

Memo

To: Transportation Commission

From: Cynthia Redinger, PE, PTOE, Transportation Engineer

cc: Nicholas Hutchinson, PE

Date: July 12, 2019

Re: Responses to questions from the June 5, 2019 commission meeting

This memorandum is provided to you in order to answer specific comments or concerns raised during the City Council meeting on June, 3, 2019, and at the June Transportation Commission meeting. Transportation staff have prepared the information presented in this document to assist you in your policy making process.

The comments from City Council and questions from the Transportation Commission seemed to focus on performance metrics, staff processes regarding public input, and miscellaneous items. The remainder of this document will be structured around these three larger areas.

Performance Metrics

Many comments were made regarding lane reduction performance measures. Comments centered on items such as how it is determined if a lane conversion has been successful, how are lane conversions performing in the City of Ann Arbor, and how do the City's projects compare to other case studies. The main performance measures for a lane conversion project are the same as those used in identifying viability of a project in the first place. The main items used by the City staff, from Federal Highway Administration (FHWA) guidance, include:

Consideration	What it means	Measure of effectiveness (MOE)
<i>Average Daily Traffic Volume (ADT) <20,000 veh.</i>	This guideline is general. It helps quickly find locations that would be unsuitable for lane conversions. It also helps to find locations with high trip density during the peak travel hour where the design may be a disadvantage during off-peak hours.	MOE: Daily Volume Data Collection: Periodically collect vehicular travel counts.

<p><i>Peak Hour Traffic Volume <1750 veh.</i></p> <p><i>Peak hour directional volume <750 veh.</i></p>	<p>These guidelines helps to determine if the peak hour operations will not fall below industry standard operations during the busiest hour of the day. This guideline is supplemented by detail intersection modeling.</p>	<p>MOE: Peak Hour Volume, Vehicular Level of Service (LOS), Vehicular Travel Time, Vehicular Volume to Capacity Ratio (v/c)</p> <p>Data Collection: Periodically collect vehicular travel counts; verify that build-out operations are consistent with LOS (delay) and travel times predicted by modeling.</p> <p>Note: Travel time data collected for N. Maple Road is included in the Appendix</p>
<p><i>Traffic signal density</i></p> <p><i>Transit usage</i></p> <p><i>Parking usage</i></p> <p><i>Railroad crossings</i></p> <p><i>Driveway/intersection conflicts</i></p>	<p>These guidelines help to inform how people driving vehicles will flow through the corridor and what their user experience will be. Corridors with a high density of conflicts due to many parking maneuvers (e.g. high turnover parallel parking), extremely dense high volume commercial driveways, or transit transfer centers would impact the user experience of people driving cars.</p>	<p>MOE: None direct, usually tied to land use.</p> <p>Data Collection: None, impacts LOS for people driving vehicles</p>
<p><i>Speed</i></p>	<p>A typical desired outcome for a lane conversion project is slower speed choice by people driving vehicles. When people make errors using the transportation system, the speed of the person driving a vehicle is an extremely important factor in the outcome of a resulting crash. Lane conversion projects are an important tool in the speed management toolbox and help us move together towards City Council's vision of zero transportation fatalities by 2025.</p>	<p>MOE: 85th percentile speed</p> <p>Data Collection: Collect data before and after the conversion.</p>

<i>Pedestrian and bike traffic</i>	<p>A typical desired outcome for a lane conversion project is an increase in people walking and people riding bicycles. Often a street suitable for a lane conversion does not have comfortable spaces for people who otherwise might choose to walk or bike. The lane conversion provides these spaces for individuals. Sometimes the most significant increases in this type of activity are during off-peak and weekend hours.</p>	<p>MOE: Number of people walking or bicycling</p> <p>Data Collection: Count the number of people walking or bicycling</p>
<i>Effect on parallel routes</i>	<p>This consideration is extremely important for locations within full or near-full grid street patterns. If a street has a nearly identical parallel route, people driving vehicles may choose the parallel route.</p>	<p>MOE: Vehicle volume on route and parallel route(s)</p> <p>Data Collection: Periodically collect vehicular travel counts.</p> <p>Note: See case studies in the Appendix.</p>
<i>Road width</i>	<p>Road width is a significant factor in determining what the final design could be.</p>	<p>MOE: None</p> <p>Data Collection: None</p>
<i>Crash history</i>	<p>Lane conversion projects, also known as road diets, are an identified proven safety countermeasures by FHWA. Projects of this nature, which convert 4 lanes to 3 lanes, can be expected to have (from FHWA):</p> <ul style="list-style-type: none"> • <i>An overall crash reduction of 19 to 47 percent.</i> • <i>Reduction of rear-end and left-turn crashes due to the dedicated left-turn lane</i> • <i>Reduced right-angle crashes as side street motorists cross three versus four travel lanes.</i> • <i>Fewer lanes for pedestrians to cross.</i> • <i>Continued.</i> 	<p>MOE: Reported crashes</p> <p>Data Collection: Before and after crash data, raw and rolling five year average data</p> <p>Note: See before and after crash comparisons in the appendix.</p>

