

Shoreline Drive Pilot Road Diet Implementation

March 11, 2024

Muskegon City Commission



AGENDA

- Existing Conditions and Pilot Phase 1
- Public Engagement
- Traffic Data Collection and Analysis – Summer 2023
- Next Steps

Existing Conditions and Road Diet Pilot – Phase 1

Shoreline Drive Existing Conditions

- Project is on Shoreline Drive between Southern Avenue and Terrace Street
 - Section carries between 12,000 and 20,000 vehicles per day
- The existing roadway operates at a Level of Service (LOS) A with a posted speed limit of 40-45 MPH through the project area
- Roughly 20 to 25 speeding citations are issued each month
 - Per Captain Rush, Muskegon Police Department



Project Limits

Shoreline Drive Existing Safety Metrics

- Shoreline Drive has exhibited historical safety concerns for pedestrians, cyclists, and motorists due to its design speed and width
- Reduced vehicle traffic speeds make streets safer for everyone. Street design, not enforcement, is key to making streets slower and safer for all users

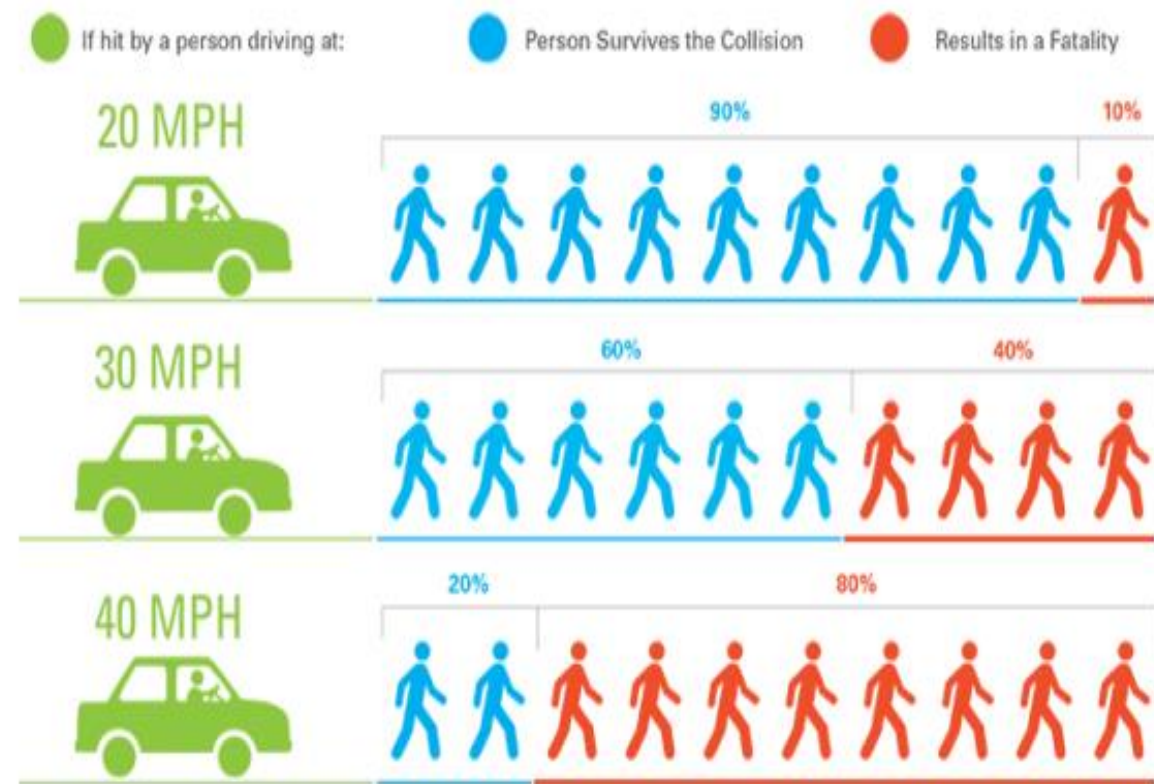


Image Credit: San Francisco MTA Vision Zero Action Plan

Data Source: US DOT, Literature Reviewed on Vehicle Travel Speeds and Pedestrian Injuries. March 2000.

