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Public Information Meeting

Farmington Area Connectivity Study

Farmington, CT

Capitol Region Council of Governments

November 29, 2023





Presentation Outline

Project Background / History

Russell Arnold, Jr., PE
Public Works Director/Town
Engineer
Town of Farmington

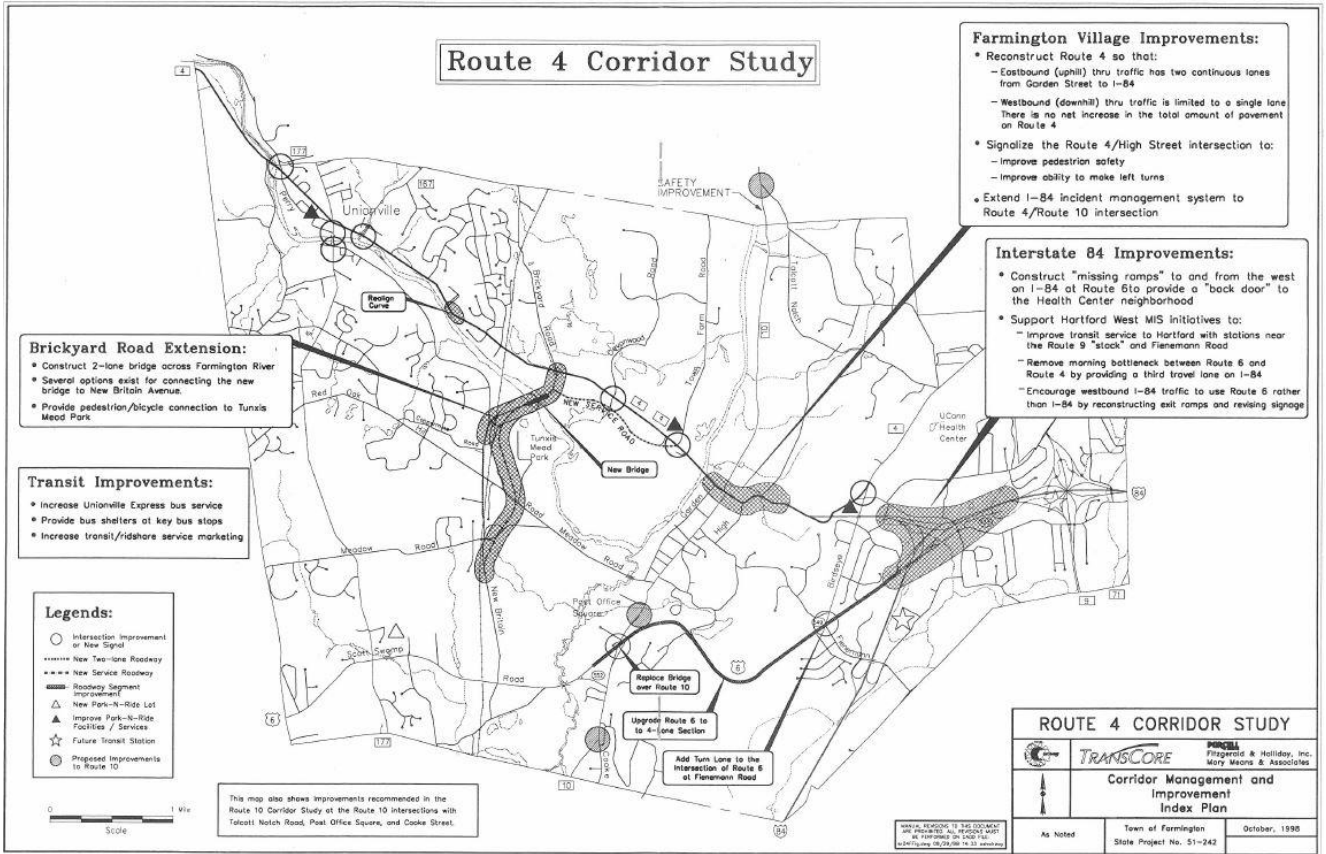
Planning Study Introduction

Roger Krahn, PE, RSP1
Principal Transportation
Engineer
Capitol Region Council of
Governments

