

Successful High-Volume Road Diet in St. Paul

Ramsey County, Minnesota

KEY ELEMENTS:



High-Volume Road Diet



Pedestrian Safety & Mobility

Ramsey County, Minnesota, which contains the State capital, St. Paul, implemented a permanent road diet on a relatively high-volume corridor, converting the four-lane facility to two lanes with a center turn lane to improve pedestrian safety and address concerns about traffic speeds. Following the successful implementation of the road diet, the County has initiated planning and design efforts for road diets on other higher-volume corridors.

PROJECT BACKGROUND

In 2016, following the death of a pedestrian crossing Maryland Avenue at Greenbrier Street, the public called for pedestrian safety improvements along the corridor. Ramsey County targeted the 1.3-mile section of Maryland Avenue from Payne Avenue to Johnson Parkway. The cross section of Maryland Avenue is 40 feet, and at the time was divided into four 10-foot lanes.



Figure 1. Photo. Road diet performed in Ramsey County.

The road diet converted this existing cross section to one 11-foot lane in each direction, with a 13-foot center turn lane and 2.5-foot shoulders. The Annual Average Daily Traffic (AADT) on the corridor was as high as 23,000 vehicles per day.

TEMPORARY TRIAL

County engineers analyzed the proposed road diet using VISSIM and Synchro. As expected, the results indicated the potential for increased congestion along the corridor. This prompted the County to conduct a temporary trial of the proposed four-to-three lane conversion.

In May 2017, Ramsey County implemented the temporary trial, which consisted of restriping the corridor and adding signage and flexible delineators to alert drivers to the new roadway conditions. The County kept the temporary installation in place through the winter, allowing road users to acclimate to the new corridor configuration during snow plowing operations.

Throughout the temporary trial, Ramsey County staff evaluated the performance of the road diet and the public reaction. In 2018, the full conversion was constructed on the corridor with permanent raised concrete median refuges and striping.



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STEP: https://safety.fhwa.dot.gov/ped_bike/step/

PUBLIC ENGAGEMENT & RESPONSE

Public engagement was critical to the success of the conversion project. Ramsey County held several events to engage local stakeholders. Additionally, the County conducted a digital media campaign, surveys, and public education regarding the temporary trial phase. Citizens shared concerns about travel delay, frequent stops due to buses blocking the only through lane, and diversion of traffic to the surrounding neighborhood streets. Public acceptance in the concept continued to grow throughout the trial and after construction despite these initial concerns.

“We talked to the community about what was more important to them: moving traffic or pedestrian safety. There is a trade-off. We realized there was the potential for an increase in congestion, but we wanted to do whatever best matched the values of the community.”

—Erin Laberee, Ramsey County Project Engineer



Figure 2. Photo. On-site public engagement at Maryland Avenue. Local elected officials have described the Maryland Avenue Road Diet as a response to public concern about pedestrian safety.¹

DATA & EVALUATION

County engineers performed a before-and-after evaluation following the implementation of the conversion. The results showed that:

- Speeds were reduced by up to 6 mph along the corridor. Speed variability decreased since vehicles were not weaving between two lanes.
- Side street delay and queuing did not increase significantly. Some diversion of traffic to parallel routes was identified, which the County anticipated and determined could be accommodated by the adjacent parallel roads.
- The frequency of higher-severity crashes decreased, while property-damage only crashes increased slightly. The County intends to conduct a follow-up study after more time has passed and more data is available.

LOOKING AHEAD

Currently, another section of Maryland Avenue (adjacent to the previous project section) and a section of nearby Larpenteur Avenue are under temporary trial installations for four-to-three lane conversions, similar to the trial that was conducted on the original section of Maryland Avenue. Ramsey County plans to examine other candidate four-lane undivided roads for possible future road diets, considering a combination of various factors: annual average daily traffic (AADT), traffic speed, pedestrian and bicycle volume, road geometry, transit and freight operations, parking, and right-of-way.

References

¹Lindeke, B. (2019). "Risky Hennepin and Ramsey County streets are increasingly being put on 'road diets'". Minn Post. <https://www.minnpost.com/cityscape/2019/10/risky-hennepin-and-ramsey-county-streets-are-increasingly-being-put-on-road-diets/>. Last accessed April 30, 2020.