

Summary of Community Feedback and Assessment of the Test Median on Cleveland Avenue at Jefferson Avenue



Photo rendering created by Community Design Group for Transit for Livable Communities

Prepared by Transit for Livable Communities Bike Walk Twin Cities



January 2011

The following summarizes the pilot test of a temporary median on Cleveland Ave at Jefferson Ave in the Mac-Groveland Neighborhood of St Paul.



Rendering of what proposed median might look like when permanently constructed.

Background: In August of 2010, the City of St. Paul installed a temporary median at the intersection of Cleveland Avenue and Jefferson Avenue for the purpose of evaluating the treatment before installing a more attractive and permanent structure. The main goal of the project is to make Jefferson Avenue a safe and pleasant place to walk, ride, and reside. The median will reduce non-local vehicle traffic using Jefferson Avenue and provide pedestrians and bicyclists a safer way to cross Cleveland. Like other medians that have been constructed in St. Paul, access for emergency vehicles is completely retained.

The city public works department collected data on Cleveland Ave, Jefferson Ave and adjacent residential streets (Finn, Juliet, Kenneth and Wellesley) before during and after the installation to determine the impacts, if any, on traffic volume and travel speeds in the study area.

Follow-up bicycle and pedestrian counts will be conducted to evaluate the overall impact of the Jefferson Ave Bikeway Project in 2011 and 2012.

The Project including the costs of a more permanent median at this location, will be largely funded by the Non-motorized Transportation Pilot Program (SAFETEA-LU 1807), being administered by Transit for Livable Communities, a non-profit based in St. Paul.

Description and Function of the Test Median



The space between the temporary rubber curbs provides an area for people to wait while crossing the road. The test median extends to both sidewalks with openings for people in wheelchairs.

A driver turns right from westbound Jefferson onto northbound Cleveland.



A person on a bike watches for cars inside the temporary refuge island.

Recommendation

TLC staff recommends moving forward with the Jefferson Avenue project including the Cleveland Avenue median as part of the project design. The City of St Paul Public Works Department should commit to working with the neighborhood to ensure the final outcome is appropriate for the Mac-Groveland Neighborhood.

The empirical results of the study show no significant negative impacts of a median refuge on Cleveland Ave at Jefferson Ave. The tremendous volume of comments received has provided valuable feedback to aid staff consideration and will allow for a more effective and aesthetically pleasing final product when completed.

It should be noted that the sum total of comments in opposition were higher than those in favor (264 to 186). However, there is clear evidence that a number of the concerns are not supported by the data collected and the remaining concerns should continue to be addressed as the project moves forward with input from the residents for final design.

Summary of Findings

Crash Data/ Safety Issues

During the test period there were no reported crashes (pedestrians, bicycles or motor vehicles) at the Cleveland/Jefferson Ave location. It is understood that a much longer study would need to be conducted to truly ascertain safety benefits or any potential problems. However, research shows that medians employed as pedestrian refuge islands provide important safety benefits to all road users by 1) allowing for a two phase crossing strategy and 2) through-traffic calming which can result in slower speeds and/or increase alertness among drivers.

Travel Speed Impacts

The speed studies conducted on Cleveland Avenue show a modest decrease in average travel speeds of 1 to 2 mph during the median test period. This modest decrease is consistent with expectations for a center channelization device, such as a median, where the lateral deflection tends to result in reduced travel speeds. Additionally this reduction of average speed now closer adheres to the posted speed limit of 30 mph on Cleveland.

The purpose of this median is to improve crossing conditions for pedestrians and bicyclists crossing Cleveland and not necessarily to reduce vehicle speeds. However, lower speeds have a positive correlation with crash avoidance and mitigation. Drivers traveling at higher speeds are less aware of their surroundings and have less time to notice and react to pedestrians and bicyclists. Studies show that even relatively small decreases in vehicle speed can greatly increase the chances that a pedestrian will survive a crash with a vehicle. (The chance of fatality if struck by a car at 20 mph is 5 percent - at 40 mph it is 85 percent).