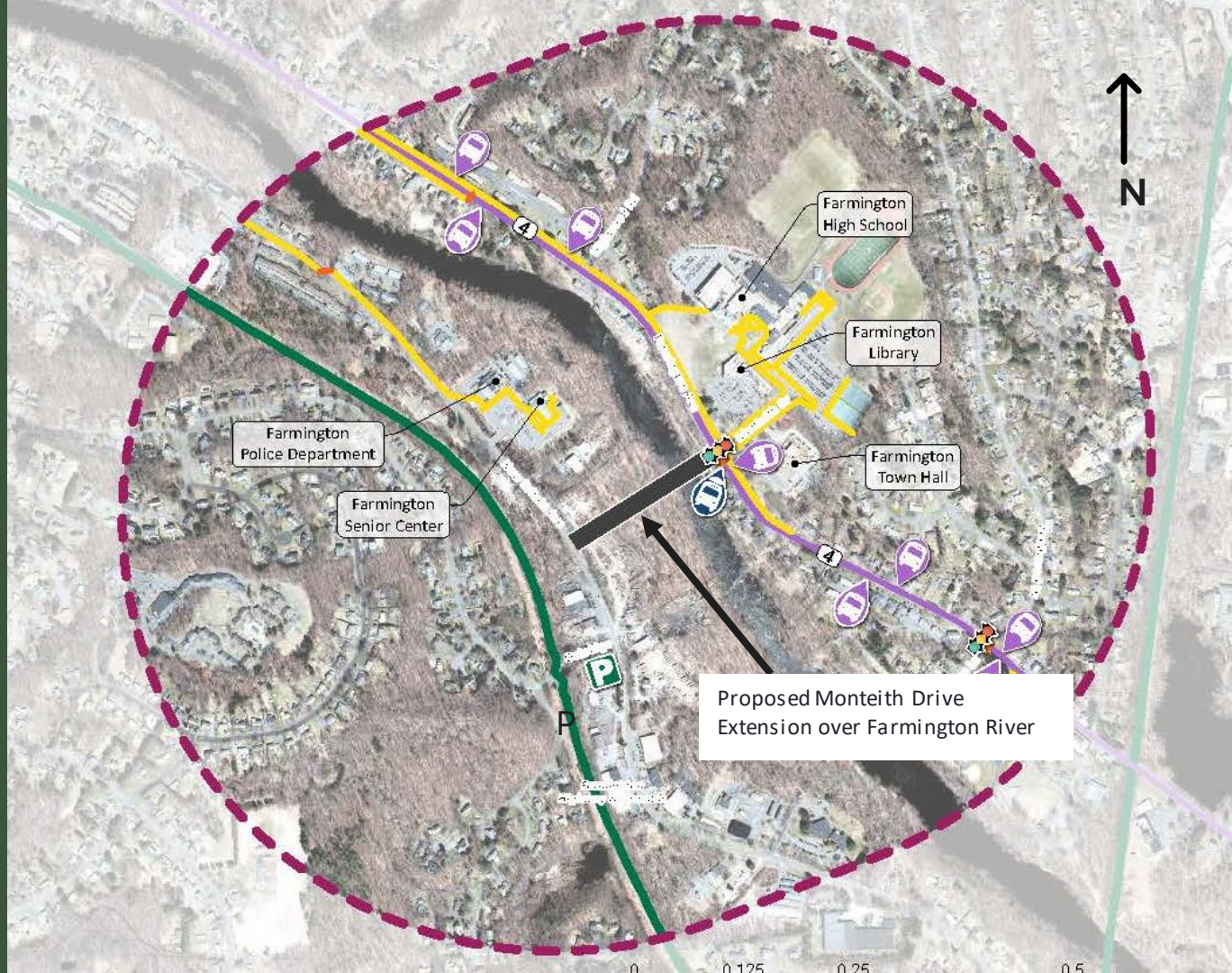
Planning Study & Progress

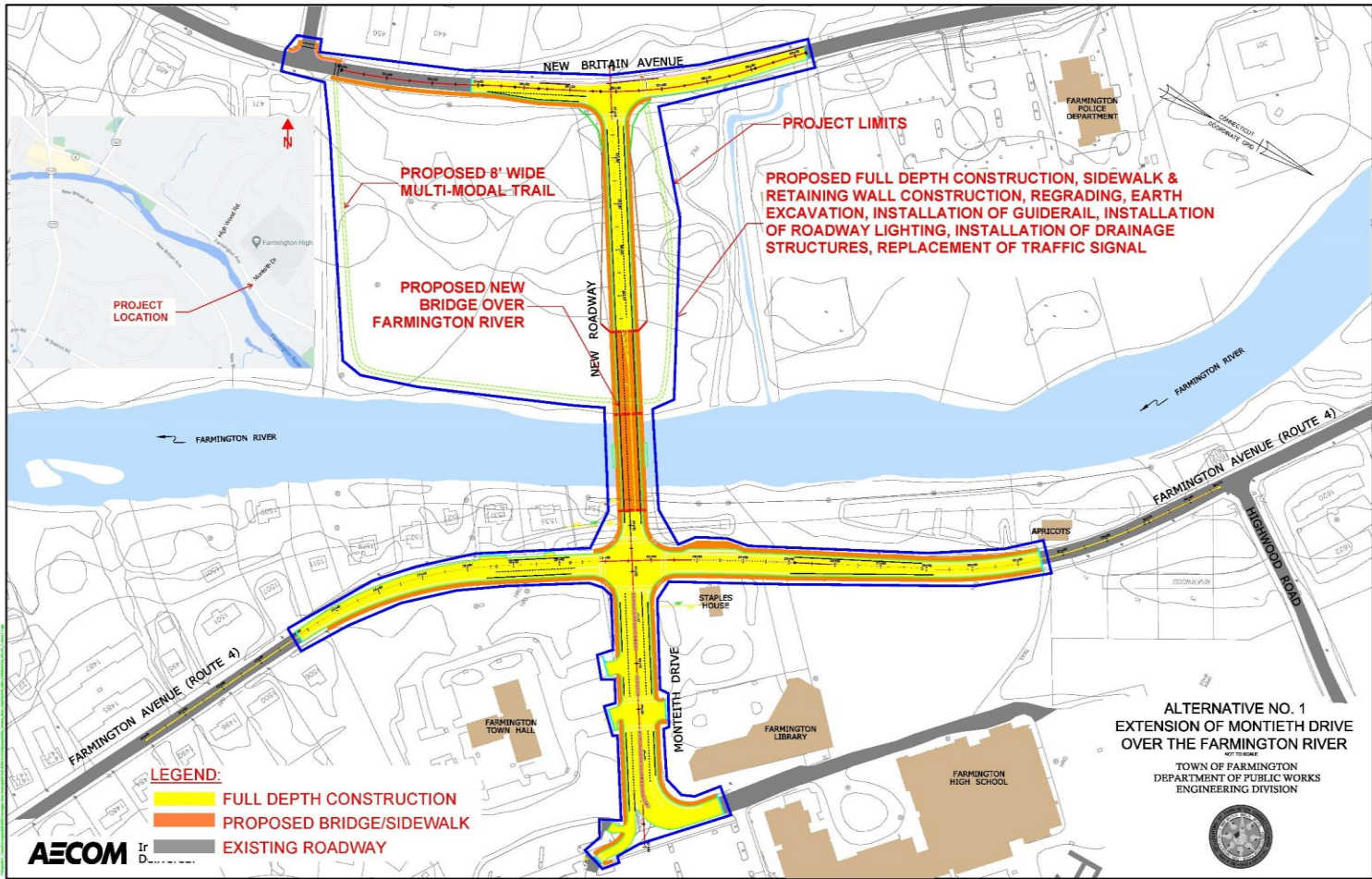
Kwesi Brown, PE, PTOE
Manager of Transportation
Engineering
SLR Consulting

