2019 Coolidge Road Compete Streets Project

Review of Safety and Road Functionality

Coolidge Highway: Conditions Prior to Restriping Project

The configuration of Coolidge prior to restriping presents challenges to drivers and pedestrians alike that both the City and the DDA has been hoping to solve for some time.

Lane weaving

One of the first things a driver notices on Coolidge is that the lanes weave left and right to accommodate an intermittent turn lane and parking. This makes the driving experience more dangerous and has led to sideswipe accidents for drivers.

Turning Left

Whether a driver is traveling north or south, making a left turn across traffic on Coolidge can be difficult and dangerous. With turn lanes only at signalized intersections, drivers have to stop and wait in the travel lane for their chance to cross two lanes and visit their favorite business or turn down their street. If this takes more than a few seconds, drivers traveling in the same lane behind the turning vehicle also have to come to a complete stop and wait. This is an all too common experience on Coolidge and it contributes to accidents in two ways: drivers who do not pay close enough attention to their surroundings are causing rear end accidents by hitting those stopped and attempting to turn left in the travel lanes; or that same driver chooses to quickly switch lanes without noticing the car next to them, causing a sideswipe accident.

Pedestrian Crossings

Those who wish to enjoy both sides of Coolidge while on foot are able to cross Coolidge at Twelve Mile Road, Wiltshire, Catalpa, and Eleven Mile Road. That is a total of four crossing locations in a one-mile stretch. Last year, two additional crossings were installed at Earlmont and Dorthea to help shorten the distance a pedestrian had to walk in order to find a crosswalk and to give pedestrians a safer alternative than running across four open lanes of traffic. While these added crosswalks provided convenience, they did not result in increased safety for pedestrians who still needed to cross four lanes of traffic to reach the opposite side of Coolidge. Another alternative is that a pedestrian returns to their vehicle to drive closer to their preferred destination across Coolidge, ultimately adding another vehicle to the traffic volume including additional turning and parking movements. A final option is that they give up and leave the corridor without visiting all of their desired locations.

Crash History

The two most common types of traffic accidents are rear-end and sideswipe crashes. In total, the one-mile stretch of road between Eleven Mile and Twelve Mile had about 80 crashes from 2014 to 2016. Seventeen of these accidents yielded an injury. Many of these accidents are attributed to the lack of a center turn lane causing the previously described traffic issues and delays.

Segment	Total Crashes	Injury Crashes	PDO Crashes	Mitigated by Turn Lane*
10 Mile to Lincoln	11	2	9	N/A
Lincoln to 11 Mile	15	4	11	N/A
11 Mile to Havard	15	3	12	13
Havard to Catalpa	16	6	10	10
Catalpa to Wiltshire	10	1	9	8
Wiltshire to 12 Mile	13	1	12	11
Corridor Complete	**80**	**17**	**63**	**42**

*Sideswipe same, rear end, rear end /left and head on /left type crashes.

Shallow Parking Areas

Those who have utilized the on-street parking spaces along Coolidge know there is very little room between a parked vehicle and those driving in the outside travel lanes. That is because the parking spaces are fairly shallow to accommodate two lanes of traffic heading North and South. People will park, sit in their car, wait for a break in traffic, and hurriedly rush to get out of their car and to the sidewalk before cars, trucks, and vans begin zooming past them at 30 mph or more. This is an uncomfortable situation for anyone, let alone anyone who also has to get children, pets, or belongings out of the back seat. Parking on Coolidge is not difficult, but actually leaving your vehicle once you have done so can be quite challenging.

Traffic Volumes on Side Streets

Traffic on the side streets was measured in advance of this project. These measurements were taken in March while school was in session and at a time when there was no construction or lane closures between Eleven Mile and Twelve Mile roads. In short, they were taken at a point where traffic was representative of normal conditions on Coolidge as well as Kipling Ave., Beverly Blvd., Berkley Ave., and Kenmore Rd. Traffic counts along with average speed measurements were taken over a 48-hour period. In order to be as complete as possible, traffic volumes on Kipling Ave. and Berkley Blvd. were measured separately North and South of Catalpa. These streets were selected based upon public feedback that, if more drivers began using side streets to avoid Coolidge, these streets would be the most likely to experience higher traffic volumes.

