

Roads Committee

Presentation of Findings

February 22, 2021



Novi Roads Committee

- Mayor Bob Gatt
- City Council Member/Committee Chair, Laura Marie Casey
- City Council Member, Andrew Mutch
- Citizen Representative, Brian Bartlett
- Citizen Representative, Alex Dinser
- City Manager, Pete Auger
- Director of Public Works, Jeff Herczeg
- Assistant Chief of Police, Erick Zinser
- City Planner, Barb McBeth
- CFO/Finance Director, Carl Johnson
- Community Relations Specialist, Nathan Mueller
- Consulting Engineer OHM Advisors, Tim Juidici
- Consulting Engineer AECOM, Mark Koskinen



Committee Scope and Timing

- **The committee was formed in December 2019 by City Council**
 - Work started in January, stopped due to COVID-19 in March and resumed in September
- **The objective was to develop a plan to prioritize road projects to maintain safety, improve road conditions and traffic flow, and explore funding opportunities**
 - The onset of the pandemic changed the focus slightly – the findings will not include funding recommendations as had initially been planned
 - The committee reviewed road funding, road jurisdiction, the impact of other government and private entities, road construction, asset management and the capital improvement planning process
 - Focus on (but not limited to) projects out through 2026
















Novi Roads Basics (Roads 101)

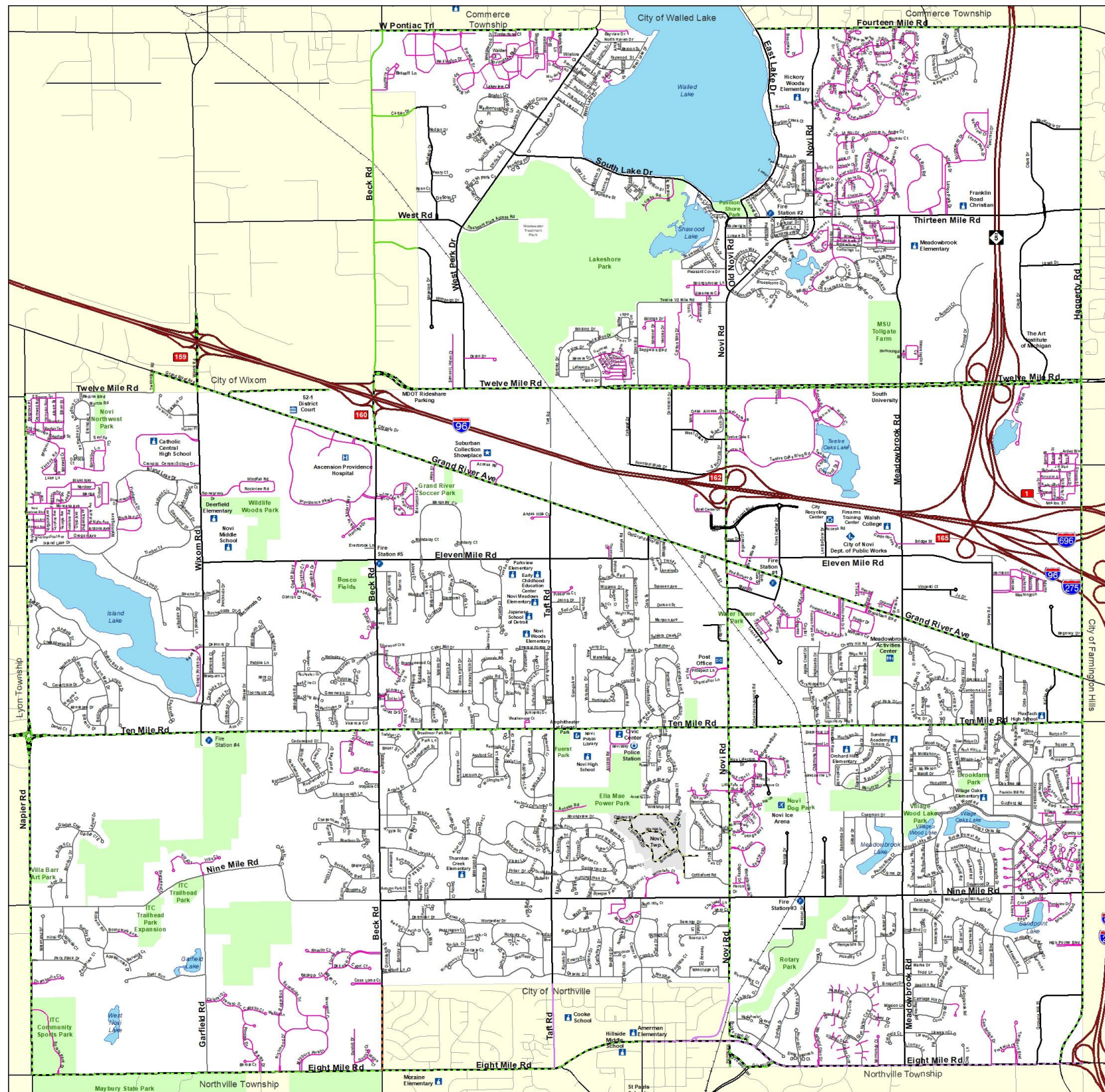
- The City's road network is 187 centerline miles of local and major roads
- There is a mix of jurisdictions between the City, Michigan Department of Transportation (MDOT) and the Road Commission for Oakland County (RCOC)
 - The even-numbered Mile Roads and east-west borders are RCOC roads (8 Mile shared with Wayne County), and M-5 and I-96/696 are MDOT
 - Having multiple road jurisdictions in the City presents unique circumstances for maintenance, prioritization, and project planning
- The City is required to submit a Transportation Asset Management Plan (TAMP)
 - The committee reviewed a version we called the Road Report
 - The City completed the report early as a part of this committee's efforts (it's not due to the state until 10/1/22)
 - The Road Report also includes additional prioritization for the road CIP program from 2020-2024
- The Committee endorsed the Road Report



