City of Madison

MADISON DEPARTMENT

OF TRANSPORTATION

2022 Annual Operation Report

February 3, 2023

Department of Transportation

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February 5, 2023

Transportation Planning and Policy Board
Transportation Commission

Subject: 2022 Transportation Operational Report

2022 was the culmination of 4 years of effort from the Transportation Department, the Transportation Planning and Policy Board, and the Transportation Commission. The accomplishment milestones were enormous, numerous, and will serve the city for decades. The Transportation Planning and Policy Board and Transportation Commission should feel proud of the results of their efforts. Key accomplishments include:

- A $70 million approved BRT main bid package, along with a ground breaking
- A Transportation Demand Management ordinance that levels the playing field for all transportation modes.
- A Transit Network Redesign plan – a once in a quarter century effort to bring more mobility throughout the City of Madison
- A Complete Green Streets policy – that will change street design focus from car centered to people centered
- A Vision Zero Action Plan that changes our street paradigm from speed to safety
- An approved developer agreement/zoning for an Intercity bus terminal and Lake St garage replacement
- Assistance with a Transit Oriented Development Overlay (led by Planning) – controversial - yet will help us build more housing near transit.

The 2022 Transportation Operations Report on the following pages provides interesting transportation trends as we emerge from the pandemic and enter what may be our new normal. It also summarizes some of the accomplishments of each division.

It is a privilege to serve with you.

Sincerely,

Thomas W. Lynch PE PTOE PTP AICP
Director of Transportation, City of Madison

2022 MADISON TRANSPORTATION TRENDS

TRAFFIC

As we emerge from the pandemic, some transportation trends have started to stabilize. Generally, within Madison, traffic volumes are slightly below the pre-pandemic volumes, as illustrated by Figure 1, which shows volumes on Atwood Ave and Monroe St. taken from the City's Centracs signal software. Arterials that primarily serve downtown office employment continue to see lower volumes as we adjust to the new reality of telework, and hybrid employment situations.

Figure 2 shows the September hourly traffic volume on East Washington at the Yahara River for 2019, 2020, 2021, and 2022. This illustrates both the decreased traffic volumes on streets serving the downtown and the continued lowered peak hour traffic that East Washington (and likely other arterials) are experiencing.

Traffic volumes on the state system have recovered a little more rapidly. Figure 3 illustrates average weekday volumes on monthly basis for the Beltline. In October 2022 they were roughly 103 percent of the daily traffic volumes experienced in 2019.

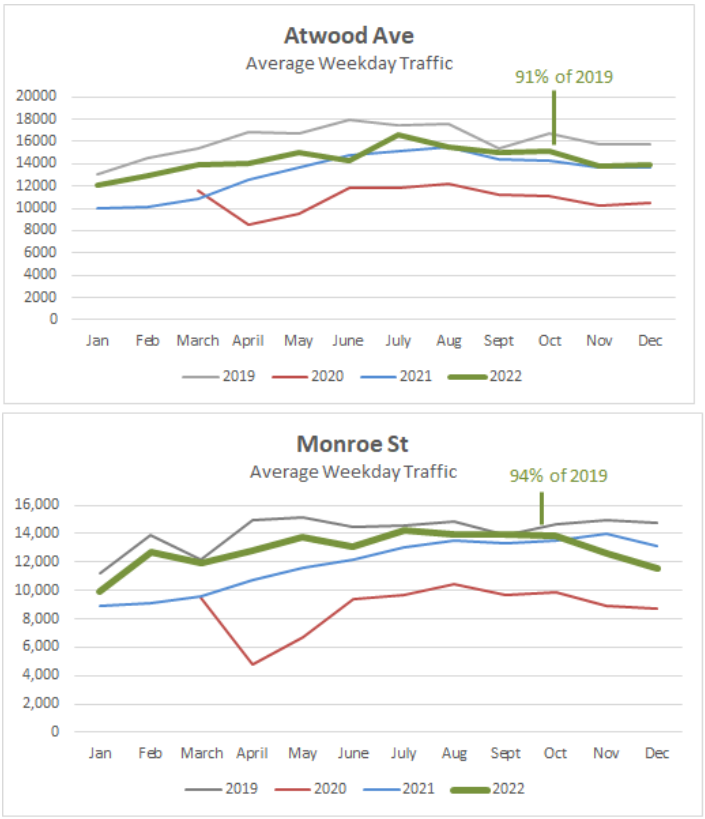


Figure 1 Average Weekday Traffic

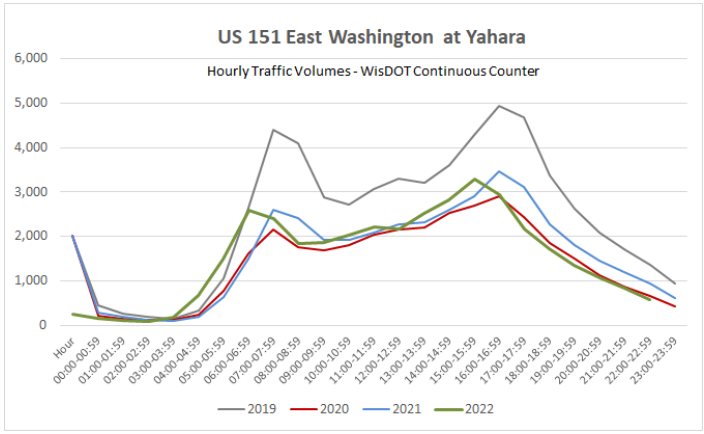


Figure 2 Weekday Hourly Volume – East Washington Ave

The addition of the Flexlane on the Beltline had an immeadiate effect on daily traffic volumes. Figure 4 illustrates the 7 to 8 am peak hour by month. After the July 13th rollout, peak hour volumes increased more than 10 percent.

Nationally VMT has recovered. Figure 4 uses data obtained from Federal Reserve statistics and shows that VMT in October 2023 was 104 percent of that experienced in 2019.

Locally, VMT may be on a better trend. The Greater Madison MPO developed a methodology for measuring VMT within the City limits using Streetlight probe data. Figure 5 illustrates their preliminary results for both "All Trips" and excluding "External to External" trips (eg freeway trips entering and leaving the county.) Both charts show significant reduction in VMT. Statistics from their analysis from 2019 to 2021 show:

- A 14% decrease in <u>all</u> weekday traffic.
- A 20% decrease in weekday traffic <u>excluding</u> external to external trips.
- A 12% decrease in <u>all</u> average daily traffic (eg with weekends)
- A 19% decrease in average daily <u>excluding</u> external to external trips.

2022 data, once available, may show Madison VMT recovering to a greater degree. This is a relatively new methodology, and Streetlight recently transitioned to connected vehicle data. Consequently, the Greater Madison MPO may not be able to compare VMT from 2022 and beyond to VMT from previous years. However, for Madison, this data shows that we are on the right trend in meeting our VMT reduction goals.

