Center and the Buckland Hills retail area, with a travel time of about an hour. The route connects to many other routes in the system, as well as many residential and employment areas east of Hartford without making passengers travel into downtown to transfer. Route 91 serves multiple shopping centers, as well as key corridors including Silas Deane Highway in Wethersfield, Main Street in East Hartford and Glastonbury, and Burnside Avenue in East Hartford.

Route 91 performs poorly compared to other routes in the CT*transit* Hartford Division network. Crosstown routes often struggle to be productive but are nonetheless important services in terms of providing connections and linkages. The consequences of cutting the route because of performance must be carefully weighed against the benefits provided to those who rely on the route to reach jobs and services within a reasonable amount of time.

No other routes compete directly for passengers with Route 91 due to the type of service provided, though a large portion of the route parallels other routes at various points. Passengers traveling only a short distance on one of these segments may choose to board the first route that arrives. Route 91 is about as direct as possible for this kind of route and has a simple schedule. While not frequent, the service supplied matches well with demand.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Route 91:

Route 91

Service Design

Route 91 is proposed to be consolidated with other suburban crosstown routes to form a new Regional Loop Route (Route 99). This new route would provide bi-directional service and more directly link major destinations on the periphery of the Greater Hartford region. It would incorporate segments of several existing routes including 91, 92, 144 and 153 to create a continuous loop service (see Figure 479).

Traveling in a clockwise direction beginning at Copaco Center in Bloomfield, the route would follow Cottage Grove Road and Route 218 to the Windsor Shopping Center on Windsor Avenue. It would then use I-291 and travel across the Connecticut River to South Windsor via John Fitch Boulevard, Chapel Road and Pleasant Valley Road. It would circulate through the Shoppes at Buckland Hills and serve the Buckland Park-and-Ride, continuing through Manchester via Buckland Street and New State Road. In East Harford, it would follow Burnside Avenue and then serve the Sunset Hills neighborhood, Forbes Street, Brewer Street and Main Street. The Loop would again cross the river using Route 3 in Glastonbury, after serving Somerset Square.

In Wethersfield, the Loop would head north on Silas Deane Highway to Jordan Lane and the Berlin Turnpike. Heading south on the Berlin Turnpike to Cedar Street, the route would serve Newington Center and the Cedar Street CTfastrak station. It would serve CCSU via Ella Grasso Boulevard, then follow Stanley Road and SE Road to the Westfarms Mall in West Harford. From the Mall, the route would follow New Britain Avenue to South Main Street and West Hartford Center, then North Main Street to the Cigna campus and back to Copaco Center on Cottage Grove Road in Bloomfield.







FIGURE 503 | PROPOSED REGIONAL LOOP ALIGNMENT



The Regional Loop would allow passengers to more easily travel between key corridors and key outlying destinations without having to travel to downtown Hartford first (see Figure 504 and Figure 505). The route would intersect with dozens of other routes, including CT*fastrak* service, to provide a wide range of transfer opportunities.

FIGURE 504 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE REGIONAL LOOP

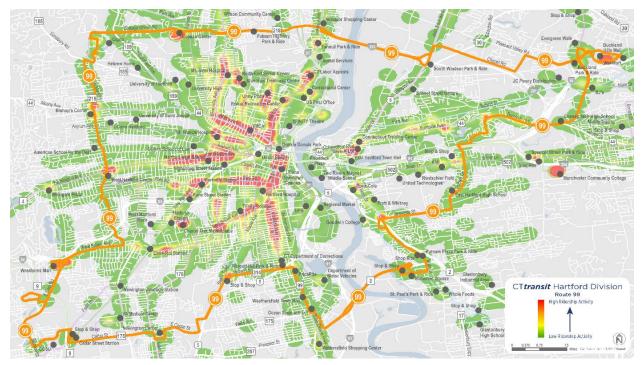








FIGURE 505 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED REGIONAL LOOP



Service Characteristics

The Regional Loop would operate at 30 minute frequency during peak periods, and every 60 minutes during the off peak, in both directions (see Figure 506).

FIGURE 506 | PROPOSED REGIONAL LOOP SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Buckland Hills Mall
Copaco Center
■ Cigna
Bishop's Corner
 West Hartford Center
Westfarms Mall
Cedar Street Station
 Jordan Lane Shopping Center
Putnam Plaza
■ East Hartford High School









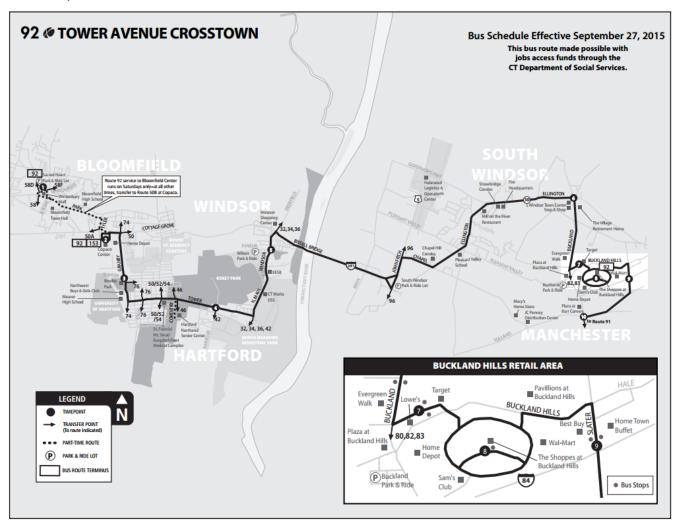
32 TOWER AVENUE CROSSTOWN

92 | Tower Avenue Crosstown

SERVICE OVERVIEW

Route 92 is a crosstown route that travels from the Copaco Shopping Center in Bloomfield to the Plaza at Burr Corners in Manchester (see Figure 507). This route provides connections to local employment centers.

FIGURE 507 | ROUTE MAP













Service Schedule

Route 92 operates on weekdays and Saturdays. On weekdays, 14 eastbound and 14 westbound trips provide service from the Copaco Shopping Center to Plaza at Burr Corners every 60 minutes throughout the day. Although the hours of operation are slightly reduced on Saturdays, 12 eastbound and 14 westbound trips provide service every 60 minutes. No Sunday service exists on Route 92.

FIGURE 508 | SCHEDULE OVERVIEW

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (EASTBOUND/WESTBOU ND)
Weekday	6:23 AM – 8:26 PM	60	14/14
Saturday	7:20 AM – 8:36 PM	60	12/14
Sunday	-	-	-

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 92 carries 380 passengers, or 13.6 passengers per trip, on an average weekday. This is about 23% lower than the Hartford Division average of 17.7 weekday passengers per trip (see Figure 509). Ridership on Saturdays decreases from the weekday, and the number of passengers per trip is about 42% lower than average at 8.9.

FIGURE 509 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE PER	
	ROUTE 92	ROUTE 92	DIVISION AVG
Weekday	380	13.6	17.7
Saturday	232	8.9	16.3
Sunday	-	-	17.6

Source: CTtransit performance data

Ridership by Trip

Route 92 has an average ridership of about 14 passengers per trip; most trips in both directions hover around this average (see Figure 510 and Figure 511). Ridership, in both directions, is strongest between noon and 5:30 PM. Westbound ridership is weaker in the morning, whereas eastbound ridership remains more consistent during the morning.

Maximum loads on Route 92 never exceed 15 passengers, which means that overcrowding is not an issue on this route. Service frequency also matches well with demand. Weekend ridership activity is shown in Appendix B.