Roadway Jurisdiction

LEGEND

 City of Novi-Local	 Oakland County	 Railroad
 City of Novi-Major	 Wayne County	 Lakes
 City of Novi-Private	 State	 Parks
 Novi Township	 City of Northville	 City of Novi
 City-Shared (Northville)	 City of Wixom	 Novi Township



Novi Roads Basics (Roads 101)

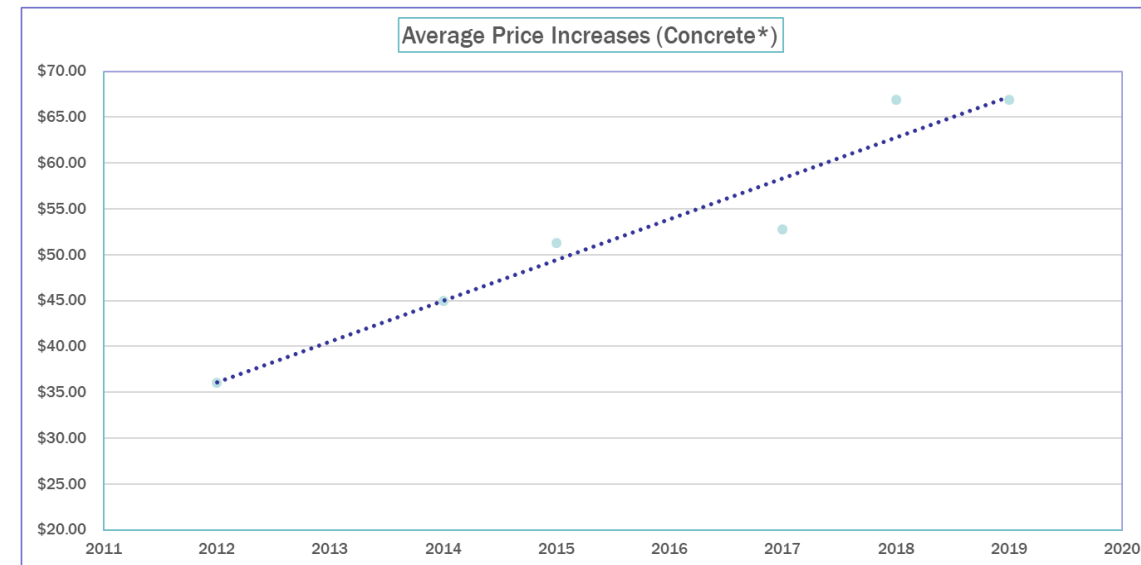
- **The City uses multiple criteria to prioritize projects**
 - There is no singular design prescription for road construction and each project is unique in community context
 - Projects are prioritized in a consistently changing landscape of revenue/budget/funding sources, development and constructability, and any other capital improvements that align with road construction (e.g. drains, water/sewer, sidewalks/pathways)
- **Equally, there are many considerations when finalizing a road design**
 - Boulevards enhance the driver experience and create aesthetically pleasing corridors
 - Driving in a roundabout is safer when compared to a traditional, signalized intersection and increases road capacity between 30-50%
 - Technological advances in pavement design should be/are considered for road projects