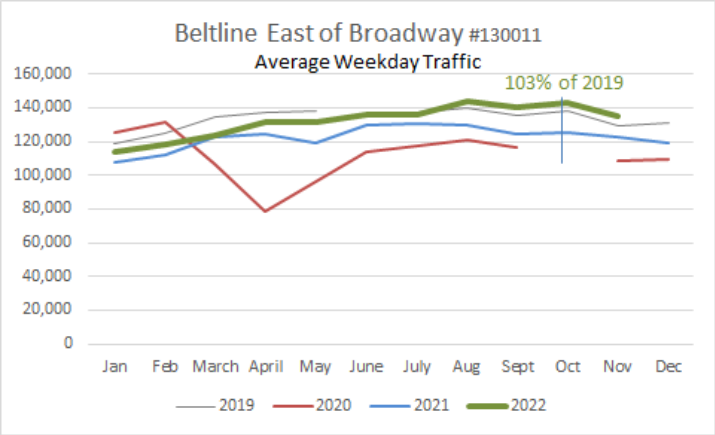


Figure 3 Beltline AWD Traffic Volumes

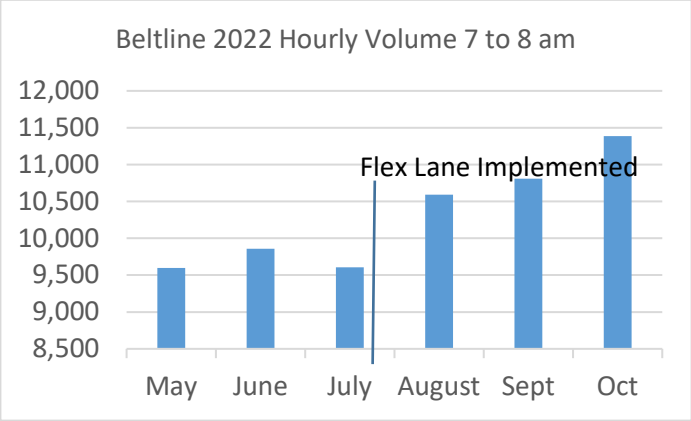


Figure 4 Beltline Morning Peak Hour Volumes

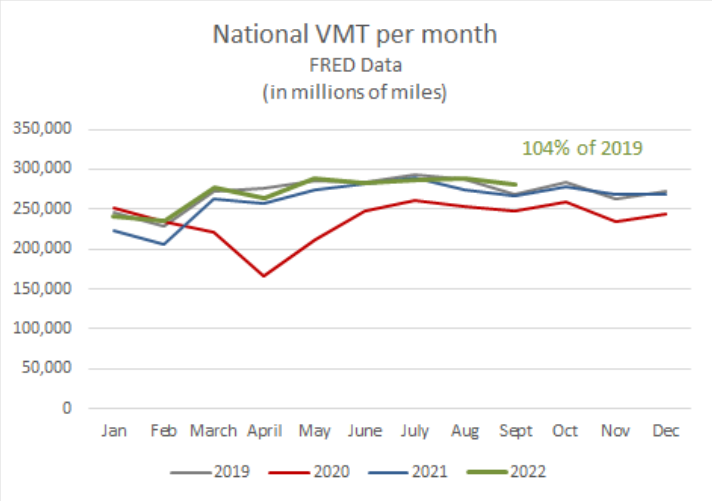


Figure 5 National VMT Data from FRED

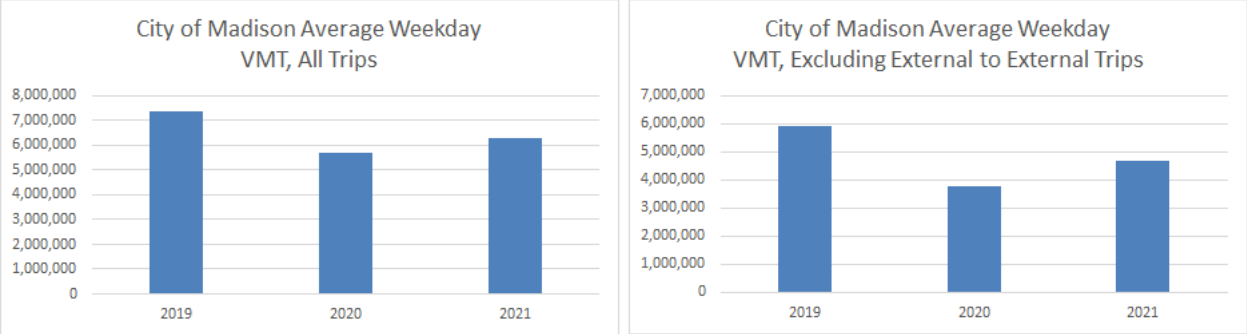


Figure 6 City of Madison Vehicle Miles Traveled

Bicycle traffic in 2022 continues to be less than 2019 levels. Figure 7 shows counts taken by the Eco-Totem bicycle counters on the Southwest Path and the Capital City Trail. This might suggest that telework has decreased bicycle commuting just as it has for motor vehicle trips.