FIGURE 510 | WEEKDAY OUTBOUND (EASTBOUND) RIDERSHIP BY TRIP

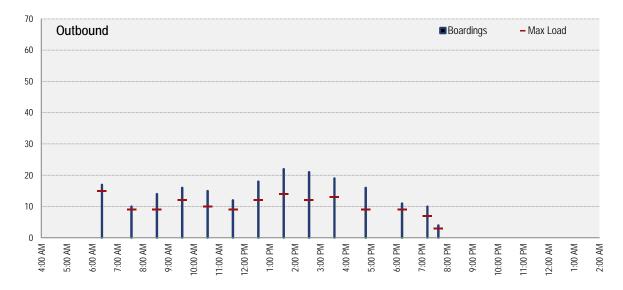
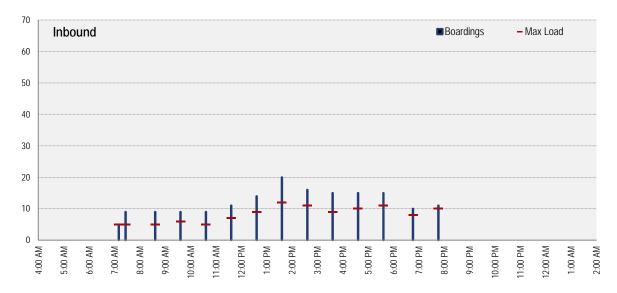


FIGURE 511 | WEEKDAY INBOUND (WESTBOUND) RIDERSHIP BY TRIP



Ridership by Stop

Route 92 only has one stop – The Shoppes at Buckland Hills – that has 50 riders or more getting on/off the bus. Ridership at the Copaco Shopping Center reaches 46 riders, but all other stops on the route have 20 or fewer riders getting on/off (see Figure 512).

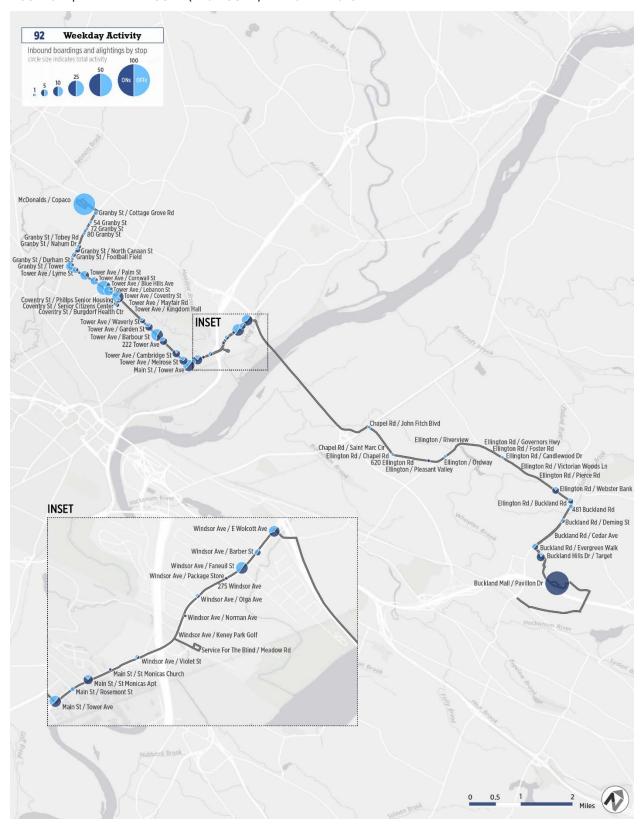
Tower Avenue accounts for 38% of activity on Route 92, meaning that 70% of route activity occurs at The Shoppes at Buckland Hills, the Copaco Shopping Center, or Tower Avenue. Some stops on the very north end of Windsor Avenue, including near the Wilson Park-and-Ride Lot, also show relatively high ridership. Route 92 data for the stops on Slater Street at Best Buy and Tolland Turnpike and Buckland Street does not exist, so ridership is likely somewhat low for the Buckland Hills retail area.







FIGURE 512 | WEEKDAY INBOUND (WESTBOUND) RIDERSHIP BY STOP MAP











Productivity and On-Time Performance

Route 92 generally performs poorly, though this is not unexpected for a crosstown route. Crosstown routes often lack strong anchors, which often impacts productivity. On weekdays, operating costs per passenger on Route 92 are 67% higher than the Hartford Division average, and passengers per revenue hour and revenue mile are 45% and 62% lower than average, respectively (see Figure 513). Saturday performance is also poor. Overall, Route 92 is the third to worst performer of all routes operated within the CT*transit* Hartford Division.

FIGURE 513 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	DAY	SATU	RDAY	SUNI	DAY
	ROUTE 92	DIVISION AVG	ROUTE 92	DIVISION AVG	ROUTE 92	DIVISION AVG
Operating Cost per Passenger	\$8.03	\$4.84	\$13.22	\$6.30	-	\$6.66
Passengers per Revenue Vehicle Hour	15.9	28.9	9.7	27.0	-	29.7
Passengers per Revenue Vehicle Mile	1.0	2.6	0.6	2.4	-	2.9

Source: CTtransit performance data

Route 92's on-time performance is much better than the Hartford Division average at 91.1% (see Figure 514). Low ridership, operating closed door for a portion of the route, and not traveling into downtown likely help the on-time performance of the route. The route also has a stop about every quarter mile on average, which is generally accepted as a best practice for stop spacing on local bus service.

FIGURE 514 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 91	DIVISION AVG
Early	0.0%	0.2%
Late	8.9%	18.9%
On-Time	91.1%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 92 is a crosstown route that connects the Copaco Shopping Center and the Buckland Hills retail areas. The travel time between these anchors is about 53 minutes on weekdays. On Saturdays, Route 92 travels further west to Bloomfield Center; this increases travel time to 64 minutes. Route 92 allows people to makes east-west connections without having to travel into downtown Hartford, creating a faster, more direct link between residential areas and retail and employment destinations along the route. The route also links together numerous north-south routes to facilitate transfers and connections.

However, Route 92 performs very poorly compared to other routes in the system. While unproductive, the consequences of cutting Route 92 must be considered because the route provides important connections to jobs and services. No other routes compete directly for passengers with Route 92 due to the type of service provided. In fact, Route 92 is the only route in the system that provides service to Tower Avenue. While not frequent, the service supplied matches well with demand.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 92, 96, 42, and 61:

Route 92

Service Design

Route 92 is proposed to be consolidated with other suburban crosstown routes to form a new Regional Loop Route (Route 99). This new route would provide bi-directional service and more directly link major destinations on the periphery of the Greater Hartford region. It would incorporate segments of several existing routes including 91, 92, 144 and 153 to create a continuous loop service (see Figure 479).

Traveling in a clockwise direction beginning at Copaco Center in Bloomfield, the route would follow Cottage Grove Road and Route 218 to the Windsor Shopping Center on Windsor Avenue. It would then use I-291 and travel across the Connecticut River to South Windsor via John Fitch Boulevard, Chapel Road and Pleasant Valley Road. It would circulate through the Shoppes at Buckland Hills and serve the Buckland Park-and-Ride, continuing through Manchester via Buckland Street and New State Road. In East Harford, it would follow Burnside Avenue and then serve the Sunset Hills neighborhood, Forbes Street, Brewer Street and Main Street. The Loop would again cross the river using Route 3 in Glastonbury, after serving Somerset Square.

In Wethersfield, the Loop would head north on Silas Deane Highway to Jordan Lane and the Berlin Turnpike. Heading south on the Berlin Turnpike to Cedar Street, the route would serve Newington Center and the Cedar Street CT*fastrak* station. It would serve CCSU via Ella Grasso Boulevard, then follow Stanley Road and SE Road to the Westfarms Mall in West Harford. From the Mall, the route would follow New Britain Avenue to South Main Street and West Hartford Center, then North Main Street to the Cigna campus and back to Copaco Center on Cottage Grove Road in Bloomfield.

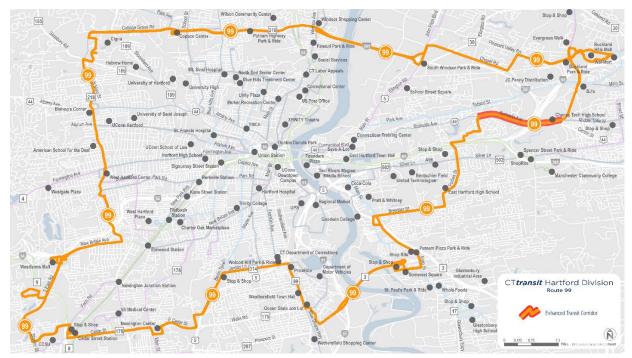








FIGURE 515 | PROPOSED REGIONAL LOOP ALIGNMENT



The Regional Loop would allow passengers to more easily travel between key corridors and key outlying destinations without having to travel to downtown Hartford first (see Figure 516 and Figure 517). The route would intersect with dozens of other routes, including CT*fastrak* service, to provide a wide range of transfer opportunities.