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| <ul style="list-style-type: none"> • <i>Opportunity to install pedestrian refuge islands, bicycle lanes, on-street parking, or transit stops.</i> • <i>Traffic calming and more consistent speeds.</i> • <i>A more community-focused, "Complete Streets" environment that better accommodates the needs of all road users.</i> | |
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The FHWA guidebook on lane conversions (road diets) also notes that the Quality of Service is a most important consideration. Quality of Service, discussed in section [3.3.4 Quality of Service](#), must be considered in a complete manner consistent with all ways people use the street.

- People walking are likely to experience an improved level of service (LOS) due to fewer vehicular travel lanes to cross, lower speed choice from people driving vehicles, and more physical separation from people driving vehicles.
- People bicycling are also expected to have an increase in LOS as a result of some of the same factors, especially reduced speed choice, as well as the addition of dedicated operating space for people choosing to bicycle.
- People driving vehicles will experience some changes to their operating environment, but corridors without frequent traffic signals and other disruptions to traffic flow (see above) will not experience significant changes to their level of service.

During the City Council meeting it was cited that staff have not produced documents reporting on the outcomes of previous lane conversions throughout the City. Many of these road diets have been in place for more than 10 years; examples are Glazier Way, Green to Earhart, and Platt Street between Packard Road and I-94. City staff monitored these locations after installation, much as staff currently are; however, formal reports were not produced and retained. The most recent lane conversions, Stone School Road (Eisenhower to Packard) and N. Maple (Dexter to M-14), are currently being monitored. Staff have performed travel time evaluations and made incremental adjustments to traffic signal timing plans in response to concerns and observations. Neither of these projects have been in place long enough to conduct full before and after crash data analyses.

A series of case studies have been prepared for your use in understanding how projects similar to those implemented in the City, or proposed, have performed in other locations. The case studies are attached to this memo in Appendix A.

Staff Processes: Public Engagement

City of Ann Arbor staff are committed to engaging with the community. Community engagement happens on many levels including policy changes, project scoping refinement, and project implementation. Community engagement typically falls under three general categories. These categories are:

- Policy engagement
- Formal project engagement
- Informal daily engagement

The Community Engagement Toolkit is the City's strategy for guiding the engagement process. The toolkit is used to form the engagement strategy for policy changes and formal project engagement. The toolkit contains the following steps:

- Step 1 – Prepare to meet with your internal team
- Step 2 – Develop your Community Engagement Action Plan
- Step 3 – Refine Key Stakeholders List and define roles
- Step 4 – (Post Engagement) analyze and record engagement outcomes

The toolkit is designed to be flexible and applies to projects of all sizes. The toolkit was used for the resurfacing program which included Green Road and Traverwood Drive, and for Earhart Road which is a stand-alone project. Additional information on the application of community engagement can be found in the memo from Howard Lazarus to City Council on September 24, 2018 in response to Resolution R-18-275.

Each new project involves some form of each of the above types of engagement. Policy level engagement occurred during the development of the City's Non-Motorized Plan Update (2013). Early project public engagement occurs during the Capital Improvement Plan process, which includes the Planning Commission and public hearings; and project specific formal public engagement begins once design has started, which includes the Transportation Commission, public meetings, and opportunities for individual feedback.

Staff utilize public comments and questions in a variety of ways. The top priority for staff reviewing public commentary is to identify transportation system user problems that are not being addressed in the project. An example of this type of issue identification comes from the Green Road project. During the public open house we received feedback that included the request for more opportunities to cross Green Road between Burbank Drive and Plymouth Road. While the scheduled pavement preservation work, i.e. surface treatment, does not include concrete work, staff were able to add these requests to the sidewalk program for prioritization and future installation.

Another important source of individual public comments come from the interactions staff have with residents on a routine basis. Concerns and comments are received from the public through a variety of means. These concerns and comments often involve requests for longer term outcomes. These customer comments are logged, typically in CityWorks or the Street Files, for use when renewal or replacement projects are planned.