Speed Study Data from St Paul Department of Public Works

Speed Study		NB 85% Speed (mph)	NB Average Speed (mph)	SB 85% Speed (mph)	SB Average Speed (mph)	WB 85% Speed (mph)	WB Average Speed (mph)	EB 85% Speed (mph)	EB Average Speed (mph)
Street On	Acquisition Date	From	To						
Alley north of Jefferson	Jun-07	Cleveland	Kenneth						
Cleveland Avenue ₁	7/16/2010	Jefferson	Wellesley	35	31	35	31		
Cleveland Avenue _{2,4}	8/20/2010	Jefferson	Wellesley	34	29	34	30		
Cleveland Avenue _{2,4}	8/24/2010	Jefferson	Wellesley	34	29	34	30		
Cleveland Avenue _{3,4}	9/27/2010	Jefferson	Wellesley	34	29	34	29		
Cleveland Avenue _{3,5}	10/13/2010	Jefferson	Wellesley	33	28				
Cleveland Avenue ₅	11/3/2010	Jefferson	Wellesley	35	30	35	31		
Cleveland Avenue _{2,4}	8/20/2010	Jefferson	Juliet	33	29	34	29		
Cleveland Avenue _{2,4}	8/24/2010	Jefferson	Juliet	34	29	34	29		
Cleveland Avenue _{3,4}	9/27/2010	Jefferson	Juliet	34	29	35	31		
Cleveland Avenue _{3,5}	10/13/2010	Jefferson	Juliet			34	29		
Cleveland Avenue ₅	11/3/2010	Jefferson	Juliet	35	31	35	32		
Jefferson Avenue ₅	11/2/2010	Kenneth	Cleveland					29	24
Jefferson Avenue ₅	11/2/2010	Finn	Cleveland					29	24

1. Test conducted prior to test refuge installation.
2. Test conducted post installation of refuge and prior to school being in session.
3. Test conducted post refuge installation and after the beginning of school.
4. Test location was approximately 100' in advance of the refuge.
5. Test location was at the refuge.
6. Test conducted post refuge removal

Additionally a speed study was conducted on Jefferson after the median test was concluded. Vehicles were traveling 5-6 miles below the speed limit of 30 mph. However, there is no data for travel speeds while the test was being conducted, or immediately before the test.

Traffic Volumes on Adjacent Streets

As predicted, there was a modest increase of traffic on adjacent streets with the largest increase occurring on Wellesley and Kenneth, both of which saw increases of roughly 100 vehicles per day (VPD). These modest increases experienced during the test period are well within accepted traffic diversion impacts for similar spot traffic calming treatments. At no time before during or after the study was any street observed over 500 VPD.

Before and After Traffic Volumes from City of St Paul Department of Public Works¹

Project: Jefferson Avenue Bikeway Subject: Test Refuge at Cleveland										
AADT Data										
Data Acquisition Date	Finn Street		Juliet Avenue		Kenneth Street		Wellesley Avenue		Jefferson Avenue	
	Wellesley to Jefferson	Jefferson to Juliet	Kenneth to Cleveland	Cleveland to Finn	Wellesley to Jefferson	Jefferson to Juliet	Kenneth to Cleveland	Cleveland to Finn	Kenneth to Cleveland	Cleveland to Finn
9/17/08 - 9/20/08									456	360
6/8/10 - 6/10/10	197	234	218	243	387	398	302	246		
6/14/10 - 6/16/10	187	217	184	240	373	371	293	273		
8/24/10 - 8/26/10	263	258	304	273	405	389	400	356	299	226
9/21/10 - 9/23/10	274	260	280	262	437	455	416	409	281	194
11/1/10 - 11/3/10	247	235	243	275	392*	407*	389*	347	472	390

* Totals that were impacted by a construction detour that occurred during part of the observation. Data was removed for those periods and totals adjusted.

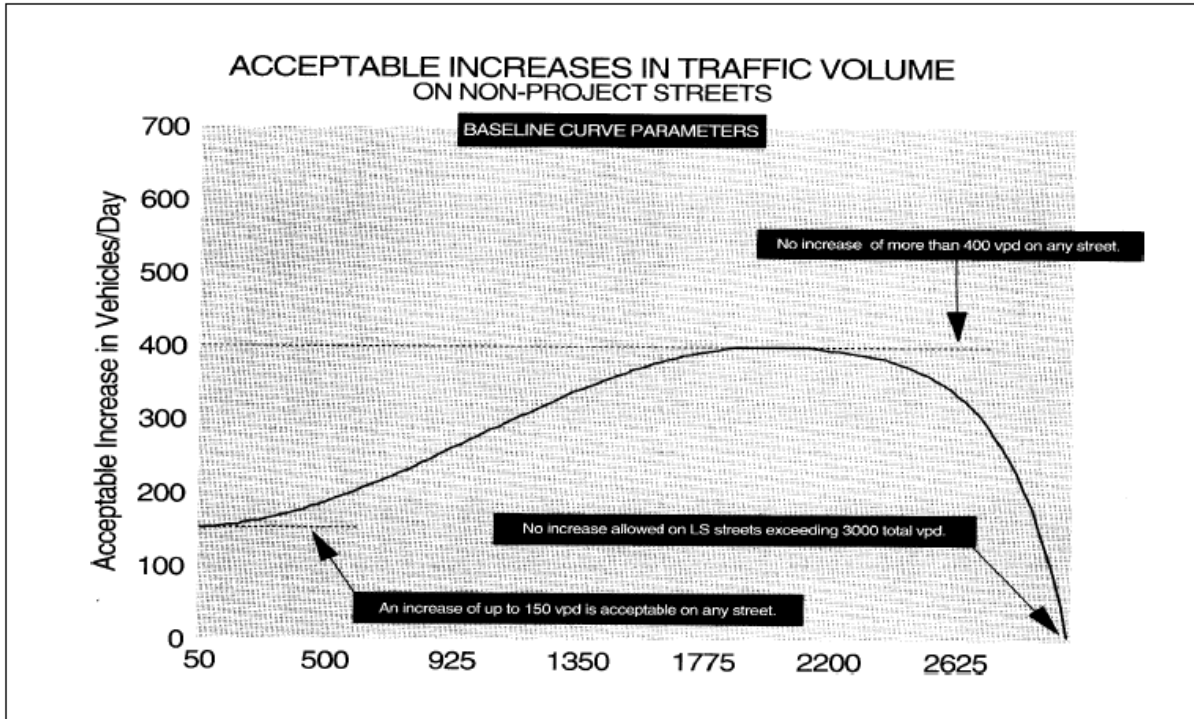
The ITE Traffic Calming State of Practice (Ewing, 1999) provides guidance for setting thresholds for acceptable traffic diversions with traffic calming treatments. Chapter 8 (Warrants, Project Selection Procedures, and Public Involvement) provides guidance suggesting that any increase that does not exceed 150 VPD is acceptable for streets initially