FIGURE 516 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE REGIONAL LOOP









FIGURE 517 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED REGIONAL LOOP



Service Characteristics

The Regional Loop would operate at 30 minute frequency during peak periods, and every 60 minutes during the off peak, in both directions (see Figure 518).

FIGURE 518 | PROPOSED REGIONAL LOOP SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 10:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 10:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Buckland Hills Mall
Copaco Center
■ Cigna
Bishop's Corner
 West Hartford Center
Westfarms Mall
Cedar Street Station
 Jordan Lane Shopping Center
Putnam Plaza
East Hartford High School









Route 96

Service Design

The proposed Route 96 would operate as a Connector Route between Buckland Hills Mall in Manchester and Connecticut Boulevard in East Hartford via Buckland Road, Sullivan Avenue and John Fitch Boulevard in South Windsor (see Figure 519). Extending the route beyond the John Fitch corridor to serve the Buckland Hills retail area via Sullivan Avenue and South Windsor Center would allow for the proposed Route 99 to provide more streamlined cross-town service between major hubs like Buckland Hills Mall and Copaco Center.

The proposed Route 96 would connect residential areas of South Windsor and East Hartford with nearby retail and employment destinations. Route 96 would not provide direct service to downtown Hartford, but frequent connections to downtown would be available both on Connecticut Boulevard and at Buckland Hills Mall. Avoiding downtown congestion would help ensure strong on-time performance and reliability for Route 96.

The proposed route would concentrate service where ridership and ridership potential are highest. Thus, service along Main Street in South Windsor is proposed for elimination (see Figure 520 and Figure 521).

MASSCONN 194 South Windsor High School 194 South Windsor High School 194 South Windsor High School 194 South Windsor From Hall Stop & Shop South Windsor Park & Ride South W

FIGURE 519 | PROPOSED ROUTE 96 ALIGNMENT









FIGURE 520 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 96 ALIGNMENT

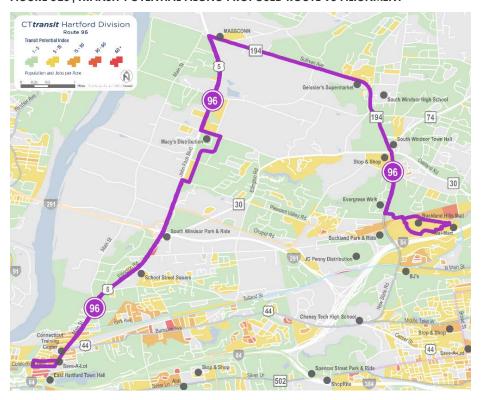
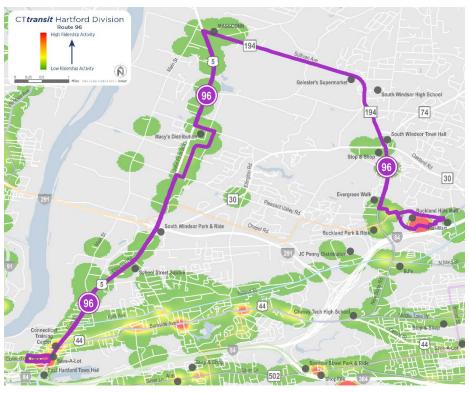


FIGURE 521 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 96 ALIGNMENT











Service Characteristics

The proposed Route 96 would operate every half hour during peak periods and hourly at all other times (see Figure 522). The route would be interlined with proposed Route 86 at Buckland Hills Mall to create a 4-hour cycle time and optimize layover time for both routes. This interlined pair would provide a one-seat ride between South Windsor and Manchester Community College.

FIGURE 522 | PROPOSED ROUTE 96 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Buckland Hills Mall
Evergreen Walk
South Windsor Town Hall
■ MASSCON
South Windsor Park-and-Ride
School Street Square
Connecticut Training Center

Route 42

Service Design

The proposed Route 42 would operate as a radial route between downtown Hartford and Copaco Center in Bloomfield via North Main Street, Capen Street, Barbour Street, Palm Street, Burnham Street, Tower Avenue and Granby Street (see Figure 517).

Together with Routes 40 and 34, Route 42 would help establish an enhanced transit corridor along North Main Street. The three routes would converge at Capen Street, offering 10-minute or better average service frequency to and from downtown Hartford during peak periods. Over the long-term, establishing an enhanced transit corridor would provide a focus for future capital investments such as enhanced passenger amenities and transit-priority treatments.

The proposed Route 42 would serve a highly transit-supportive environment with high population and employment density and good pedestrian infrastructure (see Figure 524). To

FIGURE 523 | PROPOSED ROUTE 42 ALIGNMENT



improve the route's ridership potential and to replace Route 92 Tower Avenue (which would transition to provide more direct crosstown service), the proposed alignment would be extended along Tower Avenue



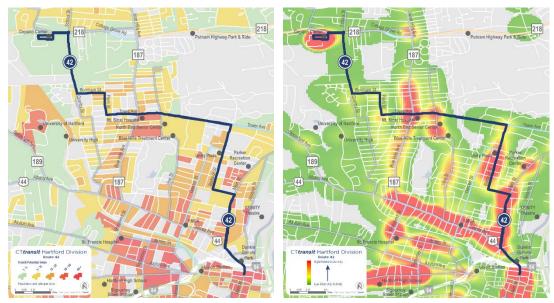






to the west, ultimately serving Copaco Center. The route would also connect residents living along Capen and Barbour Streets more directly with the North End Senior Center and services at Mt. Sinai Hospital.





Service Characteristics

Route 42 would be interlined with proposed Route 53 in downtown Hartford to create a 3-hour cycle time and optimize layover time for both routes. Interlining the two routes would also provide a one-seat ride for passengers traveling between the Franklin Avenue corridor (and points south in Wethersfield and Rocky Hill), and the North Main Street corridor (and points north including Copaco Center) via downtown Hartford.

Route 42 would operate at 20 minute frequency during peak periods and 30 minute frequency during off-peak hours. Combined with Routes 40 and 34, peak frequency of 10 minutes or better would be provided along the North Main Street corridor south of Capen Street. When combined with Routes 50, 54, 58 and 76 coming in from Albany Avenue, very high levels of service would be provided on Main Street in Hartford's DoNo neighborhood. Service would also be extended to include Sundays (see Figure 525).

FIGURE 525 | PROPOSED ROUTE 42 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	30
AM Peak	6:00 am - 9:00 am	20
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	20
Evening	6:00 pm – 9:00 pm	30
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS Downtown Hartford Dunkin Donuts Park Unity Plaza Tower Avenue/Chappelle Garden Apartments Mt. Sinai Hospital Granby Street/Bowles Park Apartments Copaco Center









Route 61

Service Design

The proposed Route 61 would operate as a crosstown route between Jordan Lane Shopping Center in Wethersfield and Windsor Shopping Center in Windsor via Maple Avenue, Broad Street, Garden Street, Tower Avenue and Windsor Avenue (see Figure 526). This new alignment would pick up much of the service coverage of existing Routes 44 and 61, as well as the current Route 92 coverage from Windsor Shopping Center to Tower Avenue.

The route would give passengers a one-seat ride from Wethersfield and south Hartford to north Hartford and Windsor. It would also serve several key destinations including Trinity College, Union Station, and the Connecticut Department of Social Services. In addition, the proposed crosstown route would provide a "bridge" between several emerging enhanced transit corridors including North Main Street, Albany Avenue, Farmington Avenue, and Park Street (see Figure 527). Connections to CT*fastrak* service would be available at Union Station in Hartford.

