

2019 State Street Reconstruction



Third Ward Neighborhood Association
Meeting
Centennial Hall
February 13, 2019

Agenda



- Project Information
- Project Schedule
- Final Recommendations
- Traffic Modeling Results
- Questions



Project Information



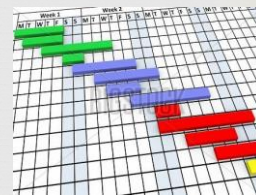
- ❧ Garfield Ave to ~ 300 ft. South of Hamilton Ave
- ❧ Full Reconstruction (Utilities + Pavement)
- ❧ Trail Connections to Putnam Drive
- ❧ Increased Pedestrian & Overall Corridor Safety
- ❧ Maintain or Improve Existing Traffic Capacity & Flow



Project Schedule



- ❧ 2018
 - ❧ Spring, Summer, Fall
 - ❧ Public Outreach
 - ❧ Data Collection
 - ❧ November & December
 - ❧ Public Open House & Neighborhood Meetings
- ❧ 2019
 - ❧ January
 - ❧ City Council Work Session (Jan. 8)
 - ❧ TWNA (Jan. 9)
 - ❧ BPAC (Jan 15)
 - ❧ Putnam Heights Open House (Jan 24)
 - ❧ **February 13 TWNA**
 - ❧ **March 12 City Council Vote**
 - ❧ June Construction Start
 - ❧ Late Fall - Majority of Project Complete



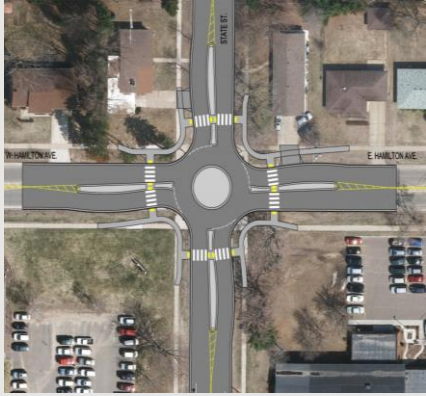
Final Recommendations



Final Recommendations



- ☞ Roundabouts at Hamilton Avenue, MacArthur Avenue, and Lexington Boulevard (offset option)
- ☞ Two vehicular lanes between Bartlett Court and Lexington Boulevard with turn lanes being added at Lexington Boulevard RAB to total 4 lanes at the intersection.
- ☞ Roosevelt Avenue Safety Improvements
 - ☞ Dedicated Left-Turn Only Lane
 - ☞ Pedestrian Refuge Island on North Leg of Intersection
 - ☞ Roosevelt to Garfield
 - ☞ Unchanged Layout
 - ☞ Pavement Marking Changes
- ☞ Additional Recommendations
 - ☞ Bike Lanes (Bartlett Court to South Project Limits), Speed Feedback Signs, Pedestrian Beacon in Third Ward, Pedestrian Only Phase for Signals at Garfield.



Hamilton Avenue

Roundabout operates at Level of Service (LOS A).

Significantly reduces delay vs. existing 4 way stop.



MacArthur Avenue

Roundabout operates at Level of Service (LOS A).

Significantly reduces delay, and improves safety, for left turn onto State Street.



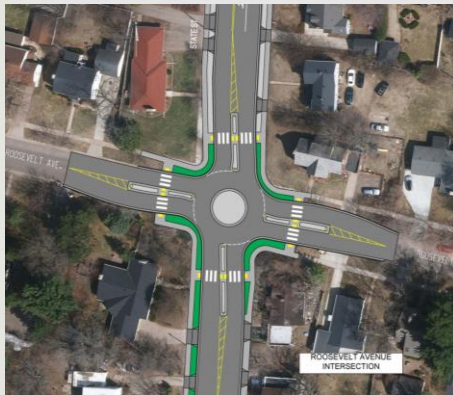
Lexington Boulevard

Existing Intersection LOS is E.
Proposed RAB LOS is B.

RAB Level of Service (LOS) A for North, West, and East Legs. Level of Service C for South Leg (NB traffic) during afternoon rush hour. All A's during other times.

Significantly reduces overall intersection delay vs. existing conditions.

Only right of way required comes from City owned lands.



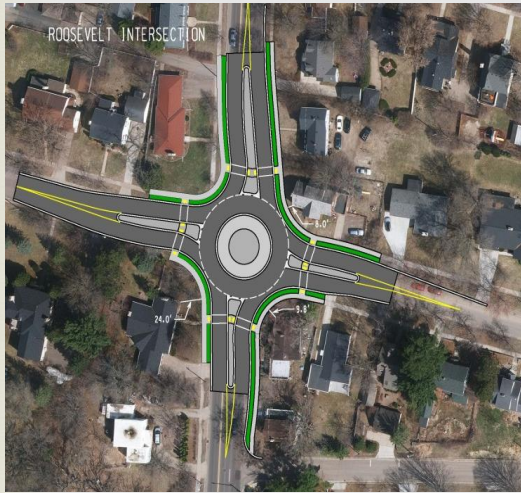
Roosevelt Avenue (NOT RECOMMENDED)

Initial Roundabout (RAB) layout not recommended.

Small RAB has potential of significant delays on State Street

RAB designed to accommodate traffic volumes would require right of way purchase, likely two houses.

Any RAB would improve turning movements from Roosevelt Avenue onto State Street, and also slow traffic.