¹ Preliminary volume data showed Kenneth and Wellesley to have exceeded 500 VPD during an observation after the study. Subsequently it was discovered that there was a street closure for water main repair during the observation, and totals were adjusted after removing the time period of the closure.

carrying 500 or fewer cars a day. None of the streets observed in the study area showed increases that would exceed this threshold.

1

Table displaying thresholds from ITE Traffic Calming State of Practice



LS = local service; vpd = vehicles per day

Figure 8.7. Impact Threshold Curve. (Portland, OR)

Source: Bureau of Traffic Management, "Neighborhood Traffic Management for Local Service Streets," City of Portland, OR, March 1992, p. 13.

Traffic Reduction on Jefferson Ave

In addition to serving as a median/refuge to help pedestrians and bicyclists cross Cleveland, the median is also intended to discourage non-local motorized travel to allow for a safer and more pleasant walking and bicycling on Jefferson Ave – as part of the Jefferson Ave Bicycle Boulevard Project.

This reduction did occur as anticipated with a range of 157-191 fewer motor vehicles per day between Kenneth and Cleveland to 134-196 fewer vehicles per day between Cleveland and Finn.

Public Feedback about the Test Median

During the study period and for a few weeks following, the city of St Paul Public Works Department solicited feedback from the community about the median. Signs were posted at the location providing contact instructions for public input. In all, 454 comments were received via email, phone, newspaper editorial and the Complaint Line/DSI. The following is an overview of the comments received both in opposition and support of the median. Directly below each opinion is the number of comments followed by the percentage of overall comments received sharing that general opinion. Additionally the staff response to each concern is included.

Opinions expressing concern about the median

Cleveland is already too narrow

23.6%

While there is a perception that the roadway is narrow, the travel lanes are actually 12 feet wide consistent with and even wider than many comparable roadways in St Paul. (For instance, travel lane widths on Dale near Selby are only 10 feet wide).

Inconvenience

19.4%

Staff recognizes that there will be occasional delay associated with the median where the turn restrictions will necessitate alternate routes for some motorists, but these small delays are weighed against the increased safety benefits for walkers and bicyclists crossing Cleveland Ave.

Snow removal concerns

16.7%

Snow removal is a paramount consideration with all roadway treatments. The center median opening can allow adequate width for a snow plow. Although there are always challenges keeping crosswalks, and curb cuts clear, these issues are not unique to the median design at this location.

Waste of taxes

15.0%

The costs of this project, while relatively low in relation to other street projects, are funded by a grant awarded by Transit for Livable Communities (TLC) Bike Walk Twin Cities -- a federal program with funding that is exclusively available for projects that improve conditions for bicycling and walking.

Unsafe for bikes and pedestrians crossing Cleveland

9.9%

The purpose of a median refuge island is to allow pedestrians and bicyclists to cross one lane of traffic at a time, thus breaking a two-lane crossing into two single lane crossings and allowing walkers and bicyclists to address one direction of traffic at a time. Studies show that this is an effective strategy to improve safety for pedestrians especially at non-signalized locations.