FIGURE 526 | PROPOSED ROUTE 61 ALIGNMENT

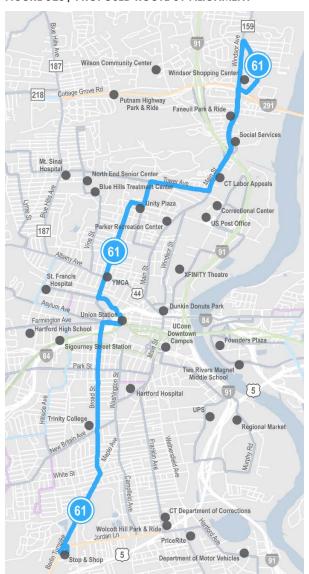










FIGURE 527 | TRANSIT POTENTIAL AND EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 61 ALIGNMENT





Service Characteristics

The proposed Route 61 would operate every 30 minutes for much of the service day, with the exception of hourly service in the early morning and after the evening peak (see Figure 528). 30-minute service frequency would provide convenient and predictable connections between key corridors and key destinations.









FIGURE 528 | ROUTE 61 PROPOSED SERVICE CHARACTERISTICS AND KEY DESINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
14		
Weekdays	6:00 am – 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night		
Owl	_	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
 Jordan Lane Shopping Center Trinity College Union Station Community Health Services / YMCA Unity Plaza CT Department of Social Services Faneuil Park-and-Ride Windsor Shopping Center









33 PARK AVENUE AND JOHN FITCH BOULEVARD

94 | Prestige Park

96 | East Windsor Hill via Route 5 or Main Street

SERVICE OVERVIEW

Routes 94 and 96 operate east along Connecticut Boulevard and northeast along Main Street, providing radial service between downtown Hartford and the towns of East Hartford (Route 94) and South Windsor (Route 96). The two routes operate as variants of a single service, with a common alignment in downtown Hartford and along Main Street in East Hartford until the intersection at Park Avenue. Route 94 travels east along Park Avenue, serving the intersection of Prestige Park Road and Goodwin Street. Route 96 continues north, terminating at East Windsor Hill at the intersection of Main Street and Sullivan Avenue.











FIGURE 529 | ROUTE 94 MAP

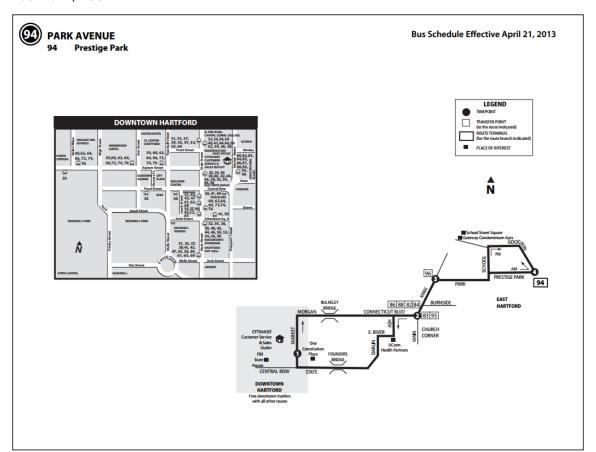




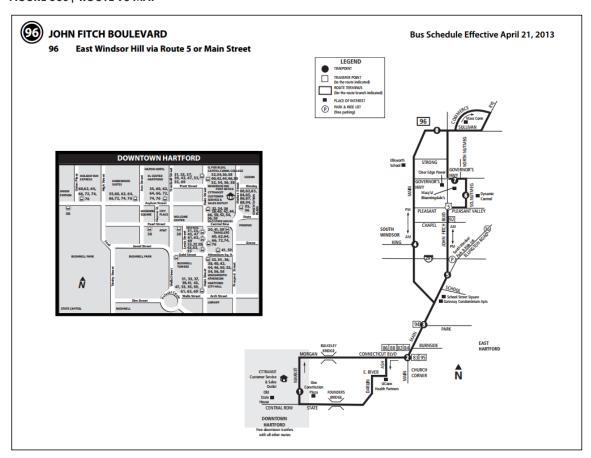








FIGURE 530 | ROUTE 96 MAP



Service Schedule

Route 94 operates seven days a week and Route 96 operates on weekdays and Saturdays. There are 24 one-way trips per weekday (11 on Route 94 and 13 on Route 96), for a total of 48 round trips. Service frequency along the common alignment varies widely during the peak period, with buses arriving at key stops at intervals of 5 to 40 minutes, averaging around 25 minutes (see Figure 531). Midday service operates every 60 minutes, though service increases to peak period frequencies around 3:00 PM instead of 4:00 PM. Service levels are lower on the unique portions of the individual routes.

There are 11 outbound trips (six on Route 94 and five on Route 96) and 11 inbound trips (six on Route 94 and five on Route 96) on Saturdays, with a bus leaving each stop approximately every 60 minutes. Route 94 operates seven outbound trips and seven inbound trips on Sundays at a frequency of every 70 minutes.

FIGURE 531 | SCHEDULE OVERVIEW (ALL TRIPS ON ROUTES 94 AND 96)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:20 AM – 7:08 PM	25/60	24/24
Saturday	7:30 AM – 6:03 PM	60	11/11
Sunday	10:00 AM – 5:25 PM	70	7/7

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules











SERVICE PERFORMANCE

CT*transit* tracks ridership for Route 94 and Route 96 together, so the following analysis of ridership and productivity treats the two routes as a single service. Generally speaking, Route 94/96 carries fewer riders than the Hartford Division average. Weekday ridership is nearly 38% lower than the Division average of 17.7 weekday passengers per trip (see Figure 532). Saturday and Sunday ridership per trip also perform significantly lower than the Division average by 39% and 96%, respectively.

FIGURE 532 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 94/96	ROUTE 94/96	DIVISION AVG
Weekday	526	11.0	17.7
Saturday	206	9.4	16.3
Sunday	10	0.7	17.6

Source: CTtransit performance data

Ridership by Trip

Weekday - Route 94

Route 94 ridership data by trip shows that ridership is fairly well balanced throughout the day, though it is higher on the inbound trips as compared with the outbound trips. The data also shows very slight traditional commute patterns with slight peaks occurring during mornings and afternoons (See Figure 533 and Figure 534).

Maximum loads on both routes suggest that overcrowding is not a problem on either route – only one trip reaches over 30 passengers at its maximum load, which is still within the capacity of a standard 40-foot bus. Weekend ridership activity is shown in Appendix B.

FIGURE 533 | ROUTE 94 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

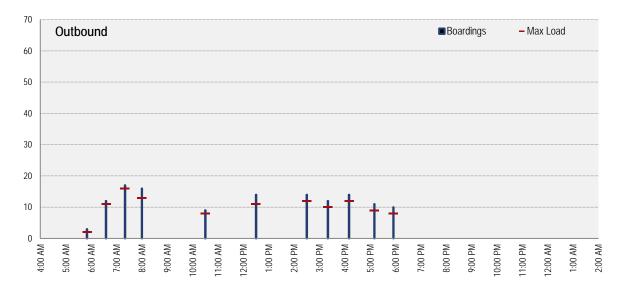


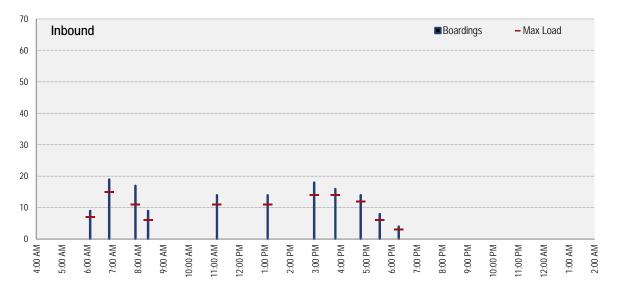








FIGURE 534 | ROUTE 94 WEEKDAY INBOUND RIDERSHIP BY TRIP



Weekday - Route 96

Ridership by trip on Route 96 shows a traditional reverse commute pattern, with ridership peaking in the early morning headed outbound and in the afternoon headed inbound (see Figure 535 and Figure 536). Afternoon outbound ridership and morning inbound ridership is low. Weekend ridership activity is shown in Appendix B.