Study Background/History- 1998 Plan



Bridge Location





2018 Concept Plan by AECOM

Monteith Bridge Rendering

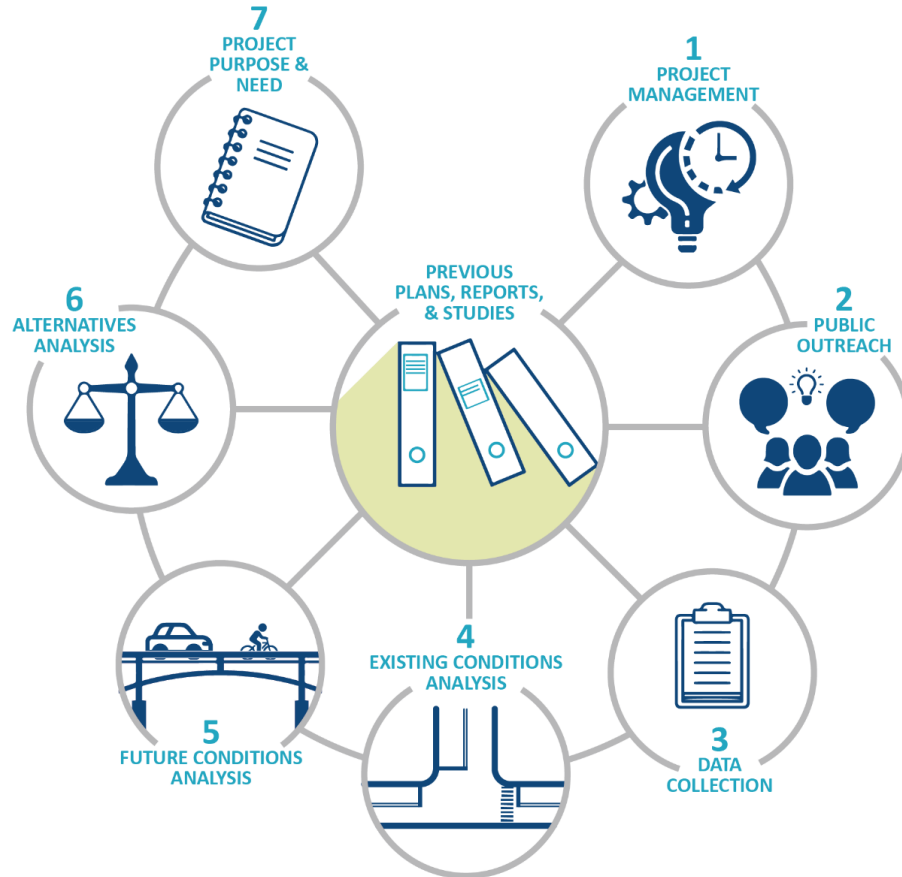
2018 Concept Plans
by AECOM





Monteith Bridge Rendering- 2018 Concept Plans by AECOM

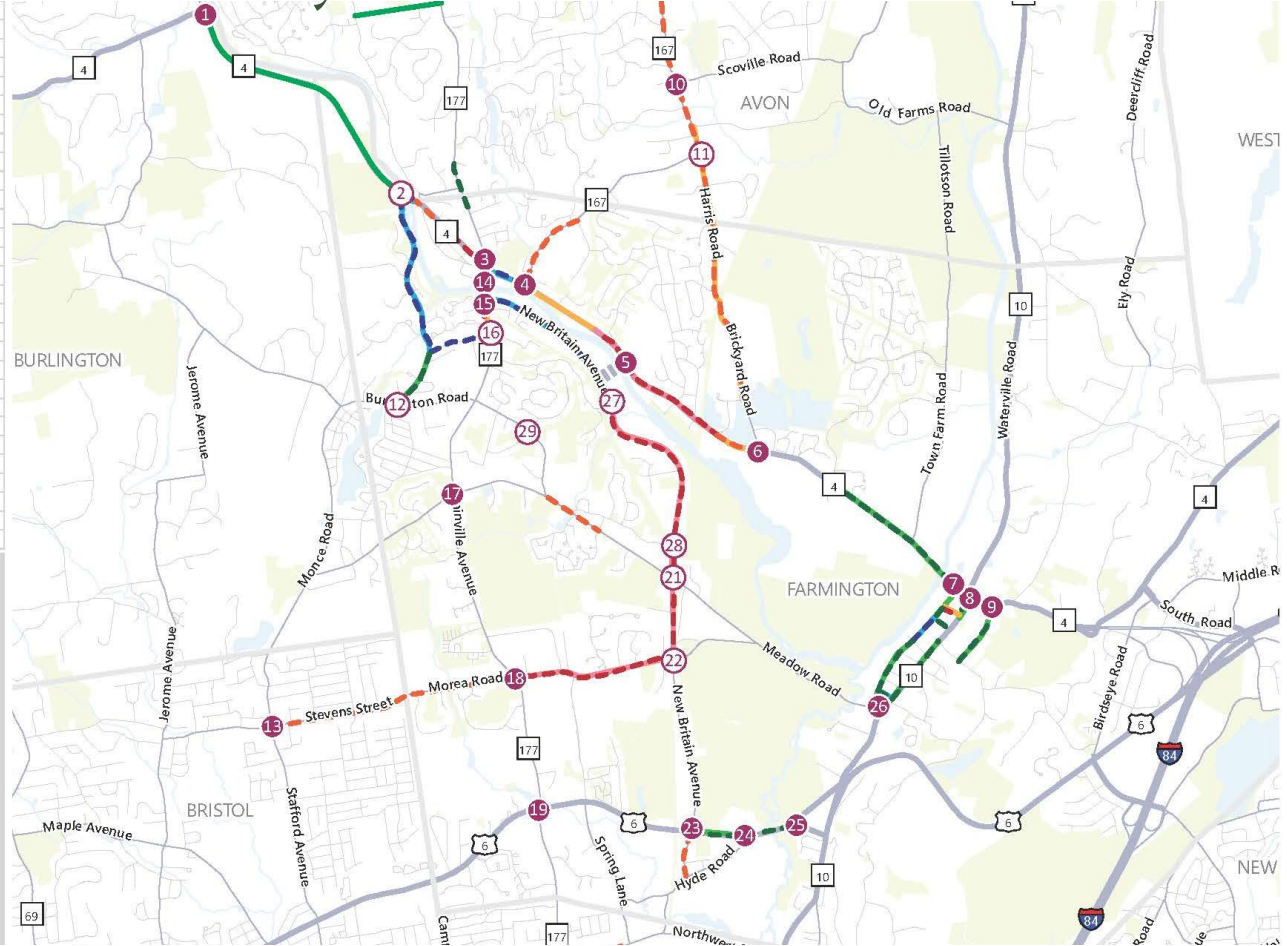
Study Approach





Study Area

1	Canton Road (Route 4)/Canton Road (Route 179) @ Spellman Highway (Route 4)
2	Collinsville Road (Route 4) @ River Road
3	Main Street (Route 4) @ Lovely Street (Route 177) @ School Street
4	Farmington Avenue (Route 4) @ West Avon Road (Route 167)
5	Farmington Avenue (Route 4) @ Monteth Drive
6	Farmington Avenue (Route 4) @ Brickyard Road/Bridgewater Road
7	Farmington Avenue (Route 4) @ Garden Street
8	Farmington Avenue (Route 4) @ Waterville Road/Main Street (Route 10)
9	Farmington Avenue (Route 4) @ High Street/Backage Road
10	West Avon Road (Route 167) @ Scoville Road
11	West Avon Road (Route 167) @ Harris Road
12	River Road at Burlington Road
13	Stafford Avenue @ Stevens Street
14	South Main Street (Route 177) @ Mill Street
15	South Main Street (Route 177) @ Railroad Avenue/New Britain Avenue
16	Plainville Avenue (Route 177) @ Webster Street
17	Plainville Avenue (Route 177) @ Coppermine Road
18	Plainville Avenue (Route 177) @ Morea Road/Meadow Road
19	Plainville Avenue (Route 177) @ Scott Swamp Road (Route 6)
20	Plainville Avenue (Route 177) at Northwest Drive
21	Red Oak Hill Road @ New Britain Avenue
22	Meadow Road @ New Britain Avenue
23	Scott Swamp Road (Route 6) @ New Britain Avenue
24	Scott Swamp Road (Route 6) @ Hyde Road
25	Colt Highway (Route 6) @ Scott Swamp Road (Route 552)
26	Main Street (Route 10) @ Meadow Road
27	New Britain Avenue @ Oakridge
28	New Britain Avenue @ Coppermine Road
29	West District Road @ Whispering Rod Road/Chaffee Lane



LEGEND

Proposed Study Intersections

Signalized Intersection

Unsignalized Intersection

Peak Period (3 Hr) Difference (with Bridge)

AM: -1,500 to -200 vehicles

AM: -199 to -100 vehicles

AM: 100 to 199 vehicles

AM: 200 to 1,500 vehicles

PM: -1,500 to -200 vehicles

PM: -199 to -100 vehicles

PM: 100 to 199 vehicles

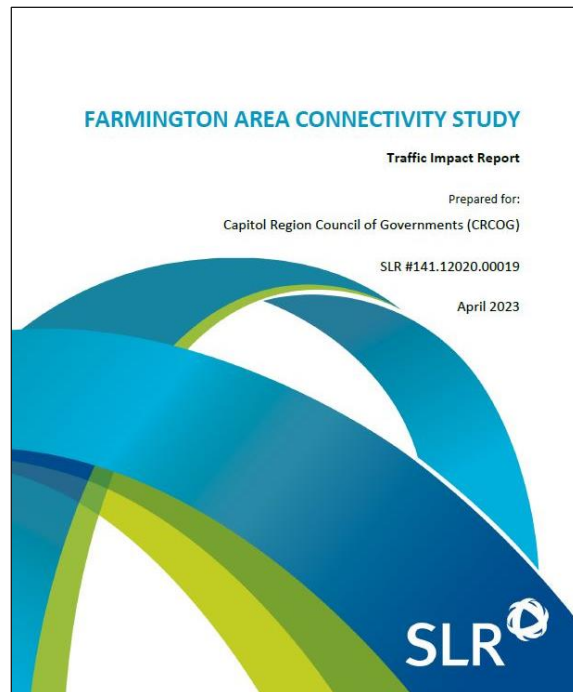
AM Peak Period:
6:00 - 9:00 AM





Study to Date

- Stakeholder Engagement
- Traffic & Safety Data Collection
- Existing Conditions Analysis
- Future (2050) Traffic Conditions
 - No Build, Build, Existing Route 177 Bridge out of Service with New Bridge and without New Bridge
- Travel Time Runs (Oakridge Neighborhood)
- Traffic Impact Report (April 2023)





