Chartiers Master Plan

Phase 1 Design Schedule

Spring 2024	Summer 2024	Fall 2024	Summer 2025
Alternative Analysis	Public Engagement	Design Field View Submission & Approval	Final Design

Phase 1 improvements will consider:

- Intersection and safety improvements
- Streetscaping enhancements
- Stormwater management upgrades

- Phase 1

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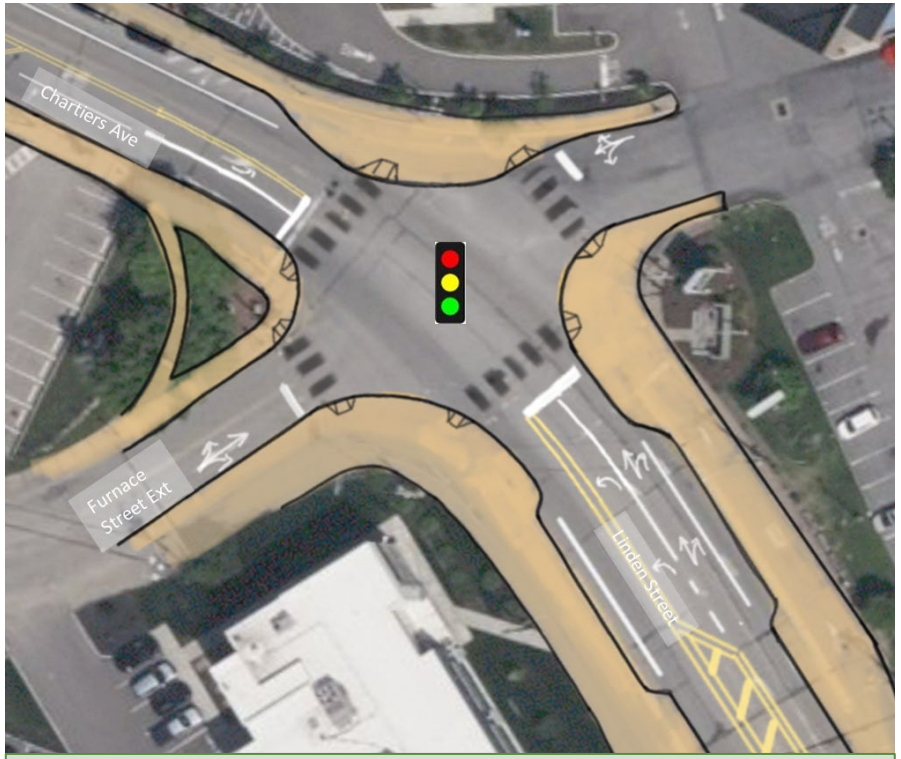
Intersection Concepts

Traffic Signal



- A traffic signal provides an orderly movement of vehicles through dedicated green phases for traffic to move.
- Traffic signals can enhance pedestrian crossings with pedestrian signals and phasings:
  - A dedicated pedestrian phase allows for pedestrians to cross while all vehicle traffic is stopped.
  - A Leading Pedestrian Interval (LPI) provides pedestrians a head start to establish themselves in the crosswalk before vehicles get the green light.

Roundabout

- A roundabout is a type of circular intersection where traffic flows in one direction around a central island. Priority is given to traffic already in the roundabout.
- Roundabouts are more efficient than traditional intersections with traffic signals or stop signs.
- Roundabouts reduce conflict points compared to traditional intersections, lowering chances of vehicle-to-vehicle crashes.
- Roundabouts cost less long-term than traditional traffic signal intersections.

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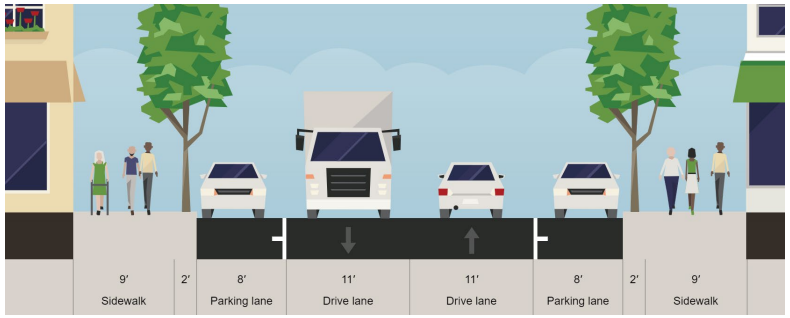
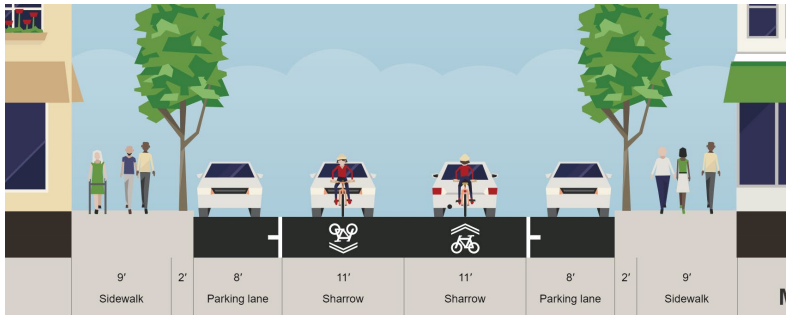
Chartiers Avenue Concepts