FIGURE 535 | ROUTE 96 WEEKDAY OUTBOUND RIDERSHIP BY TRIP

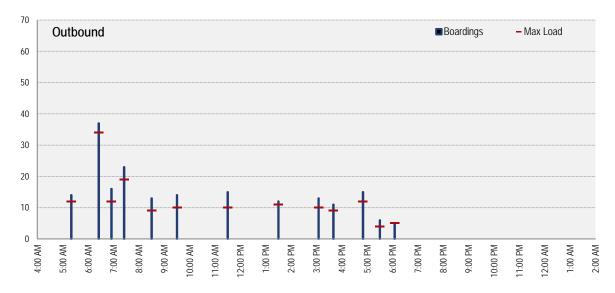
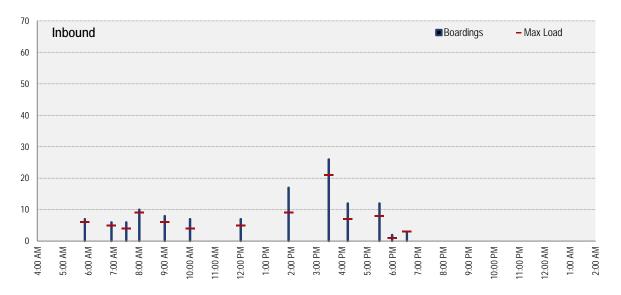








FIGURE 536 | ROUTE 96 WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Outside of the downtown Hartford terminus, the most heavily used stop on both routes is along the common alignment between downtown and the intersection of Main Street and Park Avenue (see Figure 537 and Figure 538). The largest stops within this segment are at Connecticut Boulevard and Main Street, with 40 boardings and alightings at this location each day. All other stops on these routes have fewer than 25 boardings and alightings, with the daily activity at a majority of the stops reaching 10 or fewer.

On Route 94, the second highest ridership occurs at Park Avenue and Columbus Street, with 22 boardings and alightings per day. This area has some moderate to high density residential density.

Route 96 has relatively strong ridership at the intersection of Nutmeg Road South and South Satellite Road, with 18 boardings and alightings per day, where numerous small to medium sized employers are located. Ridership is stronger along John Fitch Boulevard as compared with Main Street. The deviation to serve Nutmeg Road South is relatively productive, serving nearly 60 boardings and alightings per day.









FIGURE 537 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

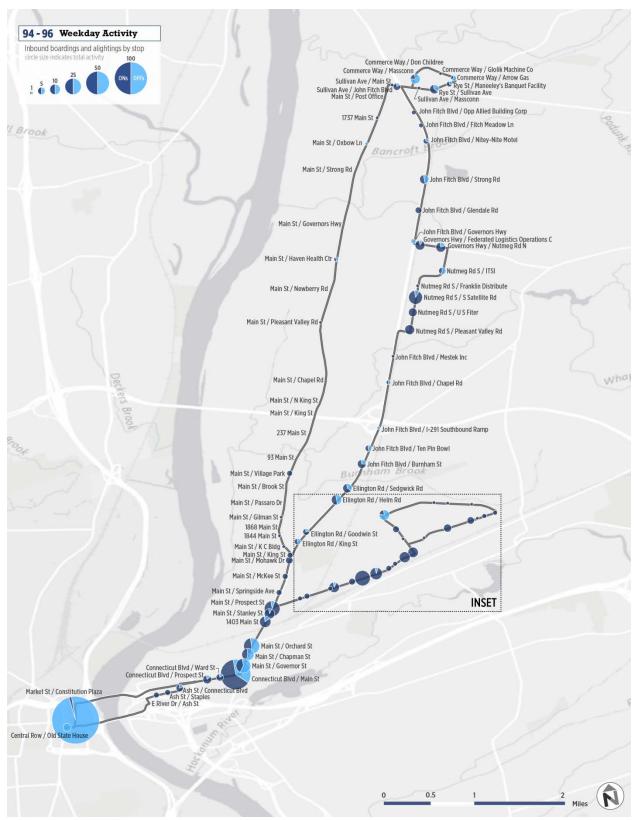


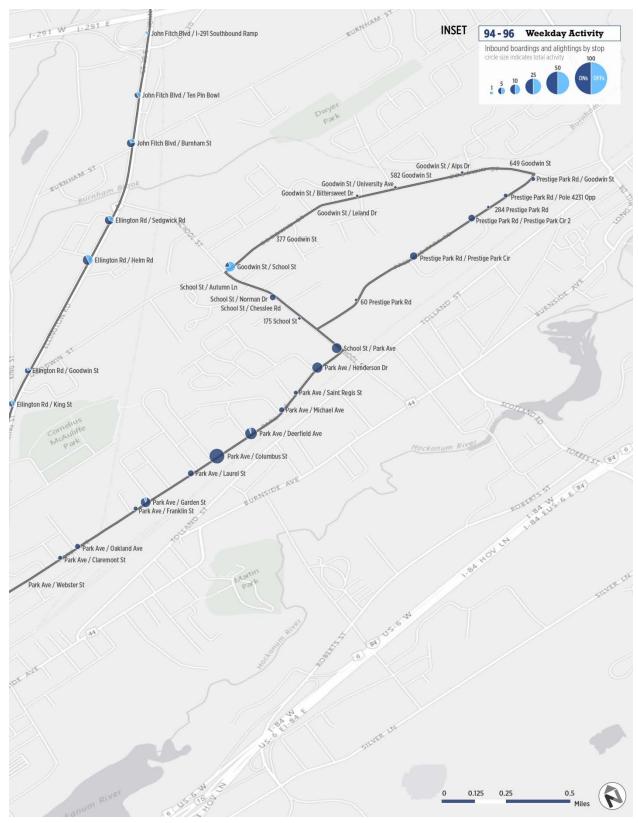








FIGURE 538 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

Route 94/96 underperforms the Hartford Division average in all performance metrics and for all days of the week. An exception to this rule is the operating cost per passenger for Saturdays, which is slightly lower than the Division average. The cost per passenger on Sundays is particularly high at nearly \$44 per passenger trip.

FIGURE 539 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEK	WEEKDAY		SATURDAY		SUNDAY	
	ROUTE 94/96	DIVISION AVG	ROUTE 94/96	DIVISION AVG	ROUTE 94/96	DIVISION AVG	
Operating Cost per Passenger	\$5.68	\$4.84	\$6.14	\$6.30	\$43.73	\$6.66	
Passengers per Revenue Vehicle Hour	22.5	28.9	20.8	27.0	2.9	29.7	
Passengers per Revenue Vehicle Mile	1.5	2.6	1.3	2.4	0.2	2.9	

Source: CTtransit performance data

Route 94/96's on-time arrival rate is better than the Hartford Division average (see Figure 540).

FIGURE 540 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 94/96	DIVISION AVG
Early	0.0%	0.2%
Late	7.9%	18.9%
On-Time	92.1%	80.9%

Source: CTtransit performance data

SUMMARY OF ISSUES AND OPPORTUNITIES

Route 94 and Route 96 are two radial routes connecting downtown Hartford with employment and residential areas in the northern part of East Hartford and South Windsor, respectively. Both routes serve the northern portion of Main Street before splitting off to primarily serve the corridors of Park Avenue (Route 94) and John Fitch Boulevard (Route 96). The routes have low ridership and perform poorly as compared with the system overall on all metrics except on-time arrival.

Routes 94 and 96 have a number of design flaws, including weak outer anchors and complicated schedules. The frequency of service varies considerably throughout the day, and Route 96 reverses its direction of travel between the morning and the afternoon. These features make the routes difficult for users to depend on.











SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 94, 95, and 96:

Route 94

Route 94 is proposed to be discontinued, with its coverage along Park Avenue in East Hartford picked up by proposed Route 95.

Route 95

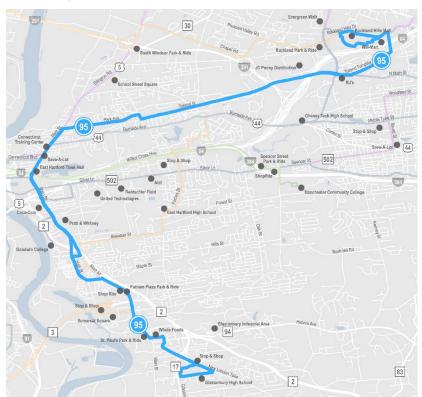
Service Design

The proposed Route 95 would operate as a crosstown route between Glastonbury High School and Buckland Hills Mall in Manchester via East Hartford (see Figure 541). The route would operate primarily along Main Street in Glastonbury and East Hartford, and Tolland Turnpike in Manchester. The route would give passengers a one-seat ride between Glastonbury and Manchester.