Stakeholder & Public Engagement

- Town of Farmington (Dec. 15, 2021)
 - Engineering, Board of Education & Emergency Services
- Adjacent Towns Planning and Engineering Staff (Nov. 18, 2021)
- Farmington Environmental – Various Agencies (Dec. 16, 2021)
 - Lower Farmington River and Salmon Brook Wild & Scenic Committee
 - National Park Service
 - Farmington River Watershed Association
- CT Transit (Feb. 16, 2022)
- CTDOT Interagency Environmental – Feb. 25, 2022
- Public Informational Meeting- Nov. 29, 2023

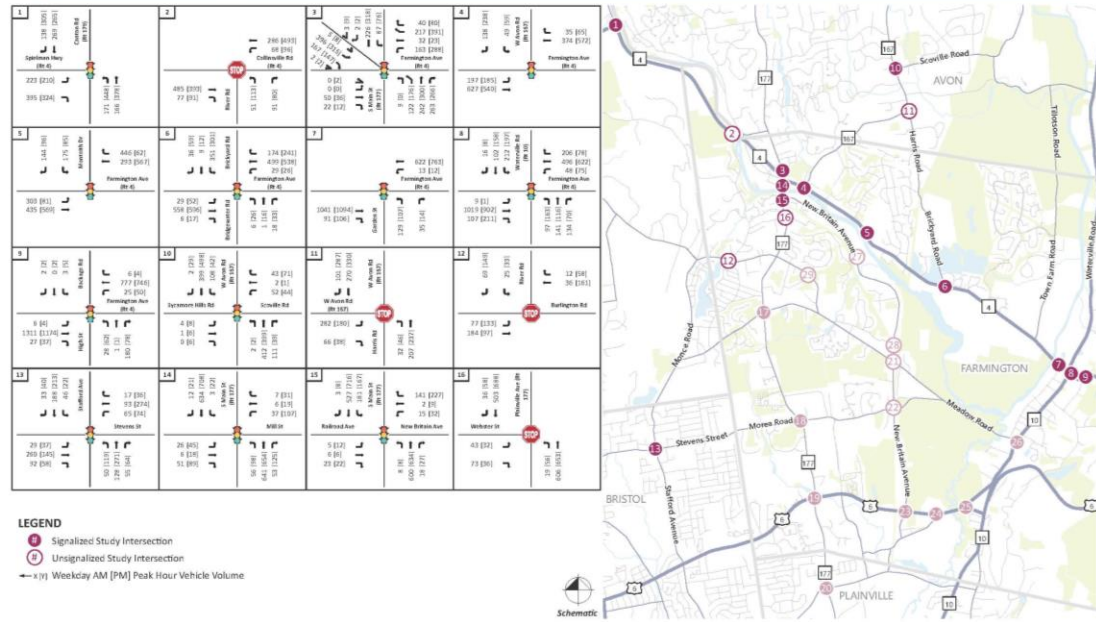


Traffic Data Collection

- Traffic Counts
 - 9/2021, 10/2021 and 1/2023
- Farmington Ave:
 - ADT: 16,500 Vehicles
 - Avg Speed: 43.4 mph
 - 85th Percentile Speed: 47.9 mph
- New Britain Ave
 - ADT ; 4,061 Vehicles
 - Avg Speed: 40.7 mph
 - 85th Percentile Speed: 46.4 mph

Figure 3a - Existing (2021) Conditions Peak-Hour Traffic Volumes (Intersections 1-16)

SLR





Crash Analysis

- 2020 Capitol Regional Transportation Safety Plan
- CT Crash Data Repository
 - Crash Data within ½ mile radius of Proposed Bridge
- Farmington Avenue Intersections
 - 33 Total Crashes
 - 66% Property Damage
 - No Fatalities

Table 1 Farmington Avenue (Route 4) Crash Summary (2018-2021)

LOCATION	CRASH SEVERITY			TYPE OF COLLISION								
	PROPERTY DAMAGE ONLY	INJURY	TOTAL	REAR END	ANGLE	HIT ROADSIDE FIXED OBJECT	SIDESWIPE (SAME DIRECTION)	SIDESWIPE (OPPOSITE DIRECTION)	HEAD ON	HIT OBJECT IN ROADWAY	HIT PEDESTRIAN	TOTAL
INTERSECTIONS												
Route 4 at Walnut Street	0	1	1	1	0	0	0	0	0	0	0	1
Route 4 at Highwood Road	5	1	6	6	0	0	0	0	0	0	0	6
Route 4 at Monteith Drive	5	2	7	6	0	0	1	0	0	0	0	7
Route 4 at Knollwood Road	9	3	12	10	1	0	1	0	0	0	0	12
Route 4 at Wyndwood Road	3	4	7	3	1	1	1	0	1	0	0	7
<i>Intersection Total</i>	22	11	33	26	2	1	3	0	1	0	0	33
ROAD SEGMENTS												
Walnut Street – Highwood Road	9	6	15	13	0	1	0	0	1	0	0	15
Highwood Road – Monteith Drive	9	2	11	6	1	1	0	0	1	2	0	11
Monteith Drive – Knollwood Road	9	4	13	5	2	2	1	2	0	0	1	13
Knollwood Road – Wyndwood Road	7	1	8	6	0	1	0	0	0	1	0	8
Wyndwood Road – Trail Crossing	3	2	5	2	3	0	0	0	0	0	0	5
<i>Segment Total</i>	37	15	52	32	6	5	1	2	2	3	1	52

Source: Connecticut Crash Data Repository from January 1, 2018, to December 6, 2021.



Crash Analysis

- New Britain Avenue Intersections
 - 2 Total Crashes
 - All Property Damage
 - 1 Fatality between Oakridge and Roma Drive (Road departure crash)

Table 2 New Britain Avenue Crash Summary (2018-2021)

