Minneapolis
Park & Recreation Board

Administrative Offices
2117 West River Road North
Minneapolis, MN 55411-2227

Northside Operation Center
4022 1/2 North Washington Avenue
Minneapolis, MN 55412-1742

Southside Operation Center
3800 Bryant Avenue South
Minneapolis, MN 55409-1000

Phone
612-230-6400

Fax
612-230-6500

www.minneapolisparks.org

November 13, 2019

Greetings:

Attached to this letter is a traffic study prepared on behalf of the Minneapolis Park and Recreation Board (MPRB). This study was performed at the suggestion of the Community Advisory Committee (CAC) for the Minnehaha Parkway Regional Trail Master Plan project currently underway. Its primary purpose is to illuminate the realities of pedestrian, bicycle, and vehicle traffic at three key Parkway intersections, in order to provide a factual basis for ongoing conversation.

On November 19 and November 21, the CAC and general public will have the opportunity to discuss this study and the current "preferred concepts." Based on the November conversations, the MPRB design team (consisting of staff and consultants) may revise the concepts. It is expected that the parkway road itself will be discussed again by the CAC in January of 2020.

Decisions about the parkway will be made based on a wide variety of factors, ranging from environmental considerations to ped/bike safety to history. Traffic is one aspect of that decision-making. This study is about traffic alone, and therefore offers one window on the project as a whole. This brief letter is meant to relate the design team's understanding at each of the three key intersections, based on traffic only.

Minnehaha Parkway / Portland Avenue (the Bunny) TRAFFIC UNDERSTANDING:
The study raises some issues with regard to queuing and use of alternate vehicle routes in neighborhoods under the preferred concept, suggesting the need for further design exploration.

Lower Parkway Road at Nicollet Avenue TRAFFIC UNDERSTANDING:
The study does not suggest that the preferred concept needs to be changed.

Lynnhurst Park Area TRAFFIC UNDERSTANDING:
The study affirms that vehicle traffic will shift to James Avenue and other local streets, but volumes are and will remain low, suggesting that the preferred concept does not need to be changed. However, continued discussion about operations near Burroughs School is warranted.

I encourage you to read the study in its entirety in addition to these general statements. Visit www.minneapolisparks.org/minnehahacreek for project information.

Sincerely,

Adam Regn Arvidson, PLA, FASLA
Director of Strategic Planning
Minnehaha Parkway Regional Trail Master Plan Project Manager
Minneapolis Park and Recreation Board

Technical Memorandum

To: Bryan Harjes, Vice President, Hoisington Koegler Group Inc.
From: Jonah Finkelstein, PE
Hailey Pederson
Date: November 13, 2019
Re: Minnehaha Parkway Master Plan

The purpose of this memorandum is to examine preferred concept configurations along Minnehaha Parkway in Minneapolis, and to determine how these configurations would impact vehicular volumes at intersections of interest along Minnehaha Parkway. These preferred concepts are not finalized and are still under discussion.

Traffic Volumes

Intersection videos for the study intersections were collected under normal Thursday and Saturday conditions in October 2019. The intersections studied in this document are:

i. Portland Avenue S/E 50th Street
ii. Portland Avenue S/E Minnehaha Parkway
iii. E Minnehaha Parkway/E 50th Street
iv. Portland Avenue/E 51st Street
v. W Minnehaha Parkway/50th Street
vi. W Minnehaha Parkway/W Minnehaha Parkway
vii. W Minnehaha Parkway/W 51st Street
viii. W Minnehaha Parkway/W Minnehaha Parkway west of Nicollet
ix. Nicollet Avenue/W Minnehaha Parkway
x. W Minnehaha Parkway/E Minnehaha Parkway east of Nicollet

The average weekday peak hour for the parkway was found to be from 4:30 to 5:30 p.m., and the average weekend peak hour from 2:15-3:15 p.m. with some variation from intersection to intersection. The "typical day" counts from these peak hours were used at the study intersections for analysis. The turning movement count data from the counts are contained in fifteen-minute intervals in the Appendix.