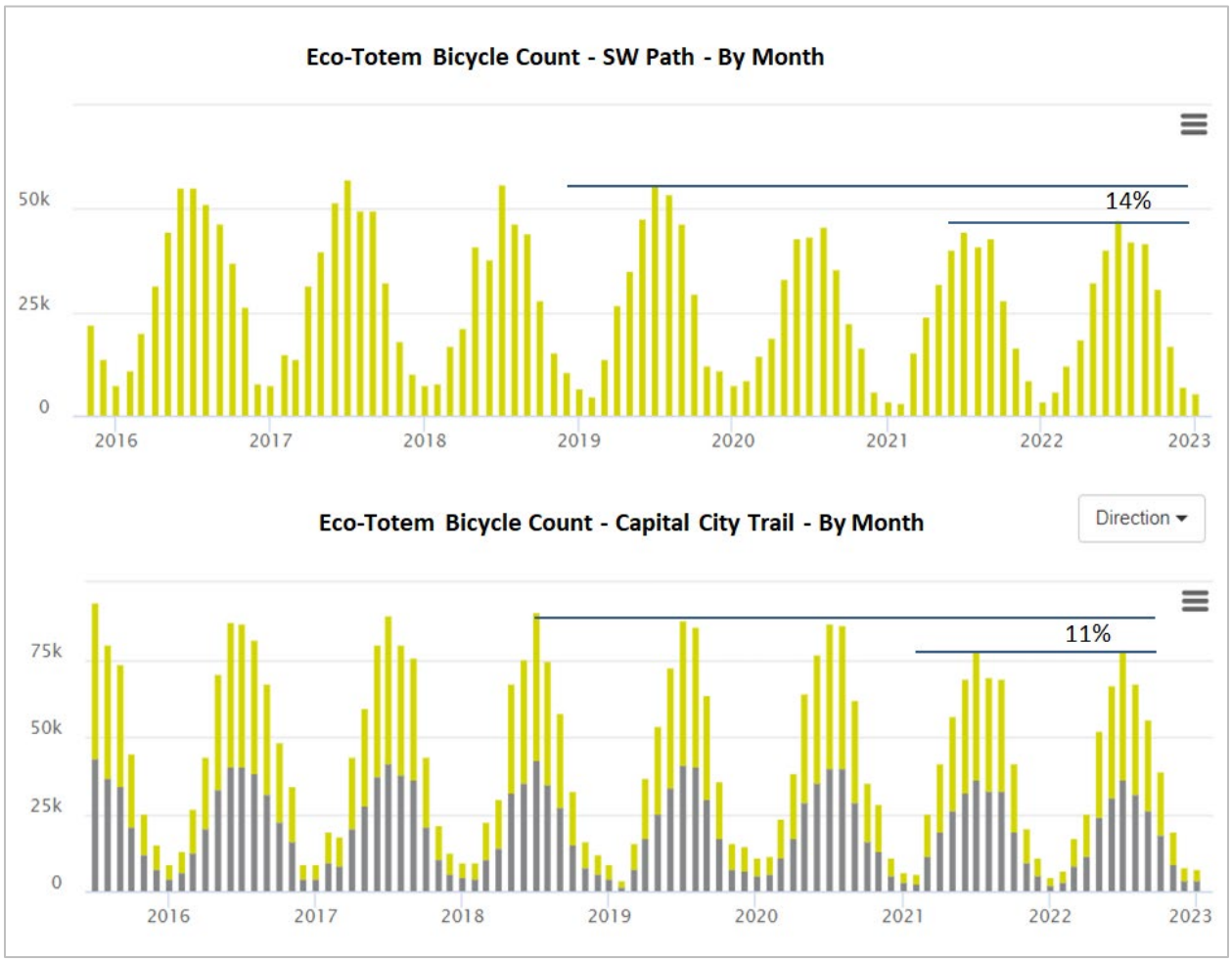


Figure 7 Bicycle Counts

Safety – 2022 saw 9 fatalities resulting from 9 fatal crashes. This is better than 2020 and 2021, and more consistent with previous years. I caution against placing too much emphasis on a single year because of statistical significance concerns associated with the small sample size. That being said, the trend is going in the right direction. Vision Zero efforts should improve this trend.

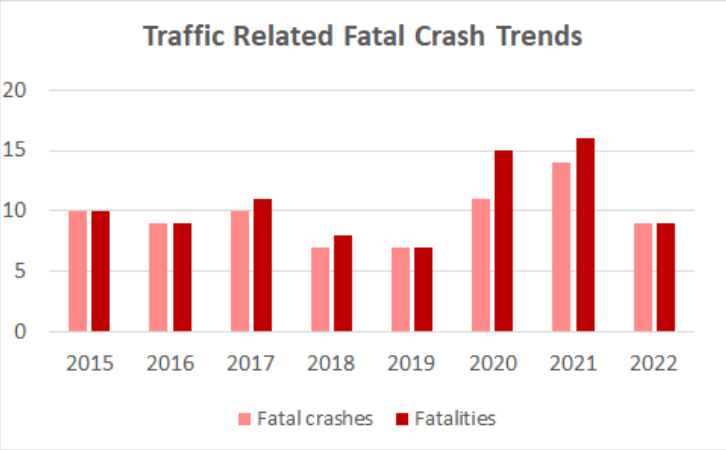


Figure 8 Traffic related Crashes and Fatalities

TRANSIT

Metro Transit ridership has normalized from the effects of the pandemic. Figure 8 illustrates the total number of October passengers from 2019 through 2022. In October we were at about 73 percent of 2019. While lower than 2019, we have recovered better than most agencies in the US, partly because of our partnership with UW Madison. The implementation of the Transit Network Redesign in May, and BRT in late fall of 2024 will affect ridership numbers. Implementation of BRT can improve system-wide ridership by 10 percent or more.

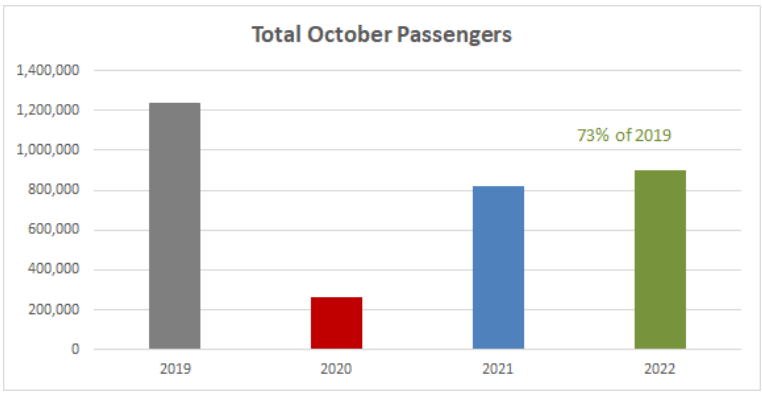


Figure 9 October Metro Passengers

Metro Transit service continues to operate at about 80 percent of the revenue hours as pre-pandemic. The reduction in revenue hours is partially due to shortages of both drivers, mechanics, and operational buses. Metro is now growing capacity in order to roll out the Transit Network Redesign in May/June of 2023

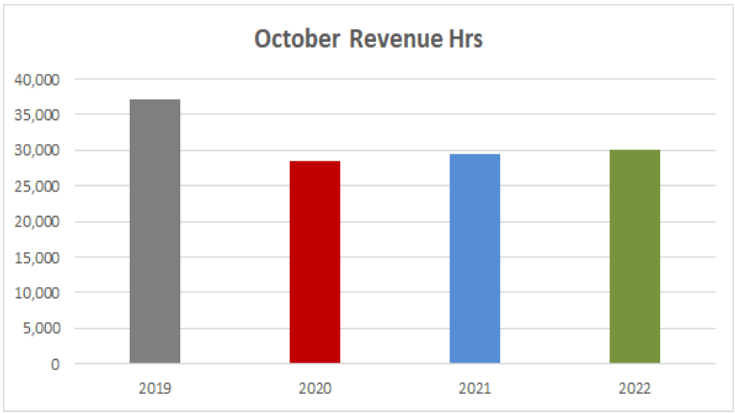


Figure 10 October Metro Transit Revenue Hours

Figure 11 shows riders per revenue hour – a measure of efficiency. While it is less than 2019, it is high when compared nationally. When compared with 2021 NTS data (2022 is not yet available), Metro Transit is easily within the top 5 percent nationally and is one of the more successful transit agencies in the US.

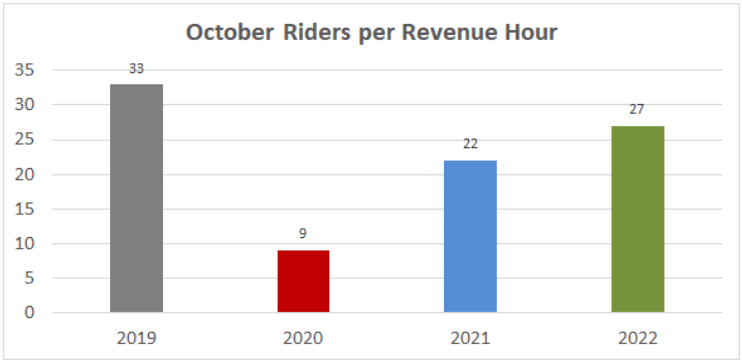


Figure 11 Riders per Revenue Hour

Fare revenue is estimated to be about 8 percent greater than 2021. Revenue should remain relatively constant until Bus Rapid Transit is implemented.