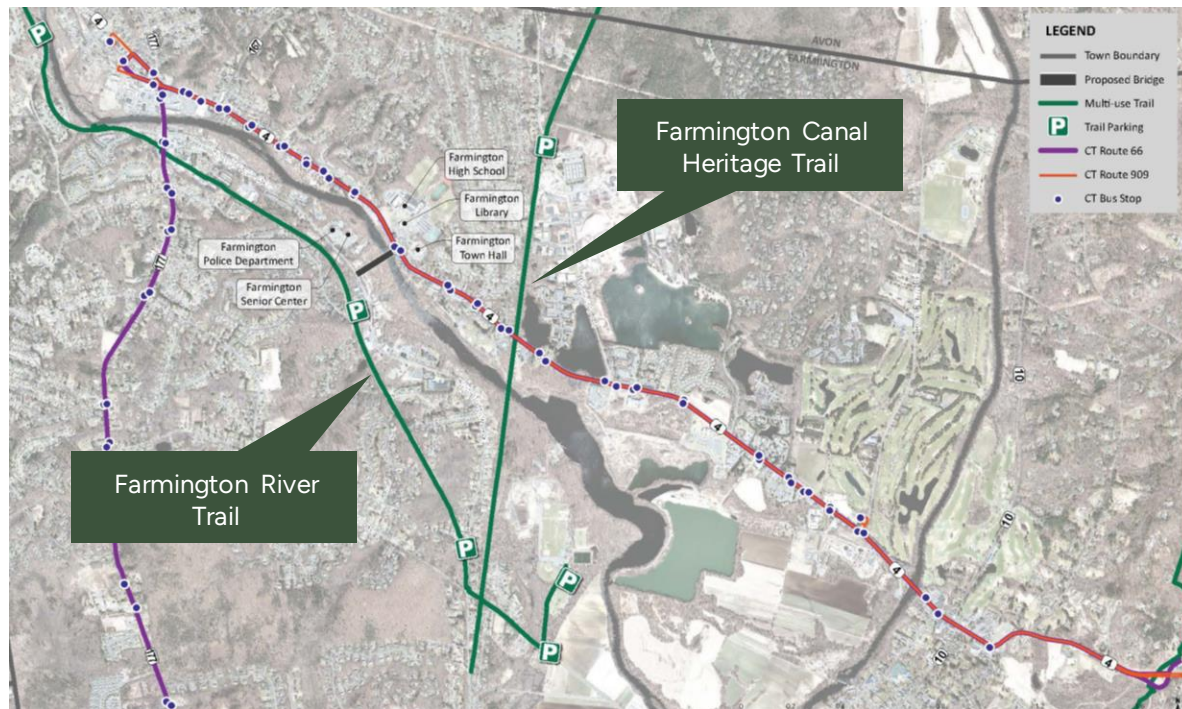
LOCATION	CRASH SEVERITY				TYPE OF COLLISION					
	PROPERTY DAMAGE ONLY	INJURY	FATAL	TOTAL	HIT ROADSIDE FIXED OBJECT	ANGLE	HIT ANIMAL	REAR END	SIDESWIPE (SAME DIRECTION)	TOTAL
INTERSECTIONS										
New Britain Avenue at Haberern Avenue	1	0	0	1	0	0	0	1	0	1
New Britain Avenue at Oakridge	1	0	0	1	0	1	0	0	0	1
<i>Intersection Total</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>0</i>	<i>2</i>
ROAD SEGMENTS										
Haberern Avenue – Monteith Drive Extension (New Bridge)	3	0	0	3	2	1	0	0	0	3
Monteith Drive Extension – Oakridge	0	1	0	1	1	0	0	0	0	1
Oakridge – Roma Drive	4	2	1	7	5	0	1	0	1	7
<i>Segment Total</i>	<i>7</i>	<i>3</i>	<i>1</i>	<i>11</i>	<i>8</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>11</i>

Source: Connecticut Crash Data Repository from January 1, 2018, to December 6, 2021



Multi-modal facilities

- CT Transit
 - Routes 66 (local),
Route 909 (express)
- Multi-Use Trails
 - Farmington River Trail
 - Farmington Canal Heritage Trail





Future Conditions Traffic Analysis

- Scenario 1: Future 2050 No Build – With only the existing Route 177 Bridge in place
- Scenario 2: Future 2050 Build – With both the existing and proposed Monteith Drive bridge in place
- Other Scenarios
 - Scenario 3: Future 2050 No Build with the existing Route 177 Bridge out of service and without the proposed bridge
 - Scenario 4: Future 2050 Build with the existing Route 177 Bridge out of service but with the proposed Monteith Bridge in place
- CRCOG's Travel Demand Model generated future volumes



Traffic Level of Service

LEVEL-OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS MOTORIZED VEHICLE MODE		
LOS By Volume-to-Capacity Ratio ¹		CONTROL DELAY (s/veh)
v/c ≤ 1.0	v/c > 1.0	
A	F	≤ 10
B	F	> 10 AND ≤ 20
C	F	> 20 AND ≤ 35
D	F	> 35 AND ≤ 55
E	F	> 55 AND ≤ 80
F	F	> 80

LEVEL-OF SERVICE CRITERIA FOR TWSC INTERSECTIONS	
LOS ¹	CONTROL DELAY (s/veh)
A	≤ 10
B	> 10 AND ≤ 15
C	> 15 AND ≤ 25
D	> 25 AND ≤ 35
E	> 35 AND ≤ 50
F	> 50



Traffic Level of Service

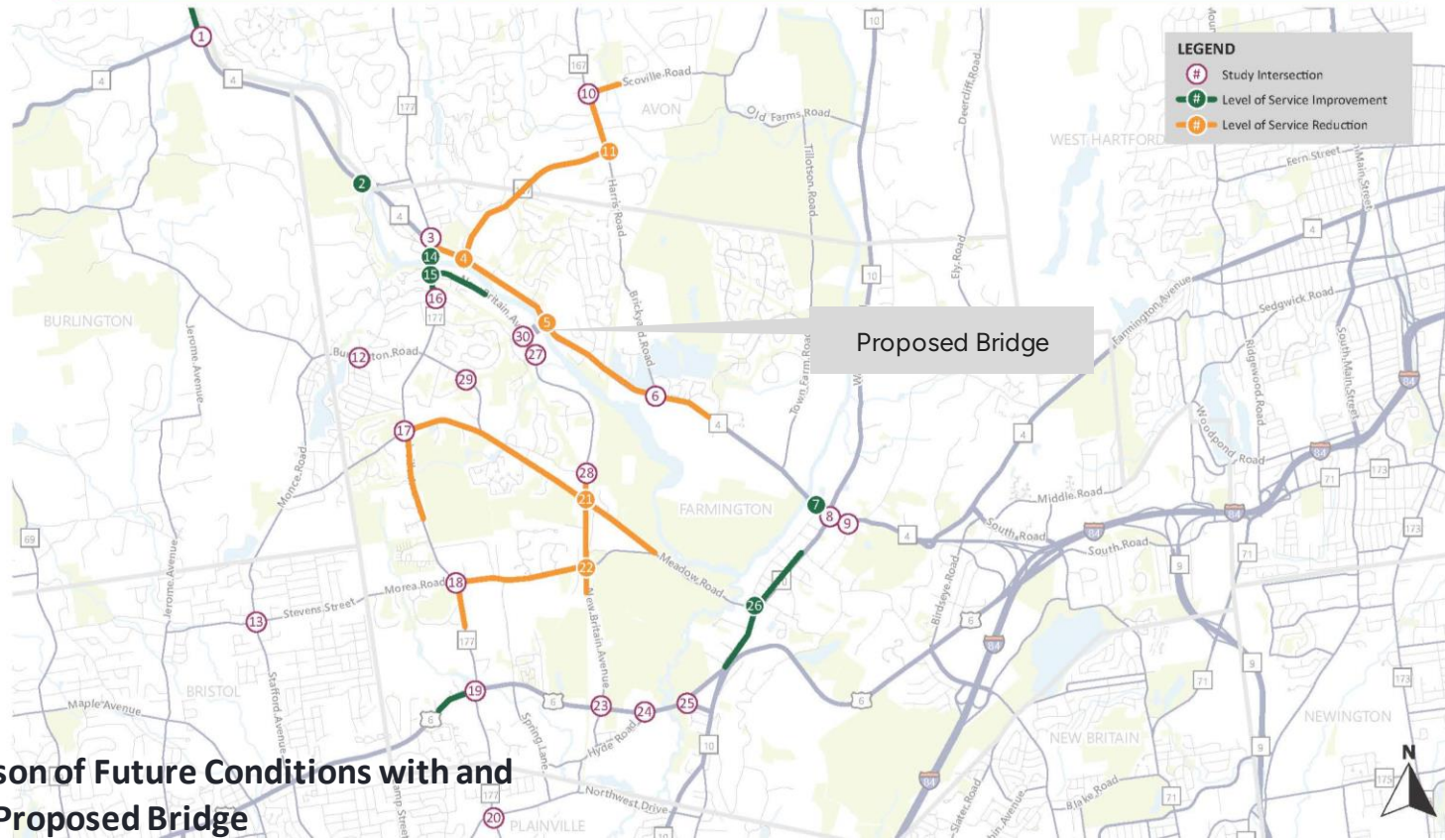
Comparison of Future 2050 Conditions with and without Proposed Bridge