In East Hartford, the proposed route would serve Park Avenue, in place of Route 94 which is proposed for elimination. The route would also serve to replace Routes 82 and 84 service along Tolland Street in East Hartford.

The proposed Route 95 would not directly serve downtown Hartford, but would provide connection opportunities to several routs serving downtown Hartford including Routes 88 and 90, which together would provide downtown service every ten minutes during peak periods.

FIGURE 541 | PROPOSED ROUTE 95 ALIGNMENT











While the existing Routes 82 and 84 operate along Tolland Street and Burnside Avenue toward East Hartford Center, the proposed Route 95 would instead operate along Tolland Street and Park Avenue. Shifting service to Park Street would reduce redundancy along a portion of Burnside Avenue that would already be served every ten minutes during peak periods by the proposed Routes 88 and 90. Additionally, it would provide direct connections from the high-density residential areas along Park Street to retail and employment destinations in Manchester and Glastonbury (see Figure 542 and Figure 543).

Four National College Connecticut Training Delia Trai

FIGURE 542 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 95 ALIGNMENT

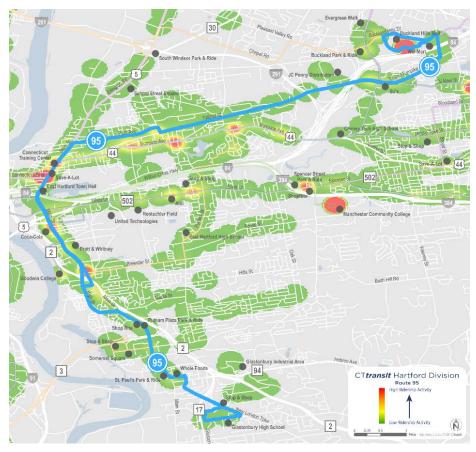








FIGURE 543 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 95 ALIGNMENT



Service Characteristics

The proposed Route 95 would operate every 30 minutes from the morning peak until the early evening, and hourly at all other times (see Figure 544).

FIGURE 544 | PROPOSED ROUTE 95 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	-	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am - 8:00 pm	60

KEY DESTINATIONS
Buckland Hills Mall
 JC Penney Distribution
Connecticut Training Center
East Hartford Town Hall
Coca-Cola Bottling Plan
Pratt & Whitney
Putnam Plaza
Whole Foods
St. Paul's Park-and-Ride
Glastonbury High School











Route 96

Service Design

The proposed Route 96 would operate as a Connector Route between Buckland Hills Mall and Connecticut Boulevard in East Hartford via Buckland Road, Sullivan Avenue and John Fitch Boulevard in South Windsor (see Figure 545). Extending the route beyond the John Fitch corridor to serve the Buckland Hills retail area via Sullivan Avenue and South Windsor Center allows for the proposed Route 99 to provide more streamlined cross-town service between major hubs like Buckland Hills Mall and Copaco Center.

The proposed Route 96 would connect residential areas of South Windsor and East Hartford with nearby retail and employment destinations. Route 96 would not provide direct service to downtown Hartford, but frequent connections to downtown would be available both on Connecticut Boulevard and at Buckland Hills Mall. Avoiding downtown congestion would ensure strong on-time performance and reliability for Route 96.

The proposed route would concentrate service where ridership and ridership potential are highest. Thus, service along Main Street in South Windsor is proposed for elimination (see Figure 546 and Figure 547). FIGURE 545 | PROPOSED ROUTE 96 ALIGNMENT

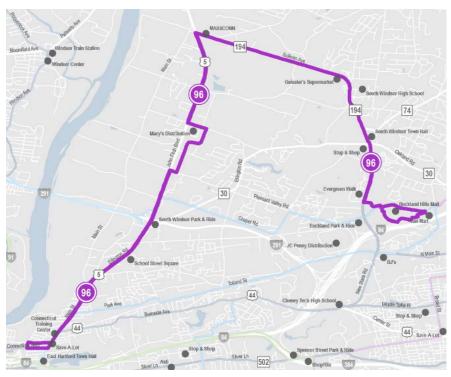










FIGURE 546 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 96 ALIGNMENT

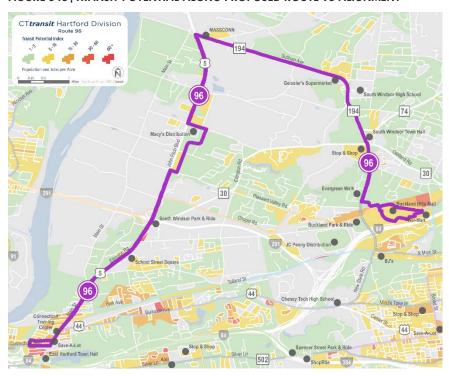
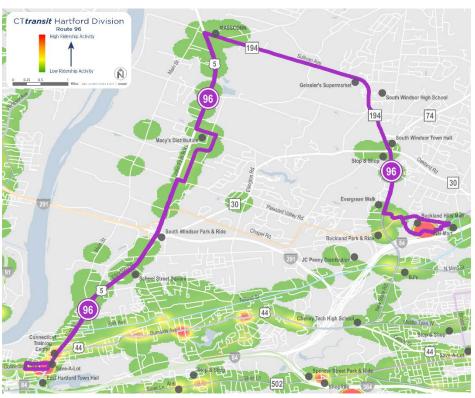


FIGURE 547 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 96 ALIGNMENT













Service Characteristics

The proposed Route 96 would operate every half hour during peak periods and hourly at all other times (see Figure 548). The route would be interlined with proposed Route 86 at Buckland Hills Mall to create a 4-hour cycle time and optimize layover time for both routes. This interlined pair would provide a one-seat ride between South Windsor and Manchester Community College.

FIGURE 548 | PROPOSED ROUTE 96 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am – 9:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	60
PM Peak	3:00 pm – 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	-	-
Owl	-	-
Saturday	6:00 am - 9:00 pm	60
Sunday	No Service	

KEY DESTINATIONS
Buckland Hills Mall
Evergreen Walk
South Windsor Town Hall
■ MASSCON
South Windsor Park-and-Ride
School Street Square
 Connecticut Training Center











34 GLASTONBURY

95A | O'Connell Drive

95C | Glastonbury Center

95H | Hubbard Street - Glastonbury High

95P | Main Street - Putnam Bridge Plaza

SERVICE OVERVIEW

Route 95 is a radial route that travels between downtown Hartford and Glastonbury. All trips serve the Main Street corridor through East Hartford. One variant (Route 95P) continues along Main Street and terminates at Putnam Bridge Plaza and the Stop & Shop on Glastonbury Boulevard. Route 95A continues further east to serve O'Connell Drive, while Route 95H continues south to serve Welles Village and Glastonbury High School via Main Street. The alignment on Route 95C varies, sometimes remaining on Main Street while other times also deviating to serve Millbrook Park, but the variant always continues south to serve Welles Village and Glastonbury Center via Main Street (Figure 549).



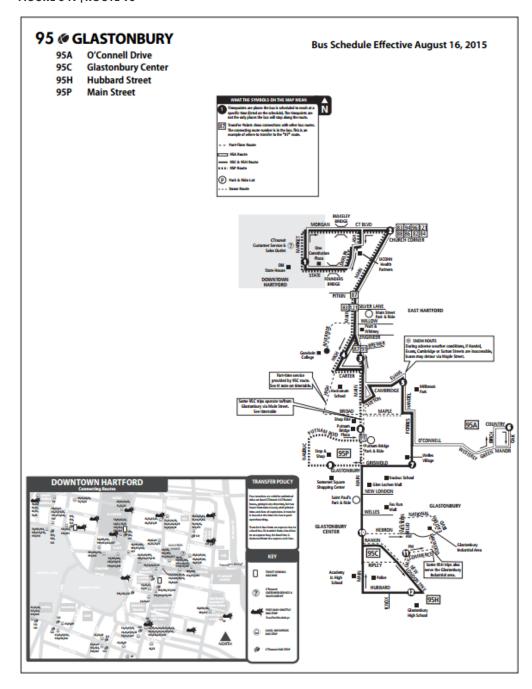








FIGURE 549 | ROUTE 95



Service Schedule

Route 95 operates seven days a week, with 34 outbound trips and 36 inbound trips per weekday. The peak period frequency varies widely along the common alignment on weekdays, with buses arriving at stops at intervals of 5 to 40 minutes, averaging around 20 minutes (Figure 550). Midday service is more consistent and operates about every 30 minutes. Service levels are lower on the unique portions of the individual routes. The last trip of the day in each direction, which only operates between downtown Hartford and High and Brewer Streets, are late night trips that leave about 3 to 3.5 hours after regular service hours.