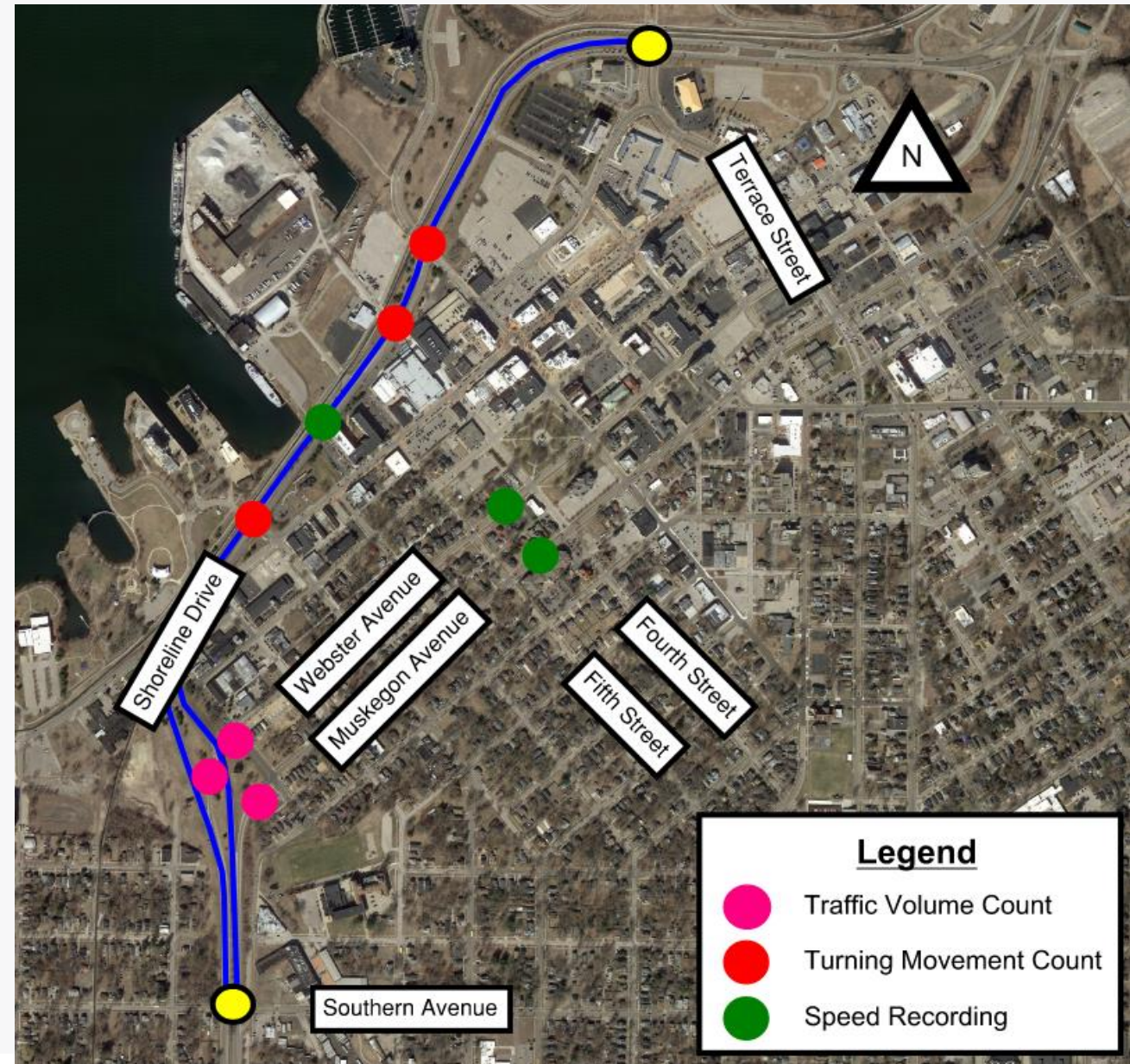
Road Diet Implementation – Phase 1

- Traffic data was collected in July 2022, with two operating lanes in each direction on Shoreline Drive, to provide a baseline for comparison
- Maintenance project occurred in October 2022
 - Project included closure of one travel lane in each direction
 - Initial traffic analysis showed a lane reduction on Shoreline Drive functioned acceptably during the fall season
 - Decision to implement lane reduction during summer 2023 was made



Data Collection

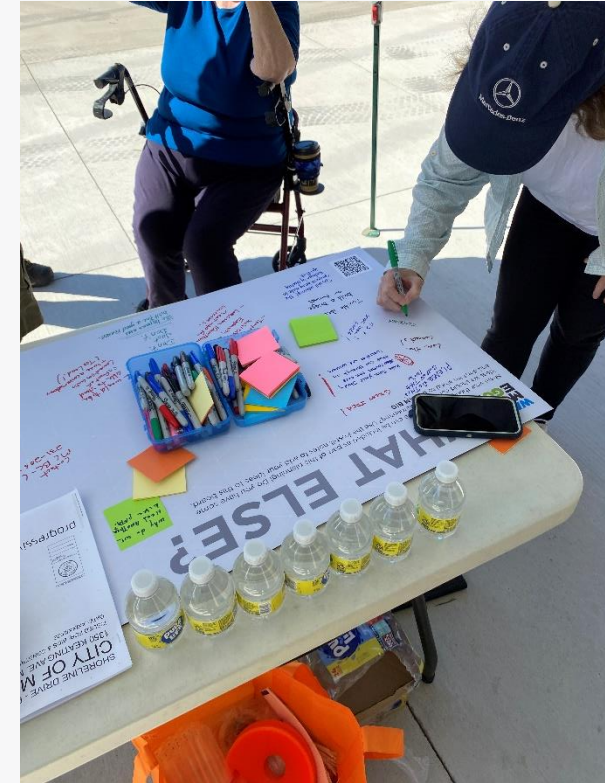
- Traffic data collected at each intersection along Shoreline Drive in August and September 2023
 - Also collected along Muskegon Avenue and Webster Avenue
- Vehicle speed data was recorded along Shoreline Drive, Muskegon Drive, and Webster Avenue
- Weekend traffic data was collected during the Unity Music Festival and the Irish Music Festival, special events that increase activity along Shoreline Drive