INTERSECTION/LANE GROUP	2050 SCENARIOS 1 & 2 (NO-BUILD AND BUILD CONDITIONS) LEVEL OF SERVICE			
	A.M. PEAK HOUR		P.M. PEAK HOUR	
	SCENARIO 1 (NO-BUILD)	SCENARIO 2 (BUILD)	SCENARIO 1 (NO-BUILD)	SCENARIO 2 (BUILD)
Northbound Right	B	B	B	B
Southbound Left/Through/Right	E	E	E	E
<i>Overall</i>	<i>B</i>	<i>B</i>	<i>B</i>	<i>B</i>
10: W Avon Rd (RT 167) & Sycamore Hills Rd/Scoville Rd				
Eastbound Left/Through/Right	C	C	C	C
Westbound Left/Through/Right	C	D	C	C
Northbound Left/Through/Right	C	C	C	C
Southbound Left/Through/Right	D	D	B	B
<i>Overall</i>	<i>D</i>	<i>D</i>	<i>C</i>	<i>C</i>
13: Stafford Ave & Stevens St				
Eastbound Left/Through/Right	C	C	C	C
Westbound Left/Through/Right	C	C	C	C
Northbound Left/Through/Right	E	E	F	F
Southbound Left/Through/Right	D	D	C	C
<i>Overall</i>	<i>D</i>	<i>D</i>	<i>F</i>	<i>F</i>
14: S Main St (RT 177) & Mill St				
Eastbound Left/Through	D	D	D	C
Eastbound Right	C	C	C	B
Westbound Left/Through	E	D	D	D
Westbound Right	D	D	C	C
Northbound Left	B	A	A	A
Northbound Through/Right	B	A	A	A
Southbound Left	B	B	B	A
Southbound Through/Right	C	B	C	B
<i>Overall</i>	<i>C</i>	<i>B</i>	<i>B</i>	<i>B</i>
15: S Main St (RT 177) & Railroad Ave/New Britain Ave				
Eastbound Left/Through/Right	D	D	D	C
Westbound Left/Through	D	C	D	D
Westbound Right	C	B	C	B
Northbound Left	B	B	B	B
Northbound Through/Right	C	B	C	B
Southbound Left	C	A	C	A
Southbound Through/Right	A	A	A	A
<i>Overall</i>	<i>B</i>	<i>B</i>	<i>C</i>	<i>B</i>
17: Plainville Ave (RT 177) & Coopermine Rd				



Traffic Level of Service

Figure 13 - Future (2050) Conditions Operational Changes with the Proposed Monteith Drive Bridge (Comparison of Scenarios 1 & 2)



Comparison of Future Conditions with and without Proposed Bridge



Analysis of Potential Neighborhood Impacts/Cut Through Traffic

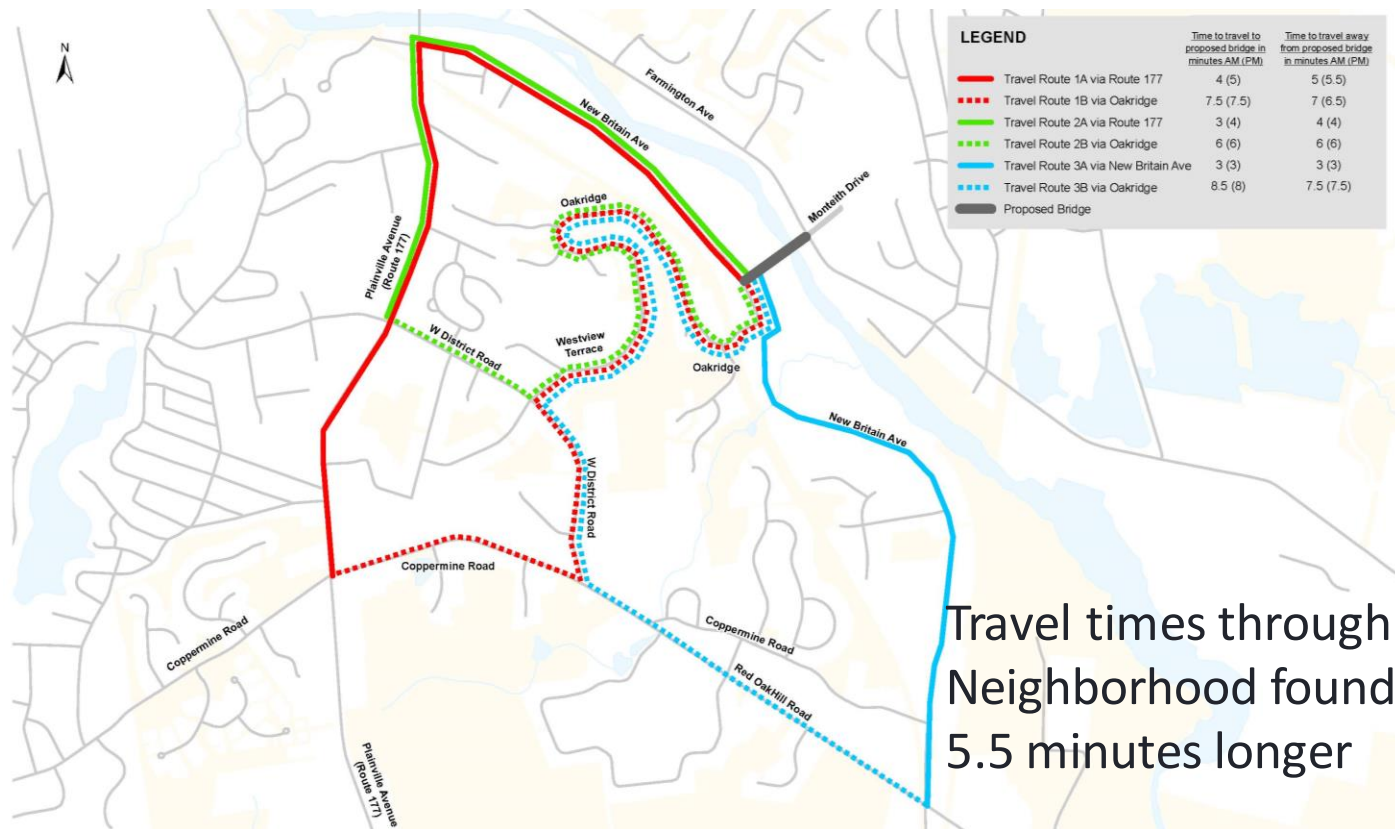
- Trips to and from Proposed Bridge
 - Route 177 at Coppermine Road
 - Route 177 at West District Road
 - Red Oak Hill Road at New Britain Avenue
- Time of Runs
 - Peak (7-8 am) and Off Peak (2-3 pm)