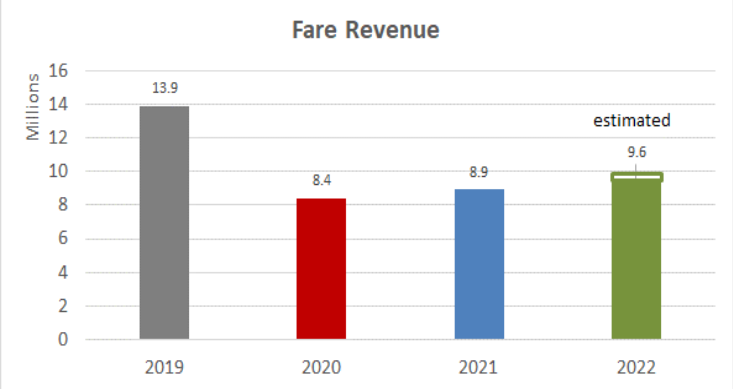


Figure 11 Fare Revenue

Fare revenues do not correspond directly to ridership because roughly half of Metro fare revenue is associated with unlimited pass programs through the UW and other employers. Those programs use a trailing four year average of ridership to calculate contributions. Therefore, the low 2020 pandemic revenue from these partners will be reflected by slightly lower contributions in future years..

PARKING

The increase in telework and flexible schedules in downtown workers is illustrated by the occupancy of our garages. Figure 12 compares average September occupancy in 2019 with 2022 from 10 am to 2 pm. Campus garages (left of the graphic) have much greater occupancy than downtown garages (right on the graphic). This is also reflected in revenue per garage, where the State Street Campus garage(SSCa) (both Lake Street and Francis St) have much greater revenue than the other garages (Figure 13) such as State Street Capitol (SSCO), Overture, and Wilson

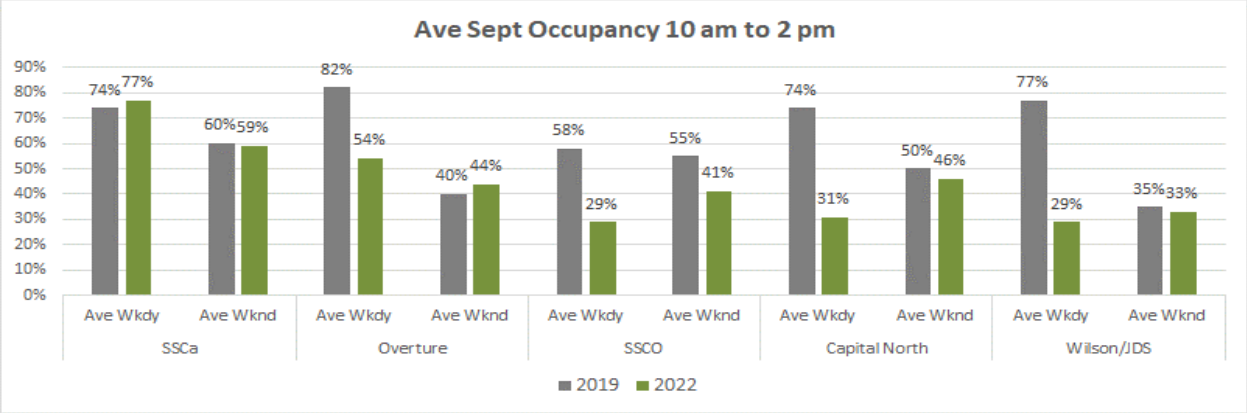


Figure 12 2019 vs 2022 Garage Occupancy 10 am to 2 pm.

When the Lake Street garage is taken out of service for its reconstruction, there will be some effects to revenue.

Figure 13 illustrates the primary revenue sources for the Parking Division and compares 2019 with 2022. All are less in 2022, but the garage parking has the greatest effect.

Figure 14 illustrates the revenue by garage, broken out by hourly and long term leases. Again, the State Street Campus garages are generating more revenue than the garages downtown, but note that the SS Campus garage is actually two structures with over 1000 parking spaces.

Figure 15 shows the Net Parking Revenue, which includes expenses. Note that the 2019 and 2020 do not fully reflect the Parking Enforcement Expenses (roughly $3 million/year). In 2022 the Parking Division generated about $0.5 million of reserves, which is much less than what was generated prior to the pandemic. Specific measures will be incorporated in the 2023 workplan to increase revenue.

Figure 16 illustrates the expenses and the citation revenue generated by the Parking Enforcement Officers. Note that the citation revenue is directed to the General Fund and not the Parking Fund