Road Costs

- Construction costs since 2012 have increased ~30% per square yard of material, which means that by maintaining the existing road funding levels, the City will see a flat or slight increase in network road condition moving forward

Surface	Type of Work	Range of Costs per Lane Mile (in 2020 dollars)
Asphalt	Structural Improvement/Rehabilitation	\$300,000 - \$500,000
Asphalt	Reconstruction	\$800,000 - 1,250,000
Concrete	Structural Improvement/Rehabilitation	\$350,000 - \$500,000
Concrete	Reconstruction	\$1,000,000 - \$1,500,000



*concrete used as base line, but asphalt and aggregate prices have seen parallel increases

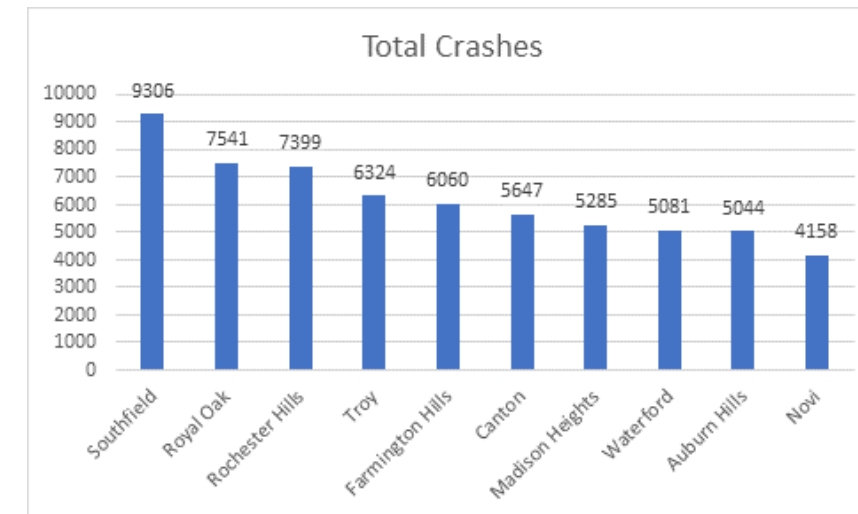
Current Road Funding

- **There are three primary road fund sources**
 - 202–Major Roads
 - Funded by Act 51 ~ \$4M/year
 - 203–Local Roads
 - Funded by Act 51 ~ \$1.5M/year
 - 204–Municipal Roads
 - Funded by Metro Act Revenue approx. \$185,000/year
 - Funded by Trunkline Revenue approx. \$113,000/year
 - Funded by dedicated road millage (1.5 mills), which has generated between \$4.9-\$5.3M/year to supplement 202 and 203
- **In general, the City has ~\$11M of funds dedicated to roads per year. The City expends between \$2-3M for maintenance, leaving \$7-9M targeted for capital expenditures for road improvements and non-motorized projects**



Safety

- **Safety is a priority for Staff and Council and requires cross-departmental partnership**
 - Council focused on crash reductions at the most dangerous intersections following Thoroughfare Master Plan update in 2016
 - The City has implemented countermeasures like signal timing and signal modernization upgrades and road design improvements like roundabouts
- **Novi Police uses a Data-Driven Approach to Crime and Traffic Safety (DDACTS)**
 - By focusing efforts on where accidents are occurring, Novi Police can put additional presence in these areas and offer, among other benefits, highly visible traffic enforcement
 - Accidents are lower than comparable communities
 - Decreased overall accidents by 35.2% over 3 years (2018-2020)