Table 5: Traffic Routing Analysis

Start/End Intersection	Via	7:00 - 8:00 A.M.		2:00 - 3:00 P.M.	
		Time to travel to proposed bridge (minutes)	Time to travel away from proposed bridge (minutes)	Time to travel to proposed bridge (minutes)	Time to travel away from proposed bridge (minutes)
Plainville Avenue (Route 177) at Coppermine Road	Plainville Avenue and New Britain Avenue	4	5	5	5.5
	Coppermine Road and Oakridge	7.5	6	7.5	6.5
Plainville Avenue (Route 177) at West District Road	Plainville Avenue and New Britain Avenue	3	4	4	4
	West District Road and Oakridge	6	6	6	6
Red Oak Hill Road at New Britain Avenue	New Britain Avenue	3	3	3	3
	Red Oak Hill Road and Oakridge	8.5	7.5	8	7.5



Analysis of Potential Neighborhood Impacts/Cut Through Traffic



Travel times through Oakridge Neighborhood found to be 1 to 5.5 minutes longer

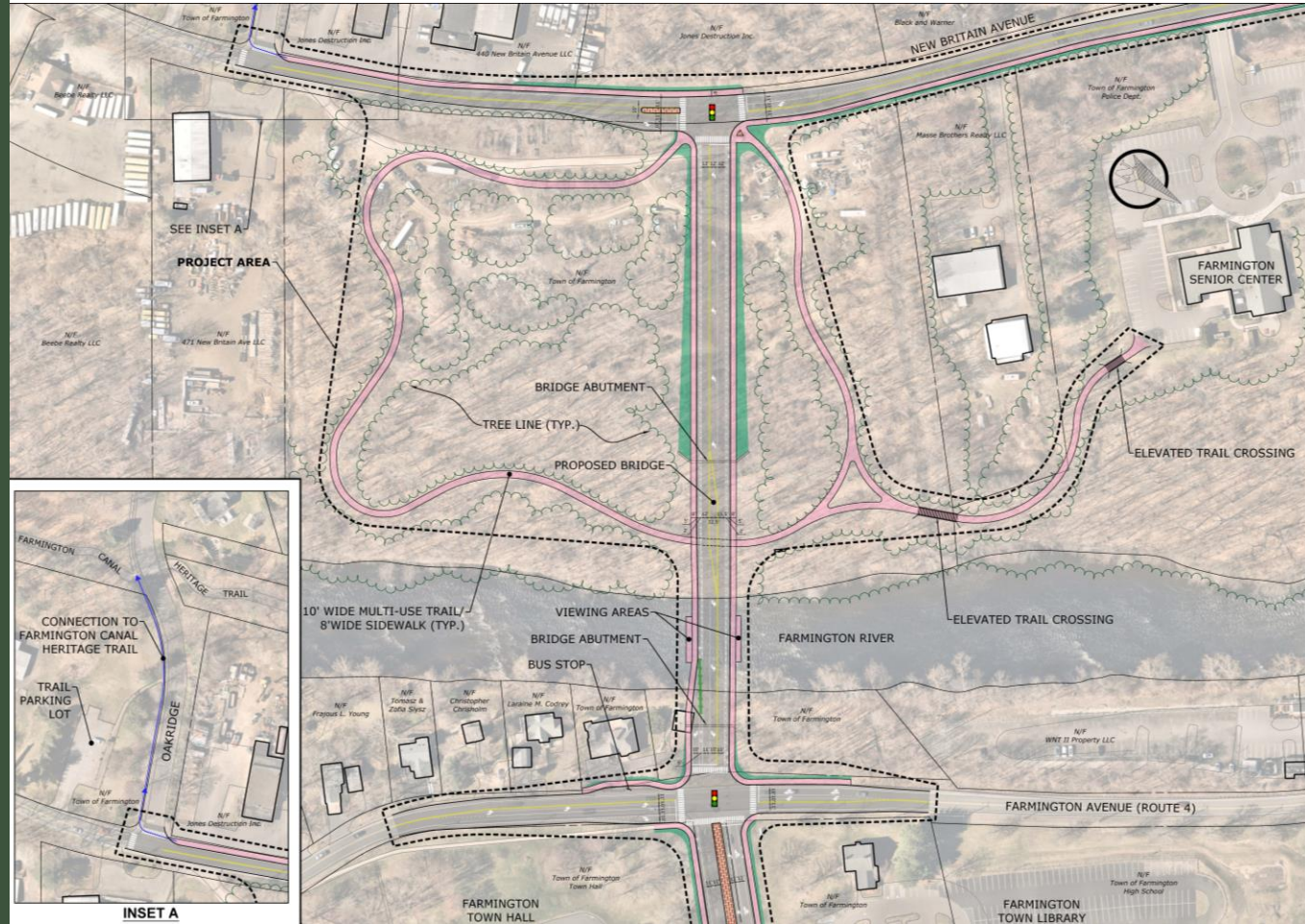


Preliminary Improvement Alternatives

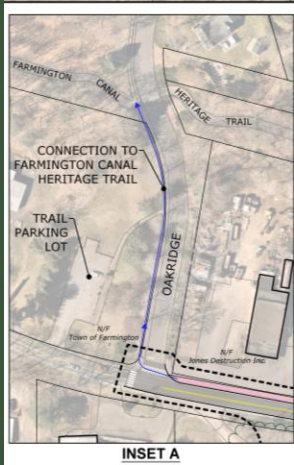
- Preliminary Alternative 1
 - Roundabouts at Both Intersections
- Preliminary Alternative 2
 - Traffic Signalization at Both Intersections
- Preliminary Alternative 3
 - Roundabout at New Britain Avenue and Traffic Signal at Farmington Avenue