Utilizing the collected turning movement counts the existing average daily weekday (Thursday) traffic volumes on each study corridor were determined as follows:

i. 10,500 vehicles per day on Portland Avenue S
ii. 9,000 vehicles per day on E 50th Street
iii. 200 vehicles per day on E Minnehaha Parkway, north of E 50th Street
iv. 3,900 vehicles per day on E Minnehaha Parkway, south of E 50th Street
v. 465 vehicles per day on E 51st Street
vi. 860 vehicles per day on W Minnehaha Parkway at Nicollet Avenue
vii. 2,300 vehicles per day on W Minnehaha Parkway, south of W 50th St
viii. 15,500 vehicles per day on W 50th Street
ix. 375 vehicles per day on W 51st Street

x. 11,800 vehicles per day on Nicollet Avenue

The current average daily Weekend (Saturday) traffic volumes on each study corridor are:

xi. 7,300 vehicles per day on Portland Avenue S
xii. 6,200 vehicles per day on E 50th Street
xiii. 165 vehicles per day on E Minnehaha Parkway, north of E 50th Street
xiv. 2,700 vehicles per day on E Minnehaha Parkway, south of E 50th Street
xv. 350 vehicles per day on E 51st Street
xvi. 340 vehicles per day on W Minnehaha Parkway at Nicollet Avenue
xvii. 1,700 vehicles per day on W Minnehaha Parkway, south of W 50th St
xviii. 11,500 vehicles per day on W 50th Street
xix. 400 vehicles per day on W 51st Street
xx. 9,800 vehicles per day on Nicollet Avenue

As these daily volumes show all study roadways experience higher daily weekday volumes then weekend volumes. The one exception to this is W 51st Street which sees roughly 7% higher volumes in the weekend. It is also worth mentioning that these counts were completed during MnDOT's 35W@94: Downtown to Crosstown construction project and may be impacted by the project.

Bicycle and pedestrian counts were also completed at the study intersections to determine the number of pedestrian/bicycles that would be impacted by the preferred concepts. The weekday volumes are:

i. 201 pedestrians/bicycles at the E Minnehaha Parkway/E 50th Street Intersection.
ii. 187 pedestrians/bicycles at the W Minnehaha Parkway/W Minnehaha Parkway Intersection near Lynnhurst.
xi. 27 pedestrian/bicycles at W Minnehaha Parkway/W Minnehaha Parkway near Nicollet Avenue.

The weekend volumes were determined to be:

i. 252 pedestrians/bicycles at the E Minnehaha Parkway/E 50th Street Intersection.
ii. 330 pedestrians/bicycles at the W Minnehaha Parkway/W Minnehaha Parkway Intersection near Lynnhurst.
iii. 45 pedestrian/bicycles at W Minnehaha Parkway/W Minnehaha Parkway near Nicollet Avenue.

As previously mentioned, these counts were collected in October in weather that was colder than normal. This weather may have impacted the total volume of pedestrians and bicycles utilizing the parkway. To determine if this may have been the case, previously collected counts from the study area were reviewed to compare changes in pedestrian and bicycle volumes. These previously collected counts were conducted on a weekday in July. The counts at E Minnehaha Parkway/E 50th Street in July show a total of 548 weekday pedestrians/bicycles, while the counts at W Minnehaha Parkway/W Minnehaha Parkway in Lynnhurst have a total weekday pedestrian/bicycle volume of 651. These volumes are roughly 2.75 to 3.5 times larger than collected in October. This suggests that the volumes reflected in the October counts reflect a low parkway usage when related to bicycle and pedestrian volumes.