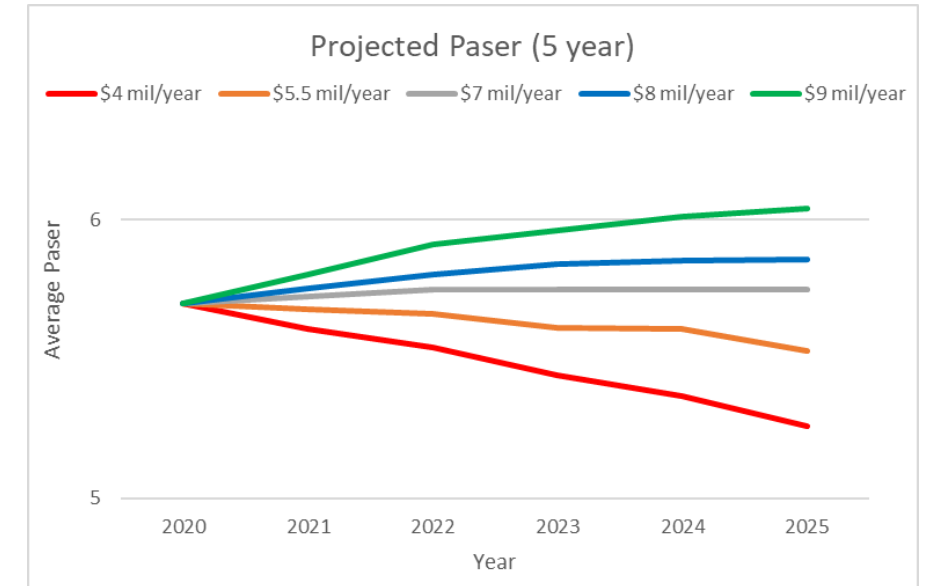
Safety

- **Due to advancements in winter maintenance operations by the City, weather-related crashes totaled only 8% of all accidents from 2018-2020**
 - Novi's Department of Public Works crews maintain all public roads in the City, except those maintained by the RCOC and MDOT
- **DPW follows these established priorities to systematically remove snow and ice from City roads**
 - Major roads, neighborhood entrances/exits, and municipal parking lots
 - Residential streets
 - Non-motorized routes abutting city-owned property