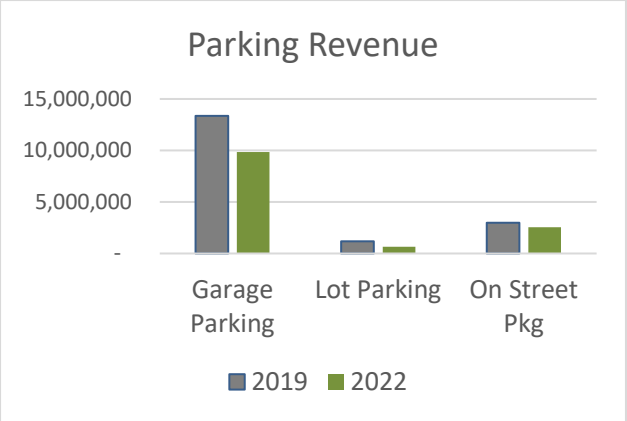


Figure 13 2019 vs 2022 Parking Revenue Sources

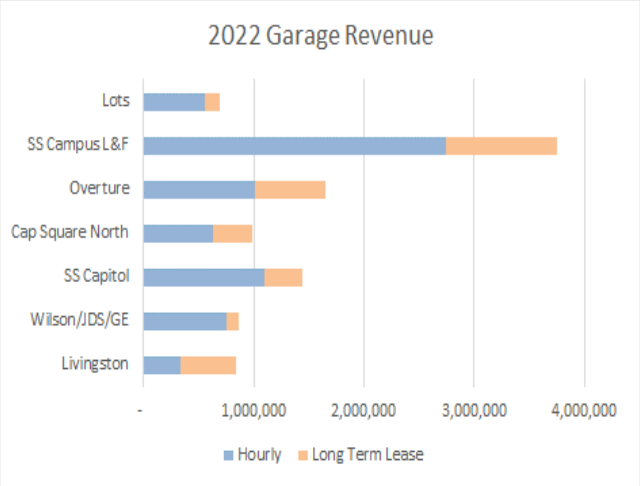


Figure 14 2022 Revenue by Garage

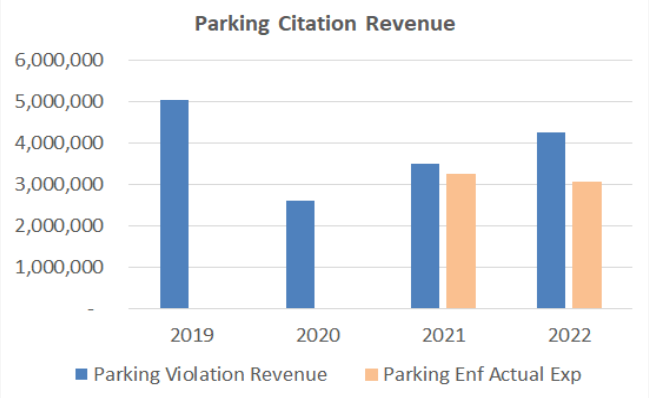


Figure 16 Parking Citation Revenue – PEO Expense

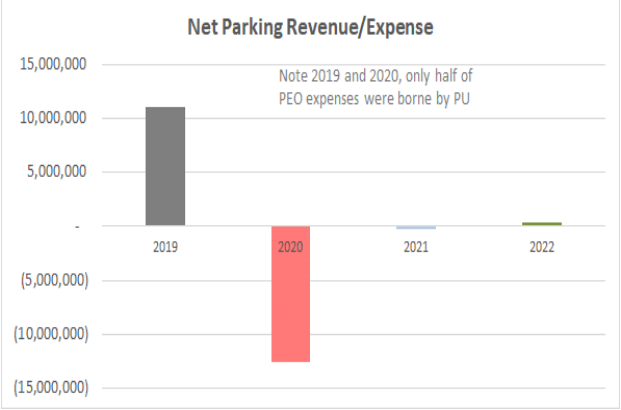
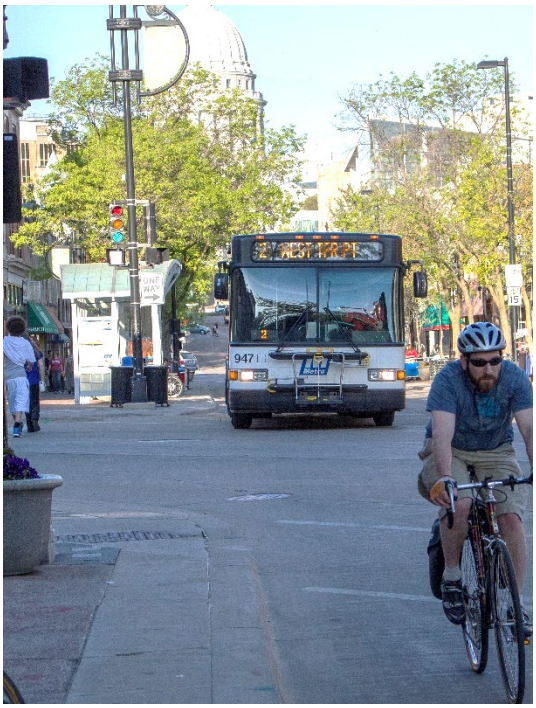


Figure 15 Net Parking Revenue/Expense

OBSERVATIONS



As we emerge from the pandemic, we are starting to see transportation patterns that may be the "new normal". This has impacts both our community and Department and warrants a review on how we should adjust our services and system to conditions that probably have normalized.

Employment downtown often is suited for telework. Consequently, many downtown employees are only in the office a couple of days a week, if at all. Employees with a hybrid schedule seem to prefer Tuesdays, Wednesdays, and Thursdays as in-office days. Effects that we are seeing from this include:

- The demand for day-time parking in our structures is reduced. There appears to be less demand for 5-day-a-week monthly passes when workers only in the office 2 or 3 days a week. This phenomenon affects how much revenue is collected and has implications for how much parking our structures should accommodate when they are reconstructed.
- Reduced daily traffic volumes on streets leading to downtown employment, with peak hour volumes being greatly reduced. As these streets are reconstructed, space could be reallocated to focus less on providing peak hour motor vehicle capacity.
- With the increase in telework, it appears Madison's Vehicle Miles Traveled (VMT) has measurably declined in a lasting way. Dane County has a goal of decreasing VMT by 15 percent by 2050. This preliminary analysis suggests the City may already be there.

OPPORTUNITIES AND CHALLENGES

As mentioned in last year's report, the Bi-partisan Infrastructure Law (BIL), also known as the Infrastructure and Jobs Act, contains an unprecedented amount of funding for transit, passenger rail, pedestrian and bicycle improvements. In the coming years, the City is hoping to take advantage of this new funding for North-South BRT, possible Amtrak service, and increasing the Safe Streets Madison budget.

The City has an asset in its parking garages and on-street parking that is not being fully used. Revenue from this parking pays for Parking Division staff, Parking Enforcement Officers, and Payments to the City

in Lieu of Taxes. While we do not want to encourage single occupancy travel, we do want to be a competitive supplier of parking and capture market share. This may require more nimble price adjustments and creative and new products, such as 10 day passes, shared parking, and dynamic pricing.

2022 GENERAL TRANSPORTATION EFFORTS

While the Transportation Department is composed of Traffic Engineering, Metro Transit, and Parking, there are were a couple of initiatives of Transportation staff that did not fit squarely under one of the divisions. Some of these efforts are major accomplishments for Transportation policy within the City of Madison.

Transportation Demand Management (TDM) Ordinance

The new ordinance puts an emphasis is on shifting travel to sustainable transportation options; such as transit, rideshare, biking, and walking. TDM strategies help us use a fixed amount of roadway capacity efficiently, and are a key factor in reducing emissions associated with Climate change. This ordinance will help us as a City help level the playing by giving alternate transportation modes similar incentives as we give to automobile travel.

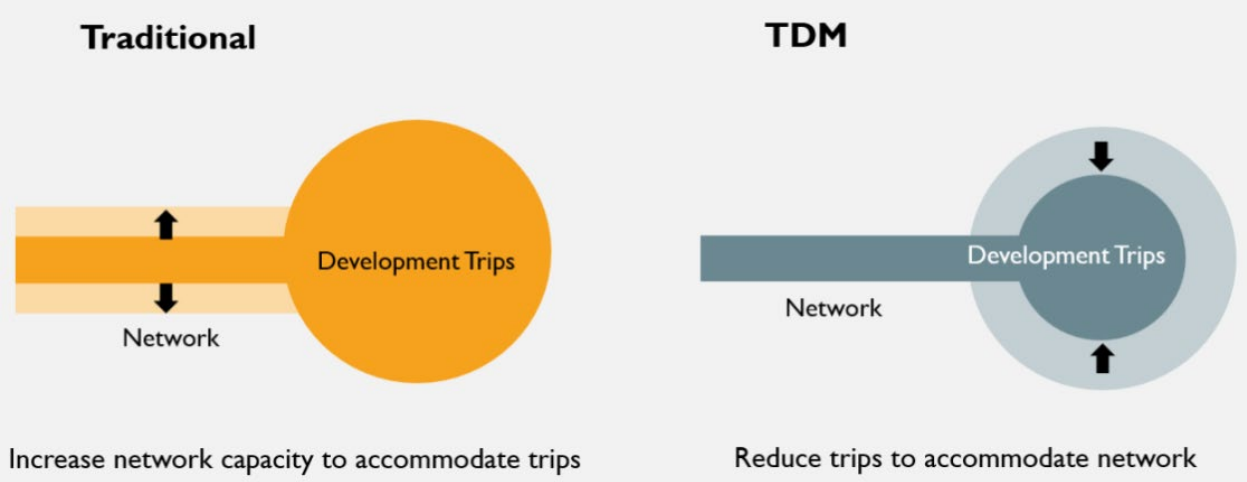


Figure 17 Traditional Accommodation of Development vs Transportation Demand Management

Transportation Improvement Program

Transportation staff worked with Engineering staff to develop a program that uses multiple factors to prioritize street improvement factors, and then mapped them to help illustrate possible TIP prioritization. By doing this, the TIP submitted for the Capital Budget can also include safety, completing networks, and equity. The 2024 projects being presented to TC will be derived from this methodology.