Traffic Forecasts

Vehicle volume forecasts, for the preferred concept layouts, at the study intersections were prepared using the daily traffic counts and knowledge of the area. Again, it is important to note that these concepts are still in the process of public discussion and have not been finalized. Modifications are being considered at the following locations:

- **E Minnehaha Parkway/E 50th Street by The Bunny** – Due to existing pedestrian concerns at the trail crossing, and vehicle routing confusion caused by the free westbound to southbound and

northbound to eastbound movements, modifications are being considered at this intersection. With over 185 weekday pedestrian crossing, and 236 weekend day crossings of the southern leg, based on October counts, and 375 weekday crossing based on the weekday counts in July, providing a safe and understandable intersection for pedestrians and vehicles is key. To achieve this goal the southern leg would change to a northbound one-way roadway segment with left turns restricted, from the current two-way configuration. This restriction would result in the westbound left-turn and eastbound right-turn movements from E 50th Street onto E Minnehaha Parkway, and northbound left-turn movements from E Minnehaha Parkway onto E 50th Street, finding alternate routes to complete their desired vehicle paths. It is anticipated that most traffic would route to the Portland Avenue/E 51st Street and E Minnehaha Parkway/51st Street intersections with a small portion finding alternate routes that avoid the intersections all together in the short term, with a more even distribution of rerouted traffic occurring long term. In total, approximately 215 vehicles would be affected during the weekday pm peak hour, and 165 during the weekend pm peak hour. On an average weekday, 2,200 vehicles would be impacted by this alteration.

- **W Minnehaha Closure by Lynnhurst** – To help reduce vehicle/pedestrian conflicts, two changes are being considered in this area. The first is the removal of the parkway segment between W 51st Street and W Minnehaha Parkway, and relocation of the existing recreation center with access on this roadway segment. The second is the conversion of W Minnehaha Parkway to a northbound one-way roadway to 50th Street. This reconfiguration would reduce pedestrian/bicycle and vehicle conflicts at the W Minnehaha/W Minnehaha intersection for 126 weekday pedestrians/bicycles and 272 weekend day pedestrians/bicycles based on counts from October. The warmer weather July counts show 384 pedestrian/bicycle daily crossings would be positively impacted by this proposed concept. With this redesign it is anticipated that the majority of affected movements would re-route to the James Avenue/W 51st Street and James Avenue/W 50th Street intersections, with a minority of vehicles utilizing the surrounding neighborhood streets. Additionally, the removal of the recreation center it is anticipated reduce vehicle traffic by 50 vehicles during both the weekday and weekend peak hours. For this scenario, approximately 250 vehicles would be affected during the weekday pm peak hour, and 185 during the Weekend PM Peak Hour. Of the affected vehicles, it is anticipated that the James Avenue intersection would see approximately 85% of that traffic, or 55 new westbound left-turns, 64 new eastbound right-turns, and 93 new northbound movements during the weekday pm peak hour. During the Saturday pm peak hour, 31 new westbound left-turns, 20 new eastbound right-turns, and 108 new northbound movements are anticipated. Roughly 1,900 weekday vehicles would be impacted by this preferred concept.
- **Minnehaha Realignment by Nicollet Avenue** – In order to reduce impervious infrastructure in the park, create space for pedestrian and bike trail separation, improve environmental elements, and retain the continuity of the parkway, the closure of the lower parkway road is being explored. With this conversion, all vehicle traffic would be routed up the upper parkway road to the west of Nicollet Avenue, and then back down to the parkway to the east of Nicollet Avenue, similar to the condition at Lyndale Avenue/Minnehaha Parkway. With this modification, the western upper parkway road would be converted to a one-way eastbound roadway. The eastern upper parkway road would continue two-way operations, if a small parking lot is included in the Nicollet Hollow area. If the parking area is not included two-way operations may not be needed. The main movement affected with this reconfiguration is the eastbound-through movement with small impacts also present at the W Minnehaha Parkway/Nicollet Avenue intersection. It is anticipated that the eastbound-through traffic would continue onto the remaining parkway road and travel through the W Minnehaha Parkway/Nicollet Avenue intersection. With the closure of the lower parkway road, approximately 130 vehicles are expected to be affected during the weekday pm

peak hour, and 80 during the weekend pm peak hour. Daily volumes would increase by roughly 930 vehicles during the weekday and 690 vehicles on a weekend. These roadway volume increases do not raise any traffic related concerns and fall within the standard range of residential street volumes in Minneapolis.