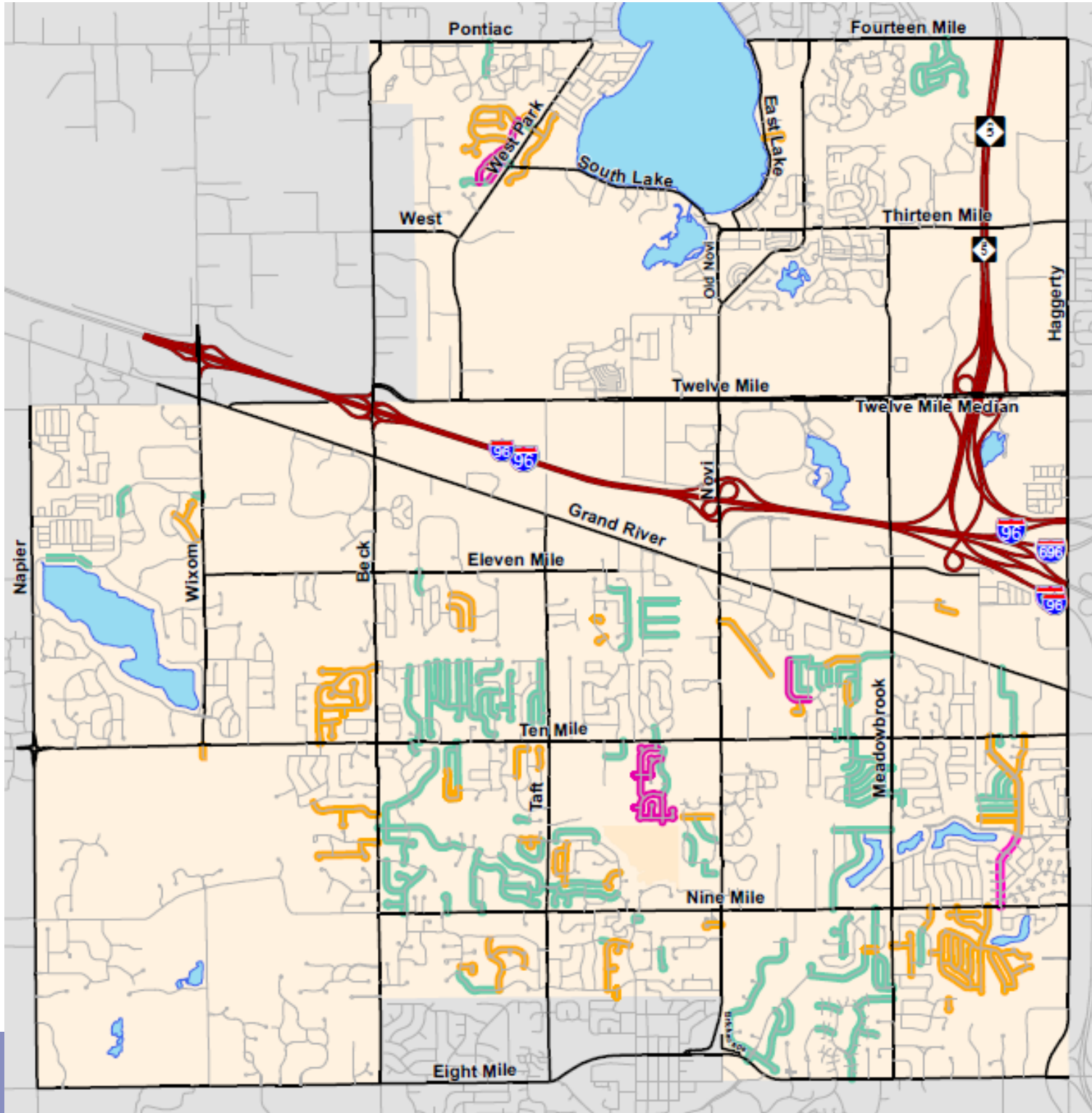
Neighborhood (Local) Roads

- Local roads comprise 80% of Novi's total road network and ~155 centerline miles
- City Council has prioritized funding on local roads
 - Neighborhood Road Program
 - Concrete Panel Repair
 - Capital Preventative Maintenance
- These programs have proven to be successful
 - Using a standard asset management tool, Pavement Surface Evaluation and Rating (PASER), Novi has seen an increase in PASER from 5.4 (2018) to 5.8 (2020)
- Total dollars invested in the Neighborhood Road Program from 2014-2020 is ~\$25M. At the end of 2023, the total investment in local roads will reach almost \$40M in just over ten years' time



Neighborhood Roads Program 2014 - 2021

Road Construction Projects
2014-2018 2019-2020 2021



Neighborhood Roads Program 2020



Holyoke Lane



Kerri Court

Major Roads and Traffic Improvements

- **Traffic congestion and capacity were some of the committee's most deliberated subjects**
 - Issues with congestion, primarily during peak times (rush hour), both impact and are impacted by residents, local businesses and traffic in the surrounding communities
 - Major road projects involve considerations different than those for local roads
 - Process: right-of-way acquisition, partnerships with other stakeholders, and funding obstacles
 - Consideration of neighboring communities and phasing to ease resident and regional traffic concerns
- **Novi's major roads are directly affected by regional traffic using the mixing bowl (I-96/696, 275, M-5) and any commuting traffic passing through the city**
- **The City has a strategy to pursue alternative funding and strong partnerships with other agencies**
 - RCOC, MDOT, Great Lakes Water Authority (GLWA)



Southwest Ring Road – Flint/Bond Street



Major Projects

Completed Projects

- Ring Roads - create alternate movement for the Grand River and Novi Road intersection *
 - Southeast - Main Street (early 2000s)
 - Northeast - Crescent to Town Center (2017)
 - Southwest - Bond Street to Flint (2020, Phase 2 connection to Grand River pending)
 - Northwest - Crescent to Grand River (2021)
- Napier and 10 Mile roundabout (2017) - improved traffic flow and safety at this historically dangerous intersection
- Novi Road over I-96 Bridge (2020) - bridge improvements, pedestrian sidewalk, and traffic signal improvements
- Grand River and Beck - Right turn lane extension (2015), Dual left turn lane (2016)