Measurement Location	Average Daily Traffic	Peak Volume	Average Speed
Kipling South of Catalpa	796	105	23
Kipling North of Catalpa	581	63	22
Kenmore North of Catalpa	270	34	23
Beverly West of Coolidge	1754	189	25
Berkley South of Catalpa	930	191	22
Berkley North of Catalpa	473	56	24

Traffic Volumes on Coolidge

Traffic was likewise measured on Coolidge Highway. Measurements were taken in two segments, North of Catalpa and South of Catalpa. These measurements were taken in March while school was in session and at a time when there was no construction or lane closures between Eleven Mile and Twelve Mile roads.

Measurement Location	Average Daily Traffic	Peak Volume	Average Speed
Coolidge South of Catalpa	18806	1693	28
Coolidge North of Catalpa	19307	1424	28

Coolidge Road: Hazards

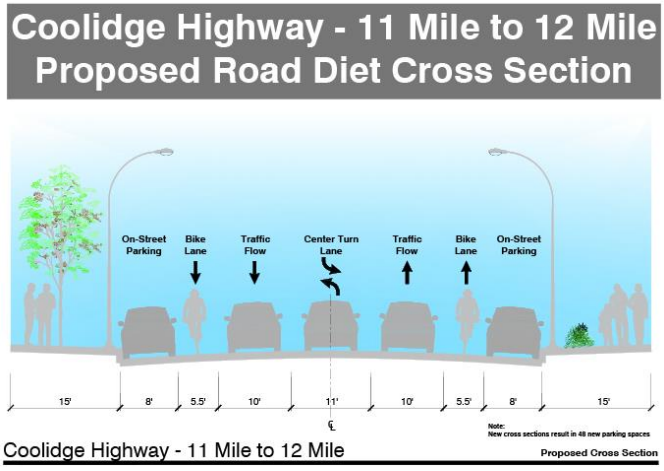
The current configuration of Coolidge between 11 Mile and 12 Mile was designed to allow vehicles to travel from one destination to another. Despite being built for the purpose it does not excel at it. Some of the potential problems with the Coolidge design include:

- Drivers in the interior lanes experience stop-and-go traffic movement while waiting for cars ahead of them to complete a left turn.
- Drivers attempting to reach a destination along the corridor find it difficult to make a left turn across two lanes of traffic.

- There were 80 accidents recorded between 2014 and 2016. Assuming just two vehicles per accident, that is 160 drivers in a short span. In 2017, there were an additional 37 crashes along Coolidge, 13 crashes South of Catalpa and 24 crashes North of Catalpa.
- The design of the road creates blind spots for drivers and pedestrians, making new crosswalks difficult to install and causing pedestrians to walk a quarter-mile before crossing at an intersection. With limited crossings, pedestrians often attempt to cross all four lanes of traffic illegally and dangerously.

Coolidge Road Restriping Plan

In order to improve the driving and pedestrian experience on Coolidge, the City wants to install a continuous center turn lane, eliminate a travel lane in each direction, and widen the parking spaces. This conversation began as far back as 2007 and has continued right through 2019. Over the course of those 12 years, a number of four-lane roads were converted to three-lane roads across the United States, as well as, right here in the Metro Detroit region. More and more, there is realization that adding extra lanes to a street did not necessarily reduce congestion and, in many cases, had the opposite effect.



In addition to those design changes, two dedicated bike lanes will also be added to Coolidge for the first time in its history. These lanes were added to the project scope as more and more people are looking for multi-model options for transportation in the area. This being new to the corridor and the community, it is difficult to establish a baseline for the number of cyclists using Coolidge prior to the project. However, the study will include bicycle counts at six- and twelve-month intervals to see if the usage increases, decreases, or remains stagnate between those two data points. Additionally, the six- and twelve-month intervals fall in November and May respectively, which present a challenge to getting accurate measurements due to average weather patterns during those times. In consideration of this, it is preferable that a cyclist count is also conducted around the end of August, when average weather permits a better representation of potential seasonal use.