Public Engagement

Public Engagement Process

- Online survey and in-person event were facilitated
 - Feedback primarily centered around impacts to vehicles, such as traffic delays
 - Also received feedback about benefits for pedestrians, such as shorter crossing distances



Traffic Data Collection and Analysis

Traffic Performance Results - Volumes

- Compared volumes on Shoreline Drive between existing and road diet conditions
 - **Lower volumes during all times weekday mornings, weekday afternoons, and Saturday**
- Volume reduction could partially be due to seasonal fluctuation

Time Period	Volume under Existing Conditions (July 2022)	Volume under Road Diet Conditions (August 2023)	Change in Volume on Shoreline Drive
Weekday Mornings (7-9 AM)	2271	1847	-19%
Weekday Afternoons (4-6 PM)	3532	3024	-14%
Saturday (11 AM - 6 PM)	9521	8987	-6%

Traffic Performance Results – Diversion Route Volumes

- Compared traffic volumes along Muskegon Avenue and Webster Avenue before and after lane reduction
 - Volumes typically decreased during weekdays
 - Volumes increased on both Muskegon Avenue and Webster Avenue during weekends
 - Increase in traffic on Muskegon Avenue was ~70% of the reduced volume on northbound Shoreline Drive



Traffic Performance Results - Speed

- 85th percentile speed data was collected along Shoreline Drive, Muskegon Avenue, and Webster Avenue
 - **Vehicle speeds are reduced in most locations**
 - Slower speeds lead to safer streets

Location	Change in 85 th Percentile Speed for NB Traffic (MPH)	Change in 85 th Percentile Speed for SB Traffic (MPH)
Shoreline Drive, between 4 th and 7 th Streets	-8	-7
Webster Avenue, between 4 th and 5 th Streets	-1	-7
Muskegon Avenue, between 4 th and 5 th Streets	0	-6

Traffic Performance Results – Queueing and LOS

- Queuing lengths were evaluated before and after lane reduction
 - Queue lengths approximately double for most movements
- Intersection LOS calculations were completed
 - All intersections operate at LOS D or better under existing conditions
 - **All intersections are anticipated to continue operating at LOS D or better with a lane reduction, despite queueing increase**
 - Results consistent with findings from October 2022 pilot



Traffic Performance Results – Travel Times

- Travel times through the project limits before and after the lane reduction were compared
 - Travel times increase under road diet conditions, particularly during summer months and special events
 - Travel time increases during summer weekdays are acceptable
 - Travel time increases during summer weekends **and special events** are more significant
 - Note that all intersections are anticipated to remain operating acceptably

Time Period	Change in Travel Time on NB Shoreline Drive (seconds)	Change in Travel Time on SB Shoreline Drive (seconds)
Weekday Mornings (7-9 AM)	3	3
Weekday Afternoons (4-6 PM)	14	8
Saturday (11 AM - 6 PM)	29	23

Traffic Performance Result Summary

- In summary:
 - Traffic volumes on Shoreline Drive decrease, particularly during weekdays
 - Traffic volumes along Muskegon Avenue and Webster Avenue will increase, but not significantly
 - Northbound traffic during special events is an exception
 - Traffic speeds decrease on Shoreline Drive, Muskegon Avenue, and Webster Avenue
 - Travel times increase, but remain acceptable during weekdays
 - Travel time increases during special events in the summer are more significant
 - Need to consider benefits of a lane reduction, such as shorter crossing distances at intersections

Next Steps

Next Steps

- Data and traffic analysis will be provided to the City
- Findings and results will be coordinated with the Michigan Department of Transportation (MDOT), who controls the configuration of Shoreline Drive
 - Results will also be incorporated into future discussion about the design of Moses Jones Parkway to the northeast of the downtown area
- Further coordination with the public is envisioned prior to any potential modifications to Shoreline Drive
 - Federal grant programs exist to support further planning, study, and implementation in the corridor, especially to improve safety for vulnerable road users

Thank You!