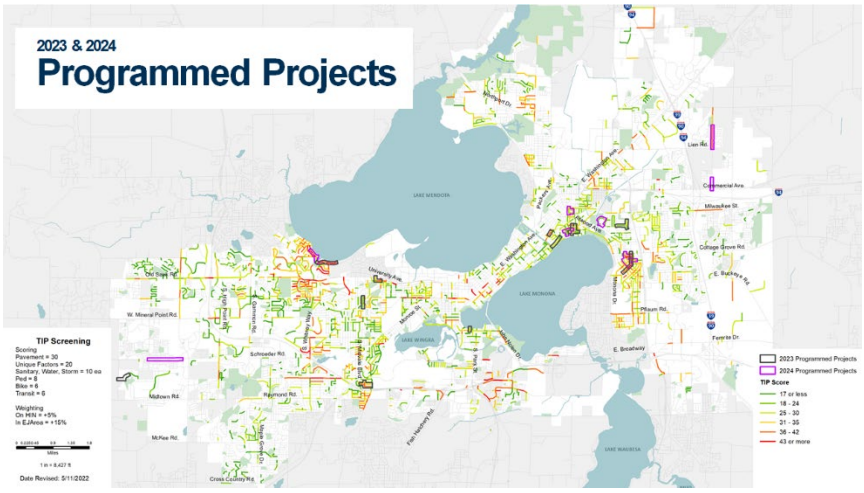


Figure 18 Programing Projects Using New Prioritization Tool

Passenger Rail

With the unprecedented funding for passenger rail incorporated in the Bipartisan Infrastructure Law, Madison initiated efforts to bring passenger back to Madison. This started by partnering with other Cities to express interest in the Federal Rail Administration's Corridor ID program for an extension of the Hiawatha train from Milwaukee to Madison. Later in the year we engaged a consultant to perform a station location study. The kickoff meeting for this study garnered between 100 to 200 for the in-person meeting, with another 300 + for the virtual meeting held immediately after.

Figure 19 Amtrak Kickoff Meeting

Grant Submittals

Other BIL grants the Transportation Department submitted included:

- Reconnecting Communities planning grant submittal for the Perry Street overpass over the Beltline.
- Railroad Crossing Elimination program for crossing and fencing improvements throughout Madison.

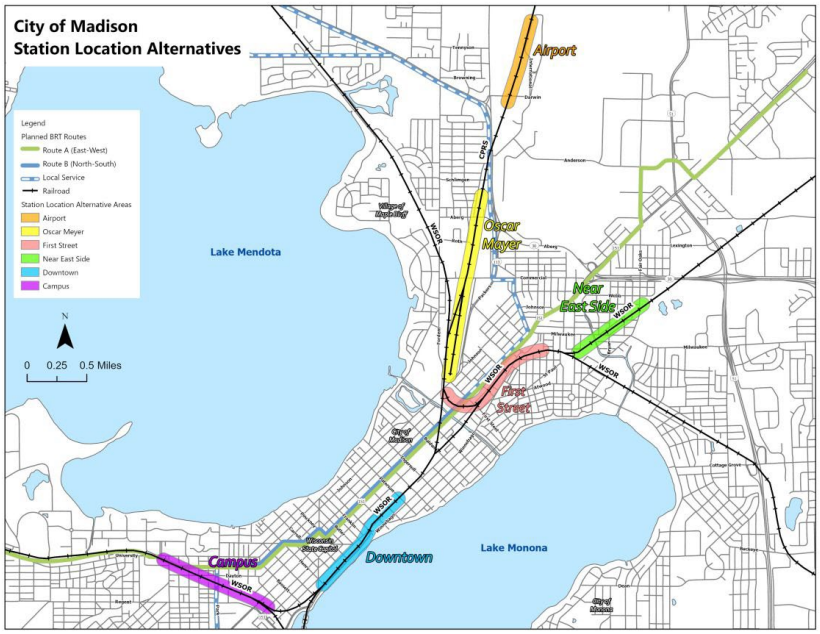


Figure 20 Potential Amtrak Station Locations

2022 TRAFFIC ENGINEERING EFFORTS

Traffic Engineering continued maintaining the City's transportation network while advancing key initiatives. This involves considerable amount of coordination. There were over 4,200 workorders produced – many of which were direct responses to requests from our residents and businesses.

Vision Zero and VZ Action Plan

In March 2022 the Vision Zero Action plan was adopted. This provides a framework for Capital Expenditures and was recognized by the Vision Zero Network for its discussion and treatment of enforcement.

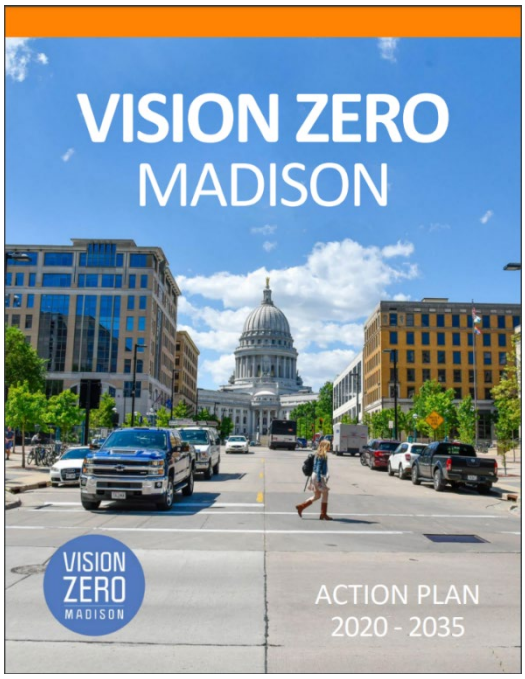


Figure 21 Madison Vision Zero Action Plan

2022 also marked the first year of the implementation of the new Safe Streets Madison program. A series of Safe Streets Madison projects were developed based on scoring that included Vision Zero principles. Due to labor and contractor shortages, not all of the projects could be completed in 2022. However, in 2022 Madison was able to accomplish:

- 2.8 miles of buffered bike lanes, bike lanes, or paths.
- 1.5 miles of pedestrian accommodations and sidewalks.
- 15 Rapid Flashing Beacon Changes
- 14 miles of speed limit reductions
- Two neighborhood pilot projects of 20 is plenty.