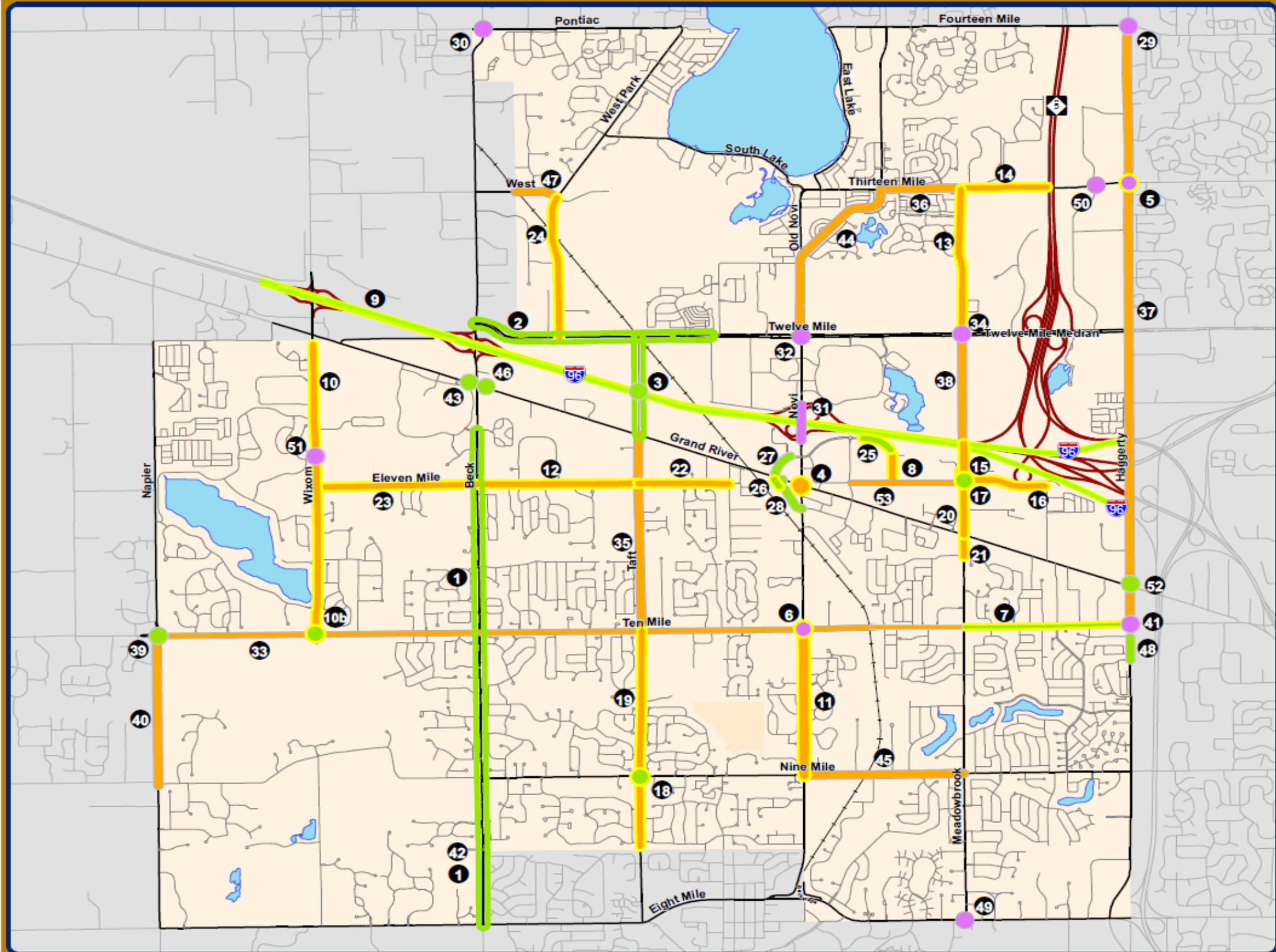
Planned Projects

- 10 Mile Road from Haggerty to Meadowbrook (2022) - continuous turn lane and selective widening *
- Taft and 9 Mile Roundabout (2022)
- Meadowbrook and 11 Mile Road - right turn lane on southbound Meadowbrook

Projects Under Consideration

- Beck Road -regional expansion (Novi, Wixom, Northville Twp.) from 6 Mile Road to Pontiac Trail, pursuing federal funding (4-lane boulevard, potential roundabout at 10 Mile Rd) *
- 12 Mile Road from Beck Road to Cabaret Drive - expand to 4-lane boulevard, RCOC project moving into to ROW acquisition *
- Ten Mile and Wixom Road, and 10 Mile and Taft Road -analyze cost benefit of roundabouts
- Crescent Road connection to Lee BeGole/11 Mile - northeast Ring Road addition
- Taft Road/ I-96 Bridge - bridge over I-96 with connection to 12 Mile Road