Preliminary Alternative 2

- Traffic Signal Option

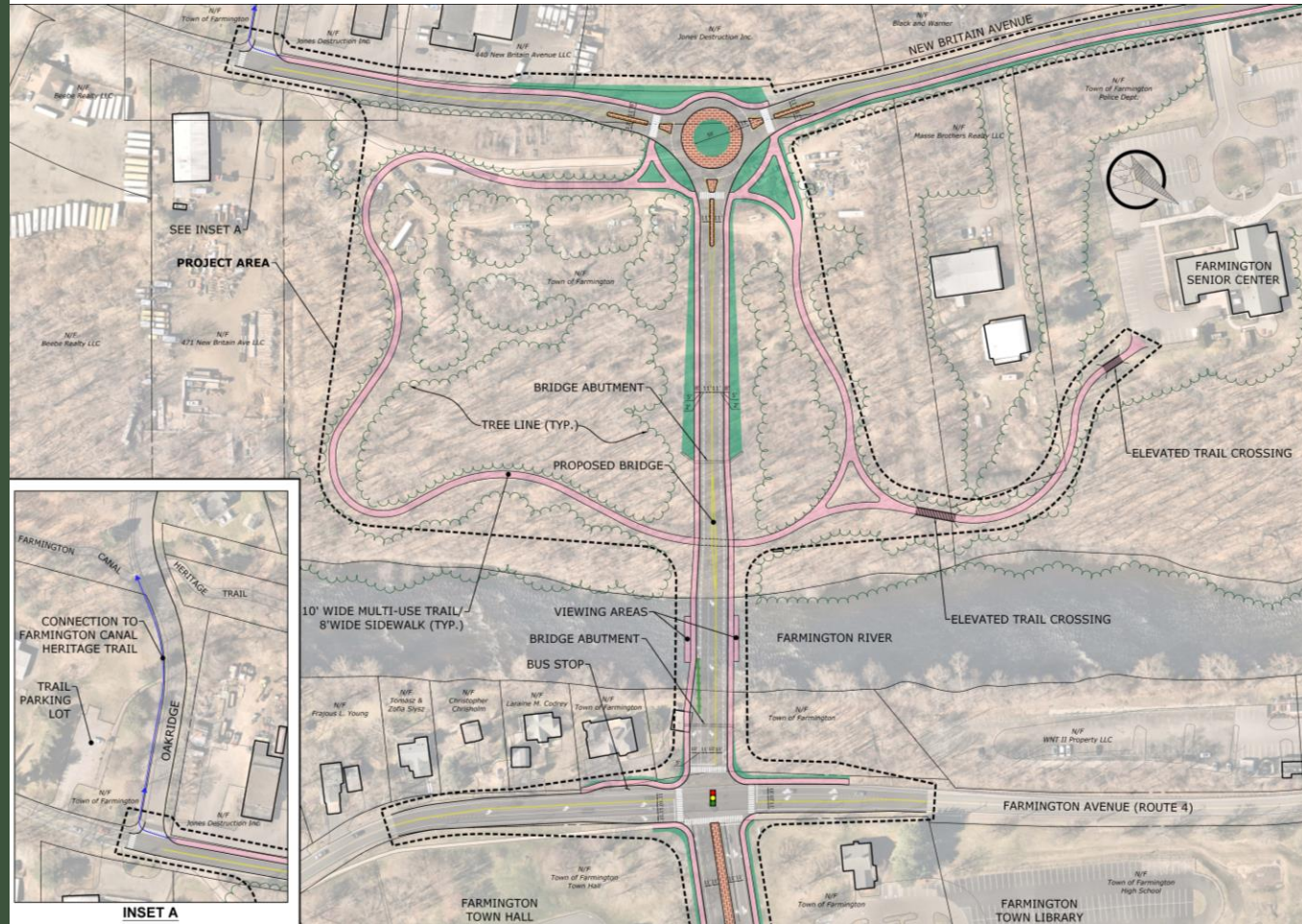


Alternative 2					
INTERSECTION/LANE GROUP	2050 SCENARIO 2 (BUILD CONDITIONS)				
	LEVEL OF SERVICE				
	A.M. PEAK HOUR	P.M. PEAK HOUR			
DELAY [s]	LOS	DELAY [s]	LOS	LOS	
S: Farmington Ave (Rte 4) & New Bridge					
Eastbound Left	13.5	B	5.7	A	
Eastbound Through/Right	42.3	D	54.9	D	
Westbound Left	35.3	D	39.7	D	
Westbound Through	24.0	C	19.3	B	
Westbound Right	10.3	B	0.6	A	
Northbound Left	44.4	D	44.2	D	
Northbound Through	38.6	D	33.2	C	
Northbound Right	7.9	A	7.2	A	
Southbound Left	41.6	D	33.5	C	
Southbound Through/Right	44.3	D	43.3	D	
Overall	28.8	C	34.7	C	
30: New Britain Ave & New Bridge					
Eastbound Left	7.7	A	7.3	A	
Eastbound Through	8.6	A	6.6	A	
Westbound Through	13.2	B	14.3	B	
Westbound Right	7.4	A	5.3	A	
Southbound Left	28.9	C	18.6	B	
Southbound Right	6.3	A	4.8	A	
Overall	15.5	B	12.3	B	



Preliminary Alternative 3

- Roundabout - Signal Option



Alternative 3					
INTERSECTION/LANE GROUP	2050 SCENARIO 2 (BUILD CONDITIONS)				
	LEVEL OF SERVICE				
	A.M. PEAK HOUR		P.M. PEAK HOUR		
DELAY [s]	LOS	DELAY [s]	LOS		
5: Farmington Ave (Rte 4) & New Bridge					
Eastbound Left	13.8	B	8.7	A	
Eastbound Through/Right	42.3	D	34.9	D	
Westbound Left	33.3	D	39.7	D	
Westbound Through	24.0	C	19.3	B	
Westbound Right	10.3	B	0.8	A	
Northbound Left	44.4	D	44.2	D	
Northbound Through	38.6	D	33.2	C	
Northbound Right	7.9	A	7.2	A	
Southbound Left	41.6	D	33.5	C	
Southbound Through/Right	44.3	D	45.3	D	
Overall	28.8	C	34.7	C	
30: New Britain Ave & New Bridge					
Eastbound Left/Thru	10.2	B	3.1	A	
Eastbound Through					
Westbound Thru/Right	7.9	A	8.8	A	
Westbound Right					
Southbound Left/Right	7.0	A	8.4	A	
Southbound Right					
Overall	8.1	A	8.4	A	

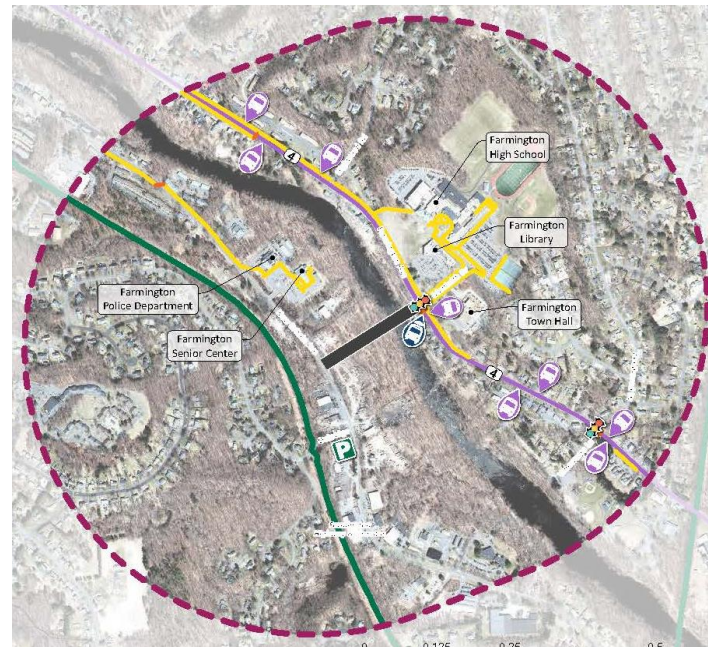


INSET A



Findings

- **Traffic Level of Service**
 - LOS improvement on Route 177 corridor (Unionville)
 - LOS reduction in vicinity of proposed bridge
- **Enhanced Connections between landmark facilities**
 - Police station, senior center, high school, Town Hall, Library
- **Bike Improvements**
 - Multi-use trail along the river and connection to FCHT, bike lanes
- **Potential New Bus Routes and Stops**
- **Neighborhood cut throughs not anticipated**
- **Quicker Emergency Response**





Next Steps

- Selection of Preferred Improvement Alternative
- Final CRCOG Study Report
- Seek Project Funding
- Environmental Study
- Engineering/Design
- Construction



Questions/Comments

Study Documents on CRCOG Website

<https://crocog.org/farmington-connectivity-study-2/>

Russell Arnold, Jr., PE

Director of Public Works/Town Engineer

Town of Farmington

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Roger Krahn, PE, RSP1

Principal Transportation Engineer

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