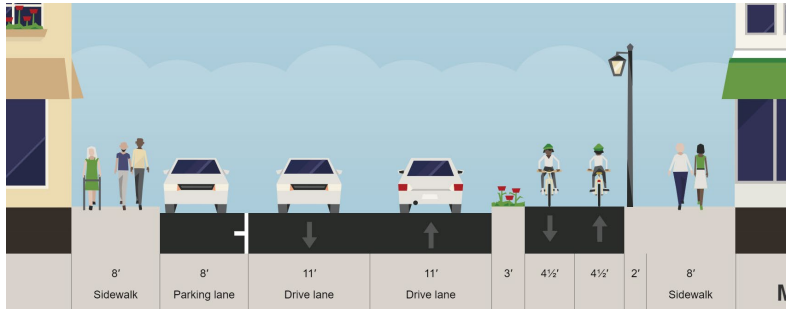
Widened Sidewalk



Widened Sidewalk + Shared Bike Lanes



Downtown Bike Path



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Linden Avenue Concepts

Tie-in to Existing Lanes on Bridge

Lane Reduction onto Stanhope St

Lane Reduction + Bike Lanes onto Stanhope St

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Traffic Analysis

Intersection LOS & Delay (seconds)

Analysis Year & Peak Period:		AM Peak - 2024 Existing & 2045 Design Year				
Intersection:		SR 51 Chartiers Ave/Linden Ave & Furnace St Ext				
Approach/ Street Name	Movement	2024 Existing	2045 No Build	2045 Single Lane Roundabout	2045 Reduced Lanes Signalized Opt. 1	2045 Reduced Lanes Signalized Opt. 2
EB Furnace St Ext.	Left	B (16.1)	B (16.0)	A (7.2)	B (19.2)	B (16.3)
	Thru					
	Right	C (20.8)	C (20.9)			B (19.3)
	Approach	***C (20.3)***	***C (20.3)***	***A (7.2)***	***B (19.2)***	***B (19.0)***
WB Mall Approach	Left	B (16.2)	B (16.2)	A (4.9)	B (16.3)	B (16.5)
	Thru					
	Right					
	Approach	***B (16.2)***	***B (16.2)***	***A (4.9)***	***B (16.3)***	***B (16.5)***
NB SR 51 Linden Ave	Left	A (8.2)	A (8.6)	A (6.5)	A (8.4)	A (8.2)
	Thru	B (10.2)	B (10.7)		B (10.2)	B (10.0)
	Right	A (7.7)	A (7.9)			
	Approach	***A (9.8)***	***B (10.3)***	***A (6.5)***	***A (10.0)***	***A (9.8)***
SB SR 51 Chartiers Ave	Left	A (7.7)	A (7.9)	A (7.1)	A (7.8)	A (7.7)
	Thru	B (11.7)	B (12.6)		B (11.2)	B (11.0)
	Right					
	Approach	***B (11.4)***	***B (12.1)***	***A (7.1)***	***B (10.9)***	***B (10.7)***
Overall		**B (12.4)**	**B (12.9)**	**A (6.8)**	**B (12.1)**	**B (11.9)**

Opt. 1 NB & SB Left Turn Lanes
Opt. 2 NB and SB Left Turn Lanes + EB Right Turn Lane Overlap

Intersection LOS & Delay (seconds)

Analysis Year & Peak Period:		PM Peak - 2024 Existing & 2045 Design Year				
Intersection:		SR 51 Chartiers Ave/Linden Ave & Furnace St Ext				
Approach/ Street Name	Movement	2024 Existing	2045 No Build	2045 Single Lane Roundabout	2045 Reduced Lanes Signalized Opt. 1	2045 Reduced Lanes Signalized Opt. 2
EB Furnace St Ext.	Left	B (16.8)	B (17.6)	A (7.7)	B (19.0)	B (16.3)
	Thru					
	Right	B (19.4)	C (20.4)			B (16.6)
	Approach	***B (18.7)***	***B (19.6)***	***A (7.7)***	***B (19.0)***	***B (16.5)***
WB Mall Approach	Left	B (18.7)	B (19.8)	A (7.5)	B (18.0)	B (18.4)
	Thru					
	Right					
	Approach	***B (18.7)***	***B (19.8)***	***A (7.5)***	***B (18.0)***	***B (18.4)***
NB SR 51 Linden Ave	Left	A (9.9)	B (10.3)	A (8.4)	B (10.1)	A (9.9)
	Thru	B (15.7)	B (16.4)		B (16.4)	B (15.9)
	Right	A (9.7)	A (9.8)			
	Approach	***B (14.6)***	***B (15.2)***	***A (8.4)***	***B (15.5)***	***B (15.0)***
SB SR 51 Chartiers Ave	Left	B (10.2)	B (10.6)	A (7.6)	B (11.0)	B (10.7)
	Thru	B (14.3)	B (14.8)		B (13.9)	B (13.5)
	Right					
	Approach	***B (13.6)***	***B (14.2)***	***A (7.6)***	***B (13.4)***	***B (13.0)***
Overall		**B (15.3)**	**B (16.0)**	**A (7.9)**	**B (15.6)**	**B (15.0)**

Opt. 1 NB & SB Left Turn Lanes
Opt. 2 NB and SB Left Turn Lanes + EB Right Turn Lane Overlap

Level of Service (LOS)

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