Measuring Safety in the First 12 Months

Over the first 12 months, the City Council will be looking specifically at how well and how safely the "new" road functions. Below, you can view every item that the City Council will be collecting data on and evaluating. The easy-to-read chart below tells you exactly what is being measured, how it is being measured, and who is responsible. The measured data below looks specifically at the safety of the corridor itself. This section measures very objective, quantifiable data such as crashes per mile crashes at intersections, vehicle speeds, response time studies for emergency vehicles, levels of service, and other safety elements as well. Each items has its own standard as outlined in the "How is it being Measured" column.

What is being Measured	How is it being Measured	Who is Responsible?
Crash Rate per Mile	20% decrease equals an increase of one point; 30% plus decrease equals an increase of two	Local/State Police and DOT (3 year Assessment recommended by FHWA)
Crash Rate at intersections	20% decrease equals an increase of one point; 30% plus decrease equals an increase of two	Local/State Police and DOT (3 year Assessment recommended by FHWA)
Vehicle Speed Consistently Matches Design Speed of Roads	Across all roads this equals 30 mph or less	Public Safety, Portable Radar Speed Indicators/Data Collectors
Emergency Vehicle Movement	Public Safety, fire, and ambulance vehicles are unhindered and allows for direct access to a dedicated travel lane	

In the grouping below you will see measurements of the traffic volumes on streets that run parallel to Coolidge and ones that run perpendicular. It is important to note that these are all residential streets. As you can see, the standards by which this is being measured are very clearly stated:

	What is being Measured	How is it being Measured	Who is Responsible?
1	Roadway Capacity / Daily Volumes counts fall within 15% of Baseline	Average ADT over 7 days at six months, 12 months, 18 months and 24 months	Transportation Improvement Association (TIA)
2	Level of Service (LOS) on Coolidge at individual signalized intersection not to exceed 80 second delay	Intersection times must remain between 55 and 80 seconds	Evaluated by TIA data collection, Highway Capacity Manual (HCM) methodology and Synchro modeling software
3	Accommodates Volume of Turning Movements at signalized intersections	Number of vehicles that wait to turn and number that move through the intersection at each light cycle	TIA Back Up and Delay Study
4	Traffic volume on Kipling, Kenmore, Berkley, and Beverly stays within acceptable range for a residential neighborhood.	See Below:	
4a	Kipling South of Catalpa (105 vehicles/peak hour)	Will allow up to 60 additional vehicles per hour	TIA Assessment compared to baseline numbers
4b	Kipling North of Catalpa (63 vehicles/peak hour)	Will allow up to 60 additional cars per hour	TIA Assessment compared to baseline numbers
4c	Kenmore (34 vehicles/peak hour)	Will allow up to 60 additional vehicle per hour	TIA Assessment compared to baseline numbers
4d	Berkley North of Catalpa (56 vehicles/peak hour)	Will allow up to 60 additional vehicles per hour	TIA Assessment compared to baseline numbers
4e	Berkley South of Catalpa (191 vehicles/peak hour)	Will allow up to 300 vehicles per hour	TIA Assessment compared to baseline numbers
4f	Beverly (189 vehicles/peak hour)	Will allow up to 300 vehicles per hour	TIA Assessment compared to baseline numbers

Review of Data

In order to provide a full scope of input on results of this study, a multi-disciplinary Oversight Task Force has been formed to analyze the data. While some of the data points maybe viewed as subjective, it is important to remove as much potential bias from this study as possible in order to achieve our goal in protecting the health, safety, and wellbeing of the community. The group assembled to review the data consists of:

1. Derrick Schueller — Director of Public Works
2. Matt Koehn — Director of Public Safety
3. Andy Meloche — Principal of Berkley High School
4. Pat Cawley — Transportation Improvement Association
5. Cheryl Gregory — Spalding DeDecker Engineering
6. Matt Baumgarten — Berkley City Manager
7. Vivian Carmody — Executive Director of the Berkley Downtown Development Authority
8. Coolidge Business Owner
9. Berkley resident
10. Berkley Resident