Analysis

Capacity analyses were performed for the study intersections to determine the impacts of the preferred concepts and to see if mitigation is required to help provide sufficient traffic operations.

The existing and forecasted turning movement volumes along with the existing and preferred concept intersection configurations and traffic control were used to develop the average delay per intersection in each study scenario. A 2021 forecast year was used for the volume forecasts. This forecast assumed a half a percent annual growth rate in traffic volume. Due to the density of homes in the surrounding area and lack of available development land this growth rate reflects a conservatively high estimate and reflects rates from previous studies completed in Minneapolis. The delay calculations were done in accordance with the *Highway Capacity Manual, 6th Edition* using the Vistro software package. The full calculations for each study scenario, including Level of Service (LOS) grades and queue lengths, are included in the Appendix. Also, included in the Appendix is a guide explaining the Level of Service grade concept.

Chart 1 (weekday p.m. peak hour) and Chart 2 (Saturday p.m. peak hour) show the average peak hour delay per traffic signal-controlled intersection for each study scenario. The LOS D/E boundary of 55 seconds of delay per vehicle is considered the threshold between acceptable and unacceptable traffic signal operation in Minnesota.

Chart 1 – Weekday P.M. Peak Hour Delays: Signal Controlled Intersections

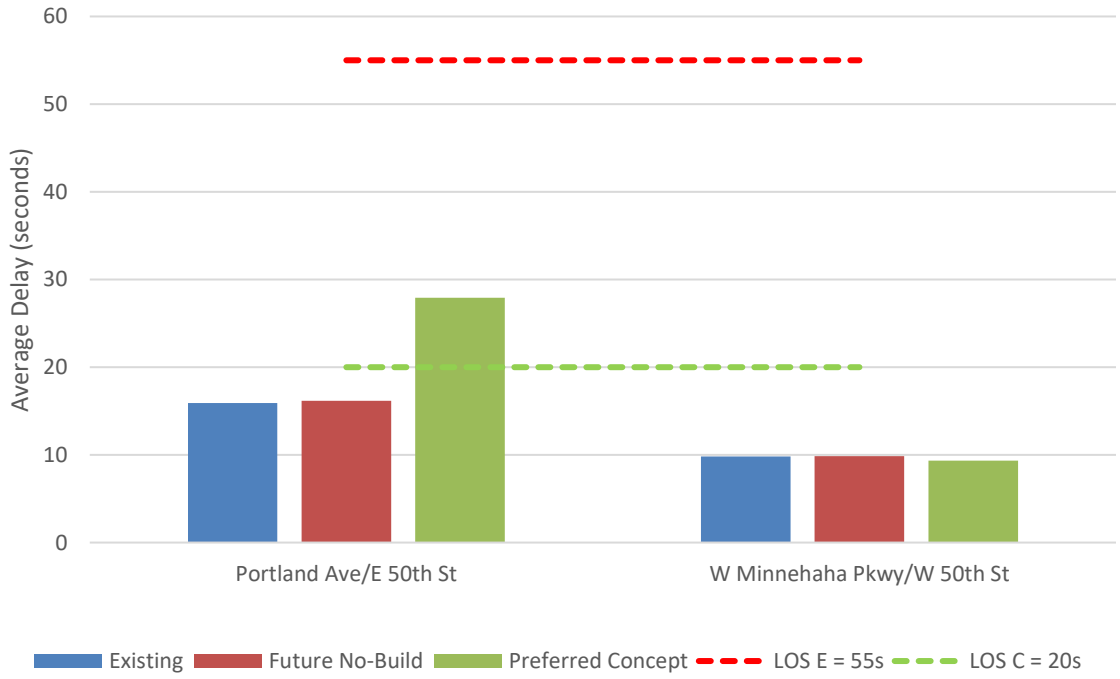
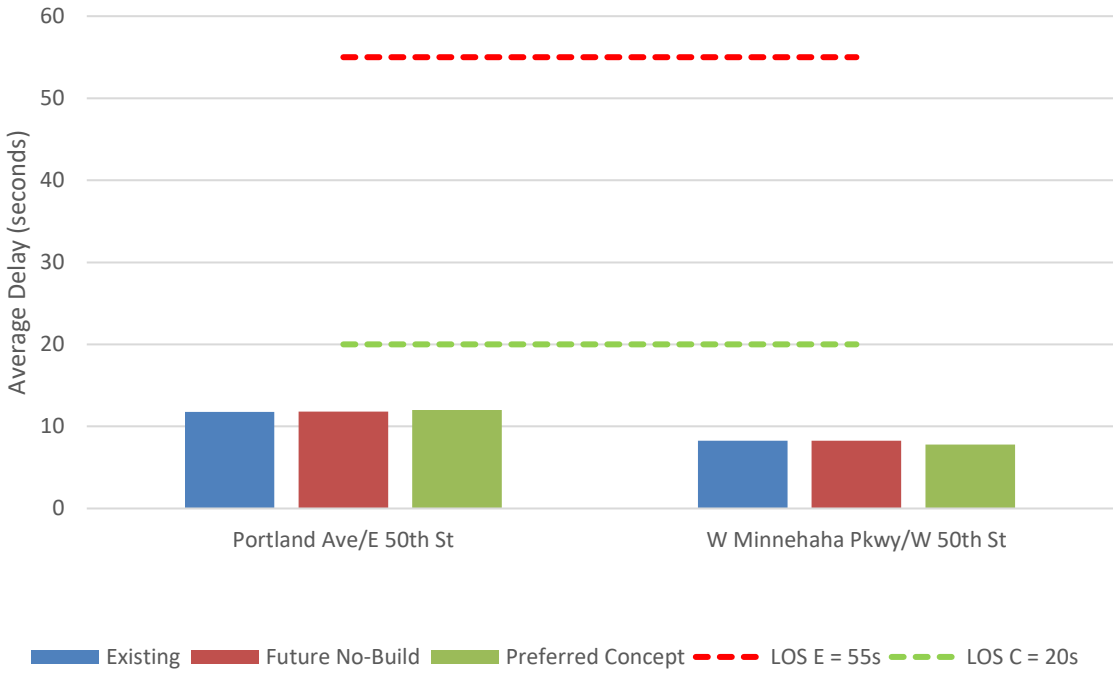
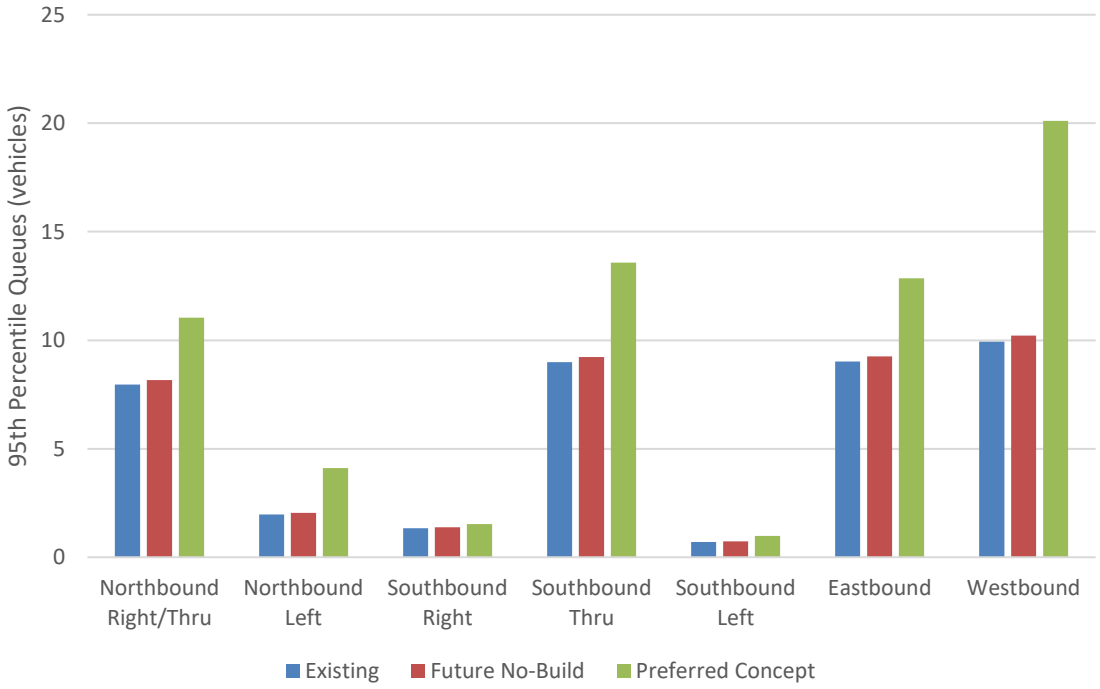