Increased traffic on adjacent streets

9.9%

The traffic counts conducted on adjacent streets showed only modest increases -- vehicles on Kenneth and Wellesley both increased about 100 vehicles a day during the test period. Strangely, both streets actually had further increases after the test median was removed, which may indicate other factors impacting traffic during the post-treatment period. It should be noted that the ITE Traffic Calming State of Practice (Ewing, 1999) provides guidance for setting thresholds for acceptable traffic diversions with traffic calming treatments; any increase less than 150 VPD acceptable for streets with less than 500 cars a day. None of the streets studied experienced increases of BPD in excess of the acceptable level.

Not used/needed by bicyclists and pedestrians crossing Cleveland

8.6%

There lacks sufficient data for walking and bicycling on Jefferson, but the objective of this project is to provide an east west corridor for bicycling and walking that will generate new bicycling and walking trips; bicycle and pedestrian counts are planned for 2011 and 2012 to evaluate the full impact of this project (baseline counts were done near Fairview on Jefferson in 2009).

Unsafe for bikes on Cleveland

8.6%

Bicyclists traveling northbound and southbound on Cleveland will need to share the roadway with vehicles as they pass through the intersection as they must do for the remainder of the roadway. (With on-street parking already allowed on Cleveland there is already not sufficient room for motorists to pass cyclists in the same lane). Possible use of a "bikes may use full lane" sign and/or the use of sharrows, similar to the new installations on Marshall Avenue, west of Cretin, may be appropriate to provide clear information and expectations for all road users.

Increased congestion on Cleveland

6.8%

The average travel speeds on Cleveland decreased by 1-2 mph during the test period. This has no significant impact on vehicle delay. There is Metro Transit bus service on Cleveland, and staff may need to coordinate with Metro Transit to ensure the bus stop locations are positioned in safe convenient locations for transit passengers and other road users.

Unsafe/unlawful practices by vehicles

4.8%

Motorists' behaviors are beyond the scope of a street construction project. However, a median island is an accepted traffic calming device and a recognized tool for improving street crossings for bicyclists and pedestrians.

No effect on speeds on Cleveland

2.6%

There was a modest reduction of average speed of about 1-2 miles an hour. If the median was made wider and the lanes on Cleveland narrower we would anticipate greater reductions. However, the intention of the median was to provide improved crossing opportunities for pedestrians and bicyclists and not explicitly to reduce vehicle speeds on Cleveland.

Appearance

1.3%

The temporary devices were installed, not for aesthetics, but to be a low cost method to test traffic impacts at the location. A permanent installation, if approved, will be designed with appropriate aesthetics for the neighborhood, although costs associated with maintenance for certain elements such as landscaping, if desired, will need to be a consideration for the city and the neighborhood.

Opinions in Support of the Median

Increased safety for bikes and pedestrians crossing Cleveland

25.8%

The objective of the Jefferson Avenue project is to improve the safety and attractiveness of walking and bicycling in the Mac-Groveland neighborhood and to serve as a regional route for bicyclists. While no crashes were reported, a longer study would be necessary to fully ascertain the safety improvement potential.

Improves non-motorized transportation

13.4%

Funding for this project is provided by TLC/Bike Walk Twin Cities as part of a national pilot program to demonstrate how investments in bicycling and walking can impact mode-shift in the Twin Cities. This project was selected in part, based on the likelihood the facility will attract new bicycling and walking trips.

Decreased traffic on Jefferson

13.9%

Providing viable alternatives to short motor vehicle trips helps reduce the number of vehicles contributing to traffic and congestion on St Paul Roadways. In addition, the median did contribute to a reduction of motorized travel on Jefferson Avenue.

Decreased speeds on Cleveland

13.2%

The speed studies performed with the test installation show modest speed decreases, consistent with those expected from a similar traffic calming installation. Although speed reduction is not an explicit goal of the project, it does provide a benefit for residents living near or using Cleveland Avenue, as well as for bicyclists and pedestrians attempting to cross Cleveland.

Improved neighborhood/environment

8.1%

The focus of the project is to create a street that focuses more on neighborhood livability than motor vehicles. A more walkable, bikeable street fosters more activity and opportunities for neighbors to connect with one another.

Decreased speeds on Jefferson

8.6%

Speed studies were only conducted post-treatment on Jefferson and averaged 5 to 6 miles below the default 30 mph speed limit, any actual speed reduction was not determined. The median is designed to improve crossing of Cleveland and not necessarily slow traffic on Jefferson, however the overall project treatment is designed to encourage slow speed and discourage unnecessary cut-through traffic.

Increased safety for bikes and pedestrians on Jefferson

7.9%

The focus of this project is to provide a street that is comfortable for a variety of bicyclists and pedestrians. The low volumes of traffic and slow speeds of the street are hoped to attract users who may feel less comfortable on higher volume, higher speed roadways, such as Cleveland Ave.

Decrease non-resident parking use

0.4%

Parking use was not observed during the test and is not a focus of the median installation, any reduction in non-resident parking is not assumed to be attributed to the test median.