Roosevelt Avenue

(NOT RECOMMENDED)

Roundabout (RAB) layout not recommended.

Non-conforming properties on east side of RAB. 8' and 9.8' from sidewalk.

RAB adequately handles traffic on State Street & Roosevelt

Likely changes traffic patterns west of State Street into UWEC.



Roosevelt Avenue

Final Recommendations

Left Turn Only Lane from Northbound State Street onto Roosevelt Avenue.

Pedestrian Refuge Island for crosswalk on North leg of intersection.

Protected Left Turn Lane from Refuge Island to Garfield Avenue Intersection.

Optimize Signal Timing at Garfield

Does not provide any improvement for turning movements from Roosevelt Avenue onto State Street.

In essence maintains existing traffic patterns from Bartlett Court to Garfield Avenue with pedestrian safety improvements.

Traffic Modeling



Draft Recommendation

Intersection Level of Service (LOS)



Traffic Analysis

State Street Roundabouts

PM PEAK

Intersection	Traffic Control	Measure of Effectiveness	Intersection Movement												Overall Intersection
			Eastbound			Westbound			Northbound			Southbound			
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
State Street & Hamilton Avenue*	Mini Roundabout	LOS	A			A			A			A			A
		Delay (s)	10			8			9			10			9
		V/C	0.44			0.31			0.44			0.48			--
		Queue (ft)	75			50			75			75			--
State Street & MacArthur Avenue*	Mini Roundabout	LOS	A			A			A			A			A
		Delay (s)	7			5			8			9			8
		V/C	0.26			0.03			0.41			0.51			--
		Queue (ft)	25			<25			50			50			--
State Street & Lexington Blvd	Roundabout	LOS	A	A	A	C	A	A	A	A	A	A	A	B	
		Delay (s)	9	5	9	16	8	8	8	8	8	8	8	10	
		V/C	0.03	0.05	0.41	0.66	0.45	0.66	0.45	0.66	0.45	0.66	0.45	0.66	--
		Queue (ft)	<25	<25	50	150	75	75	75	75	75	75	75	75	--

* Capacity will be reduced at mini roundabout locations compared to a single lane roundabout. LOS values may be lower in field as a result. Based on FHWA research, the Hamilton Avenue mini roundabout has excess capacity of 30% and the MacArthur Ave mini roundabout has excess capacity of 60%.

* Heavy vehicle percentages were estimated at 3% for all approaches of the intersection.

Lexington Boulevard



2018 PM Peak Hour

Intersection	Traffic Control	Measure of Effectiveness	Intersection Movement												Overall Intersection 1,960 entering vehicles						
			Eastbound			Westbound			Northbound			Southbound									
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
			5	5	5	35	10	350	10	330	160	515	520	15							
State Street & Lexington Blvd	TWSC	LOS	F			F			A			A			B	--	E				
		Delay (s)	212			>300			0			9			0	11	--	37			
		V/C	0.526			2.3			-			0.01			-	0.47	--	--			
		Queue (ft)	50			175			-			0			-	75	--	--			
	Roundabout	LOS	A			A			A			C			A			B			
		Delay (s)	9			5			9			16			8			10			
		V/C	0.03			0.05			0.41			0.66			-			0.45			--
		Queue (ft)	<25			<25			50			150			-			75			--

Roosevelt Intersection



2018 PM Peak Hour

Intersection	Traffic Control	Measure of Effectiveness	Intersection Movement												Overall Intersection 1,675 entering vehicles		
			Eastbound			Westbound			Northbound			Southbound					
			LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
		Traffic Volume	45	5	110	10	5	10	65	520	15	5	865	20			
State Street & Roosevelt Avenue	TWSC	LOS	F		D	F			B			A			A		
		Delay (s/veh)	117		27	69			10			1			9		
		V/C	0.52		0.35	0.35			0.09			--			0.01		
		Queue (ft)	75		50	25			<25			--			<25		
	Mini-Roundabout*	LOS*	C			B			B			D			C		
		Delay (s/veh)	16-25			10-15			10-15			26-35			16-25		
		V/C	0.3			0.01			0.54			0.82			--		
	Ped Refuge Island NB Left Thru/Right, SB Single Lane	LOS	F		D	F			B			A			A		
		Delay (s/veh)	241		27	62			11			1			9		
		V/C	0.96		0.43	0.21			0.11			--			0.01		
Queue (ft)	100		50	25			<25			--			<25				

* Capacity will be reduced at mini roundabout locations compared to a single lane roundabout. LOS values may be lower in field as a result.

** Estimates from models

+ Heavy vehicle percentages were estimated at 3% for all approaches to the intersection.

Corridor Analysis



SOUTHBOUND DELAY IN AFTERNOON PEAK		
STREET / INTERSECTION	EXISTING DELAY (sec)	DRAFT PREFERRED OPTION DELAY (sec)
TRAVEL TIME (HAMILTON TO LEXINGTON)	61.7	61.7
HAMILTON AVENUE	41	9
MacARTHUR AVE	0	8
LEXINGTON AVE	0	8
TRAVEL TIME (LEXINGTON TO GARFIELD)	58.2	58.2
ROOSEVELT AVENUE	9	9
McKINLEY AVENUE	9	9
GARFIELD AVENUE	14	14
	192.9 seconds	176.9 seconds
	3 min 13 sec	2 min 57 sec
		16 sec faster

Questions?



Thank You for Your Feedback and Comments!