Complete Green Streets – *Imagine Madison Land Use and Transportation Strategy 8*

On January 6, 2023 Madison adopted the Complete Green Street Guide. This guide is unique nationally in that it includes a robust typology which considers context represents two years of focused effort.

Instead of street classifications, such as arterial and collector, that were developed in the 1940s to move autos, this policy focuses on moving people. The policy is unique in its design in that it includes a street typology based on context; and overlays based on equity, tree canopy and modal networks.

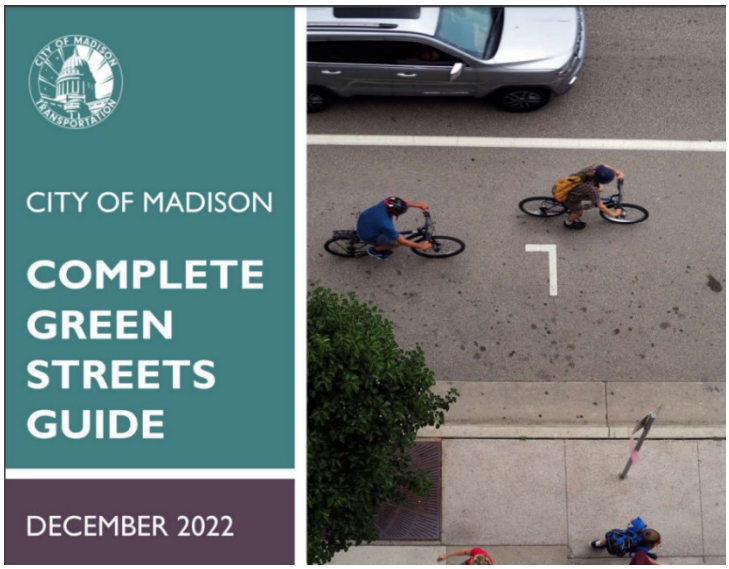


Figure 22 Complete Green Streets Guide

This policy:

- Accommodates all travel modes rather than just motor vehicle operations
- Results in narrower streets with less impervious area
- Provides more opportunities to increase tree canopy and green infrastructure.
- Promotes slower streets, creating safer environments with fewer injuries
- Builds complete networks, allowing people to get where they need to go with any mode

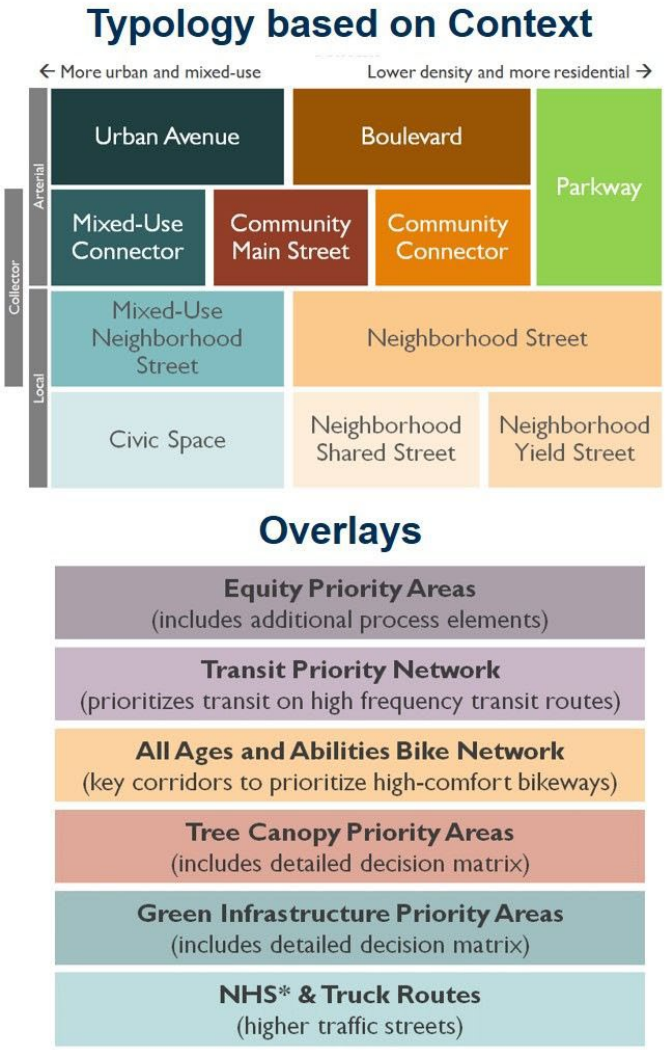


Figure 23 Complete Green Streets Typology and Overlays

Grant Submittals

Traffic Engineering submitted several grant applications and received funding from the Transportation Alternative Program, Highway Safety Improvement Program, and Surface Transportation Program. Another major grant application submittal was for the Federal BIL Safe Street for All program, which required quite a bit of coordination. US DOT announced that we would receive about $267,000 of planning monies from this program.

Traffic Engineering also submitted on the Strengthening Mobility and Revolutionizing Transportation (SMART) program to improve vulnerable roadway users safety through proactive and predictive smart city technologies using the Park Street corridor as a test bed. Notices of funding are anticipated to occur later in 2023.

Traffic Engineering also submitted and received a federal grant of $707,000 from the Carbon Reduction Program to support the City's LED Streetlight conversion project.

LED Streetlight Conversion

LED streetlight conversion began in 2021 – with a pause in the summer due to staff shortages. Traffic Engineering reinvigorated this program in the midst of staff and contractor shortages by using existing staff on weekends. While at a slightly slower pace than envisioned, staff have found a way to move forward with this initiative.

METRO TRANSIT 2022 EFFORTS

Bus Rapid Transit – *Imagine Madison Land use and Transportation Strategy 2b*

Key accomplishments for E-W BRT in 2022 include:

- The approval of the environmental document.
- The design of two bid packages, with plan set exceeding 1000 pages.
- The bidding of the Earlyworks and Main BRT bid packages.
- The ordering of 42 fully electric BRT buses.
- The groundbreaking for BRT construction.

Figure 24 BRT Groundbreaking

The construction agreement with the Federal Transit Administration is anticipated to be approved in late spring of 2023.

Transit Network Redesign – *Imagine Madison Land Use and Transportation Strategy 1a-c*

A once in a quarter century event, the approved Network Redesign seeks to increase frequency and reduce the number of transfers by riders. The net result will be more access to more jobs and services. The network redesign soft rollout is planned for June 11 of 2023.