Customer comments that are received begin helping to shape the projects, sometimes before they are even formally presented to the public. Each of the projects covered by this memo are excellent examples of this process.

Earhart Road:

Staff had already received a resident request, formally submitted by Councilmember Lumm, for an increased level of traffic control at the intersection. The request asked that traffic signalization or a roundabout be considered at this location. The request was in Transportation's open items working queue, and in progress, when staff were directed to review the outstanding lane conversion location from the 2013 Non-Motorized Plan update, Figure 5.1B-Near-term Opportunities – Proposed Road Changes on page 163. The work of analyzing conditions at the intersection was incorporated into the remained of the corridor analysis.

Traverwood Drive:

Traverwood Drive was scheduled to be part of the 2019 Annual Resurfacing Program. All of the project locations in this program are reviewed for known concerns/comments from residents, unmet elements from the City's Non-motorized Plan, and potential systemic safety improvements. This corridor has a history of requests identifying concerns with the ground slope next to the library's parallel parking, requests stating concerns about non-library patrons using the library spaces (indicating unmet parking demand), and requests for flexible parking to be allowed on the street during services and holidays. The corridor is identified as a neighborhood connector on the City's Bike Map and as a shared use path corridor. Staff were able to develop a project that took these concerns into account. Subsequent concerns have been brought forward citing concerns from residents regarding dooring, but people riding bicycles will have the option to use the low-stress option of the off-road shared use path.

Green Road:

During the public meeting staff heard some very interesting feedback from residents who sometime choose to bicycle and sometimes choose to drive. These residents were very supportive of buffered bike lanes and felt that they inclusion in the pavement renewal project would be very beneficial to the trips they take by bicycle; however, they were very concerned about losing the dedicated right turn lane on southbound Green Road at Plymouth Road. These comments challenged staff to come back to the Design and Transportation teams to create another solution. Thus staff's recommended design will provide the dedicated space for people bicycling as well as maintain the current capacity of the southbound Green Road approach to Plymouth Road.

Miscellaneous Items

Traverwood Drive Parking:

During the City Council meeting staff were asked how many new parking spaces the project would be providing. The answer to this question is 71 spaces.

Why create bike lanes when we could be repairing pavement?:

Comments were made addressing resident concerns that the City was spending money to create facilities for corridors that have a small number of people bicycling when money could be redirected towards pavement repairs. The Traverwood Drive and Green Road projects are part of pavement renewals, which will require completely new pavement markings anyway. These projects are providing an opportunity to make these changes without needing to pay for existing pavement marking renewals. Additionally, the Earhart Road project is intended to utilize tactical urbanism (see below) to test the design concept prior to a planned resurfacing project.

Tactical urbanism allows the City to use a deliberate, phased approach to making major changes in the built environment. This process is being used by cities throughout the country to make safety improvements with low-cost materials. It allows staff the opportunity to test, and possibly refine, a design before making a major capital improvement investment.

Why create bike lanes when no one is biking there?

The concern was raised that some residents report seeing very few people bicycling on some of these corridors, and more information was requested on why building bicycling infrastructure is important. Staff submits the following for your consideration.

According to the League of American Bicyclists, in the [2017 Where We Ride](#) report, Ann Arbor is in the national top five list for cities sized between 100,000 to 200,000 people. As shown in the table below, data sourced from the report, over 5% of our commuters travel by bike (over 18% by walking). This rate is a significant increase over the 2000 Census rate of 2.39 %. It is also significantly higher than the 2013-17 five year average census statistics of 0.4% for Michigan and 0.6% Nationwide.

Location	Population	% who bike	# who bike	% who walk
1. BOULDER, CO	107128	10.70%	6141	10.80%
2. CAMBRIDGE, MA	113631	8.20%	5335	23.50%
3. BERKELEY, CA	122334	7.90%	4846	19.80%
4. FORT COLLINS, CO	165089	5.40%	4682	3.40%
5. ANN ARBOR, MI	121461	5.10%	3257	18.40%
6. EUGENE, OR	168909	4.40%	3663	7.00%
7. GAINESVILLE, FL	132253	4.40%	2849	6.70%

Building out the bicycle network, and providing higher level design for bicycling facilities, has been shown to generate better safety outcomes for all transportation modes in research completed by the University of Colorado Denver. These safety outcomes are in line with Vision Zero, and City Council's desire for zero transportation fatalities by 2025.