There are 18 inbound and outbound trips on Saturdays, with a bus leaving approximately every 40 minutes along the common alignment. Route 95 operates six inbound and outbound trips on Sundays at a frequency of every 70 minutes. Service hours are reduced from weekdays on both Saturday and Sunday.

FIGURE 550 | SCHEDULE OVERVIEW (ALL ROUTES 95A, 95C, 95H AND 95P)

SERVICE DAY	SPAN OF SERVICE	TYPICAL FREQUENCY (PEAK/OFF-PEAK)	ONE-WAY TRIPS (OUTBOUND/INBOUND)
Weekday	5:10 AM – 12:28 AM	20/30	34/36
Saturday	6:25 AM – 7:08 PM	40	18/18
Sunday	10:30 AM – 4:55 PM	70	6/6

Note: Peak periods are defined as 6:30 AM to 9:00 AM and 4:00 PM to 6:30 PM.

Source: CTtransit route schedules

SERVICE PERFORMANCE

Route 95 carries 1,629 passengers, or 23.3 passengers per trip, on an average weekday, roughly 32% higher than the Hartford Division average of 17.7 weekday passengers per trip (Figure 551). While Saturday ridership exceeds the Division average by 41%, Sunday ridership per trip is 44% below the Division average.

FIGURE 551 | RIDERSHIP STATISTICS

SERVICE DAY	AVERAGE RIDERSHIP PER DAY	AVERAGE RIDERSHIP PER TRIP	
	ROUTE 95	ROUTE 95	DIVISION AVG
Weekday	1,629	23.3	17.7
Saturday	774	21.5	16.3
Sunday	127	10.6	17.6

Source: CTtransit performance data

Ridership by Trip

Ridership on Route 95 is strong throughout the day in both directions, with most trips carrying between 20 and 30 riders. Demand is consistent throughout the day, although ridership increases slightly in the mid-afternoon. Inbound ridership declines noticeably after 5:00 PM, while outbound ridership is low before 6:00 AM.

Outbound trips on Route 95 consistently reach 18 or more total boardings for most of the day, with the exception of early morning Route 95A trips (see Figure 552). Inbound trips consistently reach 18 or more boardings all day; some early morning trips also have high ridership (see Figure 553). There is not much variation in ridership on the Route 95C, 95H, and 95P alignments, but ridership on Route 95A is typically very low. Maximum loads on Route 95 do not exceed 25 passengers.

Weekend ridership activity is shown in Appendix B.









FIGURE 552 | WEEKDAY OUTBOUND RIDERSHIP BY TRIP

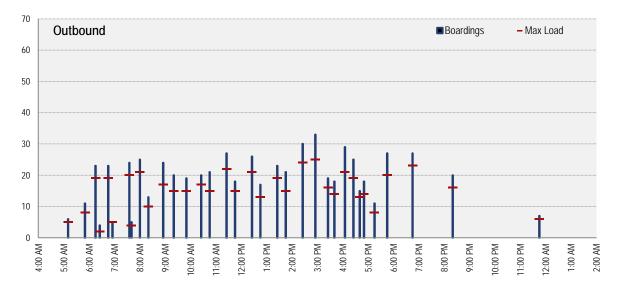
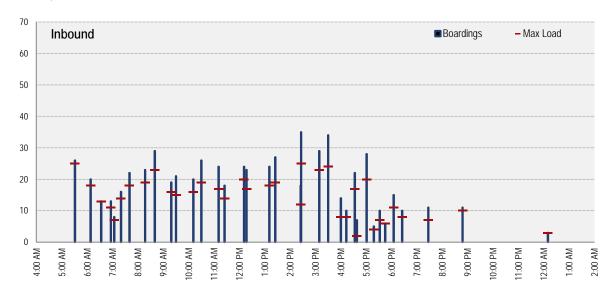


FIGURE 553 | WEEKDAY INBOUND RIDERSHIP BY TRIP



Ridership by Stop

Outside of downtown Hartford, four stops on Route 95 have daily activity of 50 or more boardings and alightings, and all of these stops are located on the main trunk line of the route. These stops are shown in Figure 554 and include Connecticut Boulevard and Main Street, Main Street and Brewer Street, Main Street and Central Avenue, and Main Street and Brown Street.

Seven additional stops have daily passenger activity of between 20 and 50 boardings and alightings, and again five of these stops are on the main trunk line of the route. These include stops near the Pratt & Whitney Headquarters, the Coca-Cola Bottling plant, and Silver Lane, among others. The two stops not on the main trunk line with ridership at 20 or more include stops near Glastonbury Center at Hebron Avenue (Routes 95C and 95H) and Putman Bridge Plaza (Route 95P).









FIGURE 554 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP

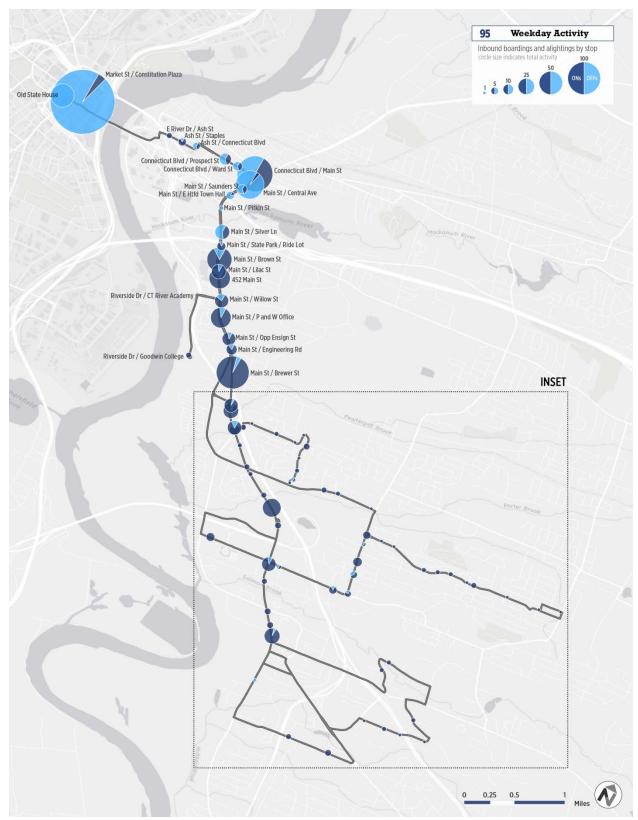


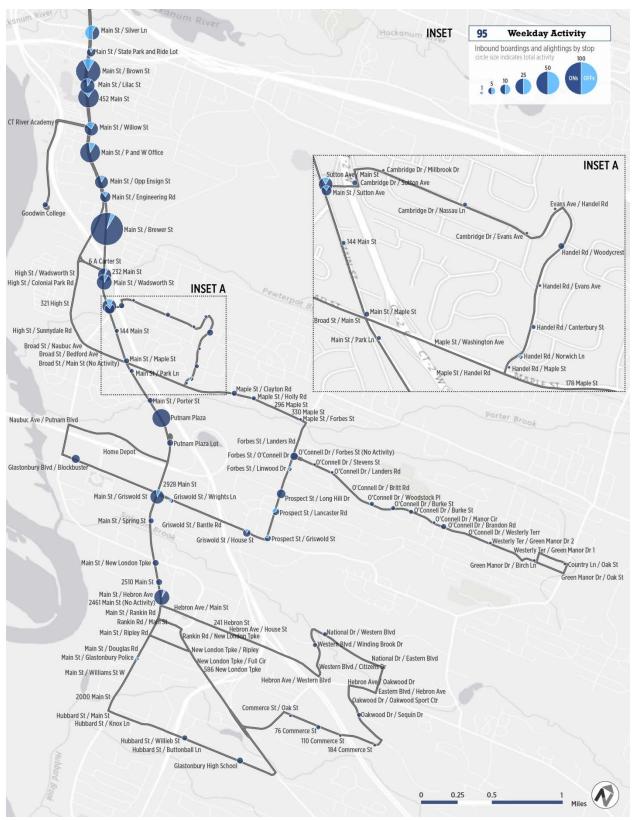








FIGURE 555 | WEEKDAY INBOUND RIDERSHIP BY STOP MAP (INSET)













Productivity and On-Time Performance

Route 95 performs well on all measures of productivity, with a lower than average operating cost per passenger on all service days, higher than average ridership per revenue hour and slightly higher than average ridership per revenue mile (see Figure 556). The route is one of CT*transit* Hartford's top ten performing routes. Saturday productivity is particularly strong with 39% lower than average operating cost per passenger, 28% higher passengers per revenue hour, and 22% higher passengers per revenue mile.