**committee identified pain points*



Major Road and Traffic Improvements

Completed (2014 - 2020), Planned, and Under Consideration

Legend

- Capacity Improvement, Under Consideration
- Capacity Improvement, Planned
- Capacity Improvement, Completed
- Road Surface Improvement, Planned
- Road Surface Improvement, Completed
- Intersection Improvement, Planned
- Intersection Improvement, Completed



City of Novi
 Engineering Division
 Department of Public Works
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 Novi, MI 48375
 cityofnovi.org

Map Author: Anjum/Runkel
 Date: January 11, 2021
 Project: Major Road/Traffic Improvements
 Version #: 2.0

MAP INTERPRETATION NOTICE
 Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

Long -Term Planning

- **As the City continues to grow, we will need to plan for the addition of more local roads and ensuring we are addressing current and future capacity needs**
 - The impact of COVID-19 on commuting and traffic should not be overlooked as the pandemic conditions improve
 - A larger look at changing mobility patterns is also required as improvements in mobility options (like electric and autonomous vehicles) grow
- **The City should develop a “maintenance vs. reconstruction” mindset**
 - Benchmarking through the Road Report
 - Refresh the report every 2 years to coincide with the PASER evaluation process (Pavement Surface Evaluation and Rating)
 - Renew the report every 5 years so there’s a “living document”
- **The City must continue to foster and strengthen relationships and collaborative efforts across the region and state**
- **Evaluate City Road funding annually**
 - Council to set policy and prioritization for funding for local roads and mega projects

Final Recommendations

- **The Roads Committee endorses the Road Report and recommends that the City should:**
 - Utilize the Road Report as road program benchmarking document, including maintaining a schedule for updates
 - Focus on keeping the City's PASER rating at ~5.8
 - Verify the impact of the Flex Route before committing to other major projects
 - Continue to pursue funding for mega-projects (Beck Road, 12 Mile)
 - Continue to foster partnerships with other road entities
 - Evaluate City road funding annually
 - Reconvene the Roads Committee to develop funding recommendations and longer-term planning to complete their initial objective once the post-pandemic economy has stabilized
 - Plan for the Roads Committee to be involved in the Road Report renewal process every 5 years

Appendix



Full Summarization of Findings

- The findings provided in this report focus on, but are not limited to, the time period from 2012 to present day and include projections out through 2026.
- \$7-9M/year is targeted for capital expenditures for road improvements and non-motorized projects.
- The discoveries encompass the City road network that is 187 centerline miles of local and major roads. The entirety of the network totals 391 lane miles, which is centerline miles multiplied by number of lanes per segment.
- A Transportation Asset Management Plan (TAMP) is required for every local agency with 100 or more miles of roadway under their jurisdiction.
- The committee was tasked with the review and endorsement of the Road Report.
- Accidents are down 35.2% from the three years prior to 2018. Rear-end crashes are the most common occurrence (40% of all crashes). Weather related accounted for 8% of the total crashes reported. Conclusion, distracted driving is four times more likely to be the cause of a crash versus poor road conditions.
- Local roads, also referred to as neighborhood roads, is comprised of ~155 centerline miles and makes up around 80% of the total network.
- Novi has made significant investment in local roads from 2014-2020 (~\$25M).
- Current asset management plan is performing adequately. However, 50% of the City's road network is in the "fair" range.
- It is estimated an additional \$1.5M - \$2M/year of road funding is required to continue an upward trend in PASER condition.
- Major Roads account for 20% of the system and are critical for traffic movement into and out of the city.

Full Summarization of Findings

- Traffic congestion and capacity issues, primarily during peak times (rush hour), both impacts and are impacted by residents, local businesses and traffic in the surrounding communities.
- The MDOT flex route project scheduled to begin in 2021 will have the most regional impact on capacity.
- There is no singular design prescription for road construction, and each project is unique in community context.
- Boulevards enhance the driver experience and create aesthetic corridors.
- Driving in a roundabout is safer when compared to a traditional, signalized intersection.
- Technological advances in pavement design should be/are considered for road projects.
- The Roads Committee endorses the Road Report and recommends the following:
 - Utilize Road Report as road program benchmarking document
 - Verify the impact of the Flex Route before committing to other projects
 - Continue to pursue funding for mega-projects (Beck Road, 12 Mile)
 - Continue to foster partnerships with other entities
 - Evaluate City road funding
 - Consider the impact of COVID-19 on revenue and the future of commuting traffic in the region