Clark Dietz

Engineering Quality of Life®

Village of Shorewood
Oakland Avenue Improvements

Meeting Agenda

- Meeting Outline
- Project History
- Project Scope
- Pavement Improvements
- Watermain Replacement
- Green Infrastructure
- Pedestrian Enhancement
- Summary

Meeting Outline

- Review project history
- Provide engineering recommendation to Public Works Committee including guidance from:
  - Green Infrastructure Guide
  - Pedestrian and Bicycle Master Plan
  - Transportation and Parking Analysis
- Receive comments from PW Committee
- Provide opportunity for public feedback
- Possible PW Committee recommendation for future full Village Board consideration

Project History

- 2020 – N. Oakland pavement replacement advanced in Long Range Plan Implementation Schedule (original 2029) to 2022.
- At Village Board's direction, RFP is issued for design engineering services and a contract is awarded to Clark Dietz.
- 2021 – Village Board Committee of the Whole defers project to 2025 in recognition of pandemic impacts on Shorewood business community.
- Anticipated projects by MMSD, WisDOT and the planned SE Area Combined Sewer Improvements limit flexibility to reschedule. N. Oakland construction is scheduled for 2025.

Project Scope

- Pavement Replacement with Utility Improvements
  - Remove and replace roadway pavement; bulk of curbs remain intact
  - Watermain and service replacement throughout project
- Review and evaluation of recommended green infrastructure, pedestrian and traffic safety enhancements identified in GI Guide, Ped+Bike Master Plan and T+PA

Pavement Improvements

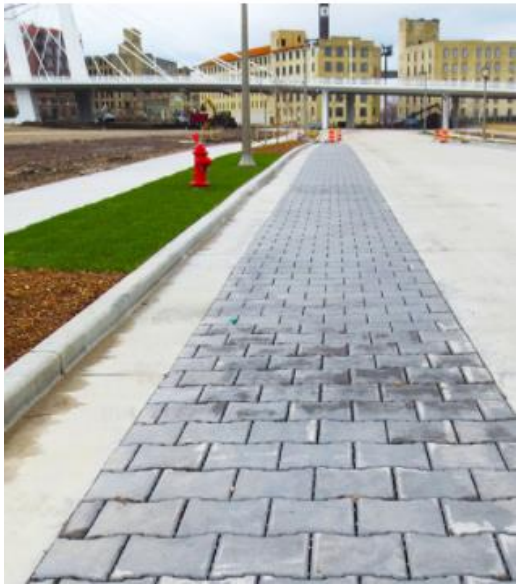
- The pavement suffers from failure of joints, adversely impacting ride quality
- Street geometry stays same because the curbs will not be removed
- Street will be reconstructed in concrete
- Joint pattern will favor cyclist comfort and safety

Watermain Improvements on Oakland

- Watermain replacement due to age of the distribution mains
- Services will be replaced to the curb stop – located on sidewalks
- Replacement of services will mean some limited curb and sidewalk impacts

Green Infrastructure Policy and Practice

- Shorewood Green Infrastructure Policy requires consideration in each project
- Previous GI installations include
  - Permeable pavers in alleys,
  - Bioretention pockets on Capitol and Wilson
  - Green Inlets at Village Hall, many residential streets, and Atwater School

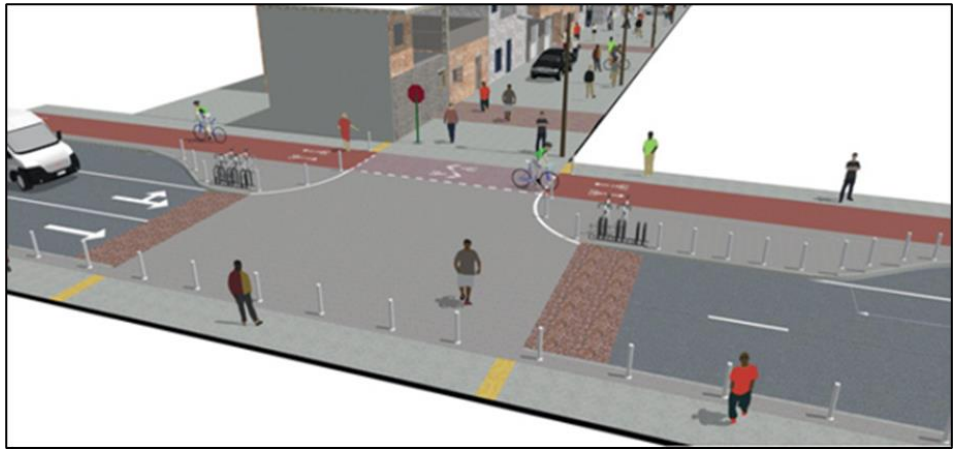


Green Infrastructure for Oakland Avenue

- *Tree Pits -Tree Wells*
  - Of all the trees that are being removed along Oakland, 10 locations are suited for the installation of Tree Pits because proximity to storm inlets
  - $8,000 to $10,000 per tree system

Pedestrian Safety Enhancement Plans

- 2015 Pedestrian and Bicycle Master Plan
- 2017 Oakland Avenue Traffic Study
- 2020 Transportation and Parking Analysis



Pedestrian Safety Enhancements on Oakland

- Install curb extension (bump outs) at 10 crossing along the corridor
- Reconfigure (push back) curb along Metro Market
- Install bump out in front of Metro Market – where turn lane is present
  - Bump outs reduce the street crossing distance by 12 to 16 feet for added security and safety
  - Bump outs will match existing bump outs on side streets where present
- Crossings to be painted – no bricks
- Some relocation of MCTS Bus Stops to allow bump out locations
- No traffic signal at Kensington

Summary of Green Infrastructure and Pedestrian Safety Enhancements

SOURCE	IMPROVEMENTS	RECOMMENDED IMPROVEMENT[1]	COST / UNIT[2]	BENEFIT	DRAWBACK
Transportation and Parking Analysis Pedestrian and Bicycle Master Plan	Bump Outs (with RRFB[3])	10 Crossings[4]	$15,000 / crossing	• Improve safety of pedestrians	• Create vehicular congestion • Increase difficulty of street maintenance • Increased snow removal times
	Remove Metro Market Turn Lane into Parking Ramp as it is used for parking (Southbound)	Add additional signage and markings to deter parking in turn lane	$2,000 / Lump Sum	• Improve safety of pedestrians and vehicular traffic	• Create vehicular congestion for turning movements into structure
	Kensington Traffic Signals	Not recommended	$200,000 / Lump Sum	• Control the flow of traffic / pedestrians	• Expensive • Not enough traffic to warrant installation
Guidebook for Green Infrastructure	Permeable Paver Block System	Not recommended	$20 / SF $500 / LB TSS Capture[5]	• Increase detained runoff volume • Increase annual TSS capture	• Increase maintenance cost • Combined Service Area
	Tree Pits	10 Each	$10,000 / Each $1,000/LB TSS Capture[6]	• Increase detained runoff volume • Increase annual TSS capture	• Cannot be installed uniformly throughout project due to site constraints • Potential to remove existing tree that is healthy with longer life expectancy