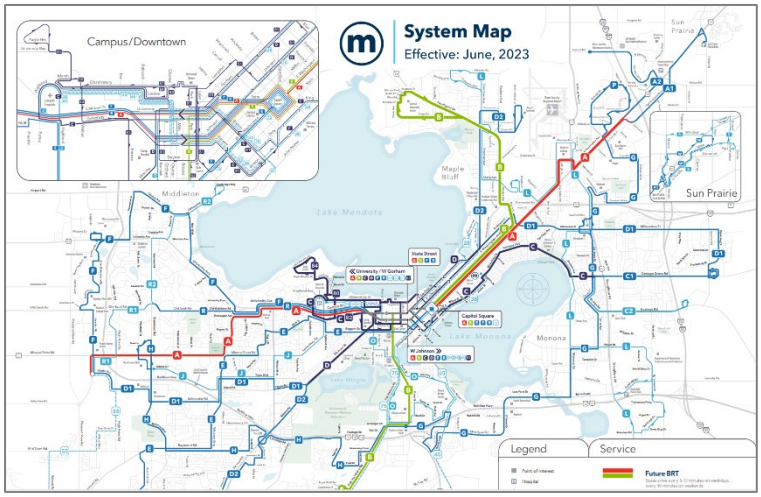


Figure 25 Transit Network Redesign

Transportation Oriented Development Overlay – *Imagine Madison Land Use and Transportation Strategy 5a*

Madison's Planning Division managed a legislative process leading to a Transit Oriented Overlay in our zoning code. Centered on high frequency transit such as BRT, will provide more density near transit corridors.

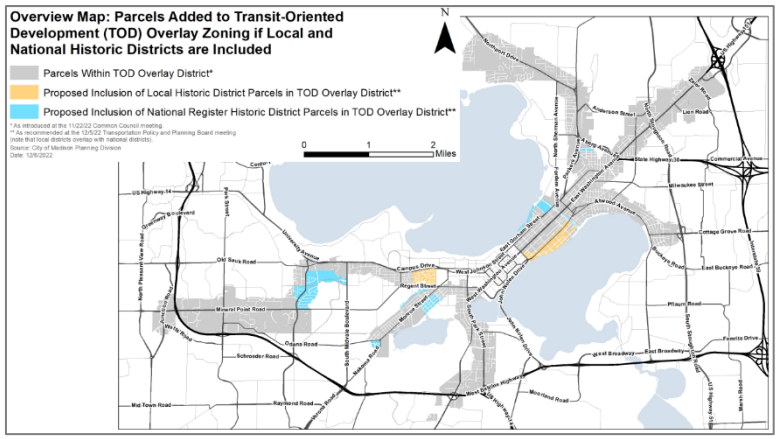


Figure 26 Transit Oriented Development Overlay

Improvements to Metro's Main Facility – *Imagine Madison Land Use and Transportation Strategy 2a (partial)*

Phase 3a repairs to Metro's main facility at 1101 East Washington is almost completed. These improvements – when totaled together amount to over $30 million, include renovating 30 to 40 year old maintenance areas, providing gender equity in bathrooms and locker rooms, and rearranging bus flow and storage.

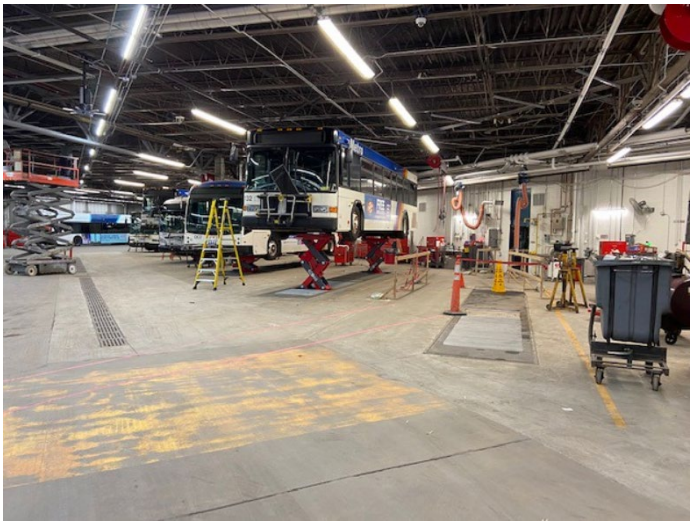


Figure 27 Metro Transit 1101 East Washington Ave Maint Bay

Organizational Changes –

Metro will be managing significant initiatives over the coming year with BRT, Network Redesign, Electric Bus conversion, and Technology Upgrades. To prepare for that, they restructured organizationally, including the hiring of managers, in order to continue to move Metro Transit forward.

Technology Upgrade – *Imagine Madison Land Use and Transportation Strategy 9*

Metro Transit enlisted a firm to upgrade metro's 15 year old vehicle tracking technology as well as other passenger counting technology. Deployment of the technology will begin in 2023 and continue through 2024.

Figure 28 Metro Transit 1101 East Washington Ave Driver Area

PARKING 2022 EFFORTS

Leadership

Sabrina Tolley resigned early in 2022, with David Wills filling as Interim Parking Manager. What was originally thought to be a 3 to 4 month assignment, David served the division throughout the full year. We are grateful for his service and mentorship as the division hired many new employees in 2022.

State Street Campus Garage Mixed Use Development

The Economic Development Division released an RFP for a mixed use development that included reconstruction of the Lake Street garage, an inter-city bus terminal, and student housing. The Mortenson Development team was selected for this public private partnership. The year included conceptual layouts, traffic flow, development agreement approval, and zoning approval.

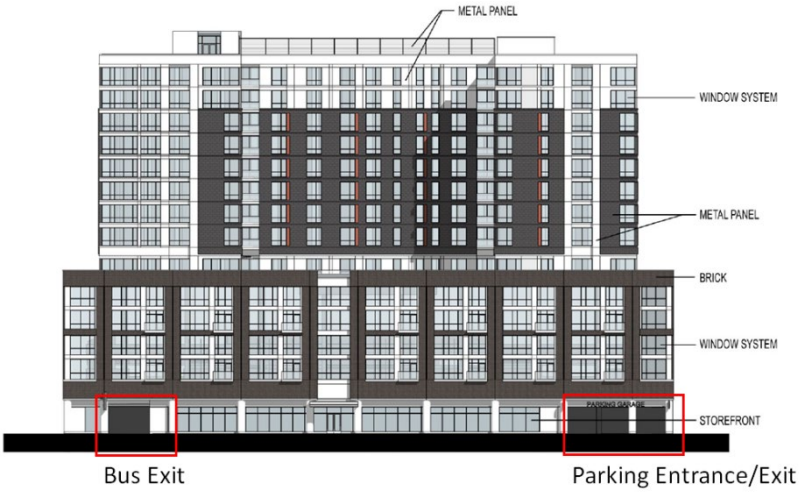


Figure 29 State Street Campus Mixed Use Development

Parking Enforcement

Parking Enforcement was further integrated into the Parking Division, both in finances and coordination. The downtown PEO vehicles were moved from the Fairchild facility into the Wilson Street garage. The interim home for the PEOs will be at the former Town of Madison hall. The move out of the districts to this centralized facility is likely to occur in the first quarter of 2023. .

Figure 30 Parking Enforcement Vehicle

Brayton Lot Transition

The Parking Division transitioned the Brayton Lot as a construction staging area for the BRT construction. It also served as the host site for the BRT ground breaking. By using the Brayton Lot as part of the Federal Transit Administration's Joint Development program, Madison received the value of the lot towards the local match requirement for Federal Funds. Once BRT construction is completed, the lot can be redeveloped towards a transit supportive use.