FIGURE 556 | PERFORMANCE MEASURES

PERFORMANCE MEASURE	WEEKDAY		SATURDAY		SUNDAY	
	ROUTE 95	DIVISION AVG	ROUTE 95	DIVISION AVG	ROUTE 95	DIVISION AVG
Operating Cost per Passenger	\$3.66	\$4.84	\$3.83	\$6.30	\$4.03	\$6.66
Passengers per Revenue Vehicle Hour	35	28.9	33.4	27.0	31.8	29.7
Passengers per Revenue Vehicle Mile	2.8	2.6	2.8	2.4	3.0	2.9

Source: CTtransit performance data

Route 95 has an 89.4% on-time arrival rate, with a lower percentage of late buses than the Hartford Division average (see Figure 557). With most ridership along the main trunk line and adequate layover time in the schedule, this result is not surprising.

FIGURE 557 | ON-TIME PERFORMANCE

PERFORMANCE	ROUTE 95	DIVISION AVG
Early	0.2%	0.2%
Late	10.4%	18.9%
On-Time	89.4%	80.9%

Source: CTtransit performance data











SUMMARY OF ISSUES AND OPPORTUNITIES

Route 95 is a radial route connecting downtown Hartford with East Hartford and Glastonbury. The route has moderate to high ridership and performs well throughout the week.

Despite good ridership and relatively strong performance, Route 95 is extremely complex and likely could be a stronger performer with some streamlining. The route has four published variants (C, H, P, and A), plus additional service variations based on time of day (e.g., service to the Glastonbury Industrial area). Although the variants are designed to reflect the needs of individual employment and activity centers along the corridor, the number of variations complicates the route. In addition (or potentially because of the service complexity), the printed schedule is difficult to read and understand, especially for inbound trips. Some redundancy with Route 87 Brewer Street also exists, but Route 95 offers better frequency and travel times on the trunk alignment. With many of the variants adding significant time, the route likely competes mostly with car trips.

SERVICE RECOMMENDATIONS

To address the issues and opportunities presented above, the study team recommends the following changes to Routes 95:

Route 95

Service Design

The proposed Route 95 would operate as a crosstown route between Glastonbury High School and Buckland Hills Mall in Manchester via East Hartford (see Figure 558). The route would operate primarily along Main Street in Glastonbury and East Hartford, and Tolland Turnpike in Manchester. The route would give passengers a one-seat ride between Glastonbury and Manchester. The route would also serve to replace Routes 82 and 84 service along Tolland Street in East Hartford.

The proposed Route 95 would not directly serve downtown Hartford but would provide connection opportunities to several routes serving downtown Hartford including Routes 88 and 90, which together would provide downtown service every ten minutes during peak periods.

While the existing Routes 82 and 84 operate along Tolland Street and Burnside Avenue toward East Hartford Center, the proposed Route 95 would instead operate along Tolland Street and Park Avenue. Shifting service to Park Street would reduce redundancy along a portion of Burnside Avenue that would already be served every ten minutes during peak periods by the proposed Routes 88 and 90. Additionally, it would provide direct connections from the high-density residential areas along Park Street to retail and employment destinations in Manchester and Glastonbury.

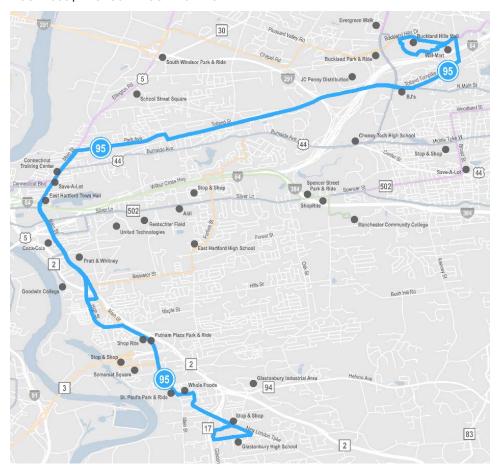








FIGURE 558 | PROPOSED ROUTE 95 ALIGNMENT



The proposed Route 95 substantially simplifies service by eliminating unproductive variants serving O'Connell Drive and the Glastonbury Industrial Area. The proposed alignment concentrates service where transit ridership and transit potential are highest (see Figure 559 and Figure 560). Areas of Route 95 that would lose service altogether are primarily industrial areas or low-density residential neighborhoods that currently generate very little ridership on Route 95. Some residents of these neighborhoods who use transit may be driving to the Putnam Bridge Park-and-Ride where they have far better service frequency than the Route 95 offers on its branches. Low-density residential neighborhoods are inherently difficult to service with traditional fixed-route transit service, and many transit agencies have begun exploring other service options including subsidized Uber, Lyft, and taxi service. This approach can be explored in parts of East Hartford and Glastonbury that lack the density or land-use to support fixed-route service. For more information about this type of service and how it has been employed within other transit systems, see Chapter 3.3 Subsidized Transportation Network Company (TNC) Service.

In East Hartford, the proposed route would also serve Park Avenue in place of Route 94, which is proposed for elimination.









FIGURE 559 | TRANSIT POTENTIAL ALONG PROPOSED ROUTE 95 ALIGNMENT

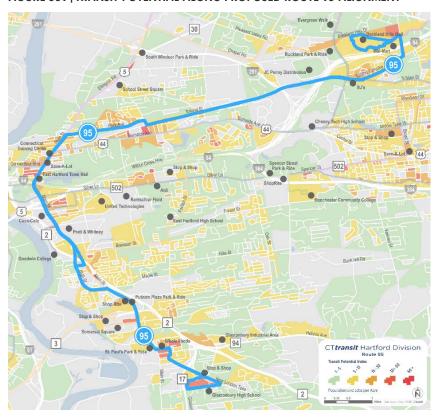


FIGURE 560 | EXISTING TRANSIT RIDERSHIP ALONG PROPOSED ROUTE 95 ALIGNMENT













Service Characteristics

The proposed Route 95 would operate every 30 minutes from the morning peak until the early evening, and then hourly at all other times (see Figure 561).

FIGURE 561 | PROPOSED ROUTE 95 SERVICE CHARACTERISTICS AND KEY DESTINATIONS

SERVICE PERIOD	PROPOSED SPAN OF SERVICE	PROPOSED SERVICE FREQUENCY (MIN)
Weekdays	5:00 am - 11:00 pm	
Early	5:00 am - 6:00 am	60
AM Peak	6:00 am - 9:00 am	30
Midday	9:00 am - 3:00 pm	30
PM Peak	3:00 pm - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Night	9:00 pm – 11:00 pm	60
Owl	_	-
Saturday	6:00 am - 9:00 pm	
Daytime	6:00 am - 6:00 pm	30
Evening	6:00 pm – 9:00 pm	60
Sunday	7:00 am – 8:00 pm	60

KEY DESTINATIONS
Buckland Hills Mall
JC Penney Distribution
 Connecticut Training Center
 East Hartford Town Hall
 Coca-Cola Bottling Plan
Pratt & Whitney
Putnam Plaza
Whole Foods
St. Paul's Park-and-Ride
 Glastonbury High School