Chart 2 –Saturday P.M. Peak Hour Delays: Signal Controlled Intersections



As shown in Charts 1 and 2, the signalized intersections are expected to continue to operate acceptably throughout the 2021 build scenario when analyzing delays alone. However, it is notable that the southbound, eastbound, and westbound legs of the Portland Avenue/E 50th Street intersection currently experience queues of eight to ten vehicles during the current weekday p.m. peak. Based on these results an additional review of the queueing conditions at Portland Avenue/E 50th Street was completed. Chart 3 shows the queues for each approach at the Portland Avenue/E 50th Street Intersection during the weekday p.m. peak hour. Sunday p.m. peak hour operations at the signalized intersections are expected to continue operating acceptable with minimal queueing in the 2021 build scenario.

Chart 3 – The Bunny: Weekday P.M. Peak Hour Queueing at Portland Avenue/E 50th Street



As shown in Chart 3, queueing is expected to increase by approximately three vehicles eastbound, southbound, and northbound with the preferred concept's restrictions at E Minnehaha Parkway/E 50th Street. A ten-vehicle increase is projected for westbound traffic resulting in a 20 vehicle queue. It is worth noting that these results assumed that all existing westbound left turning vehicles from E 50th Street onto E Minnehaha Parkway shifted to left turning vehicles at Portland Avenue/E 50th Street. This represents a worst-case scenario traffic routing pattern as vehicles are likely to utilize routes from Chicago Avenue as well continuing along E 50h Street to Nicollet Avenue or Lyndale Avenue. As more vehicles utilize alternative routes the westbound queue at Portland Avenue/E 50th Street would reduce.

Chart 4 through Chart 9 show the 95th percentile queue lengths on the busiest stop sign controlled approach at intersections with side street stop sign control. Average delays are not calculated for intersections with side street stop sign control because the vast majority of vehicles going through the intersection are on the main roadway and have zero delay, which leads to low overall average delays. At side street stop sign controlled approaches to busy roadways, the average delay for all the vehicles on the approach often exceeds 60 seconds. This can be the case for a few vehicles waiting at the stop sign where improvements would not be justified for the low traffic volume. Based on our experience, improvements are not warranted at these types of intersections until the 95th percentile queue at a stop sign is in the five to ten vehicle range.

Chart 4 – The Bunny: Weekday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections

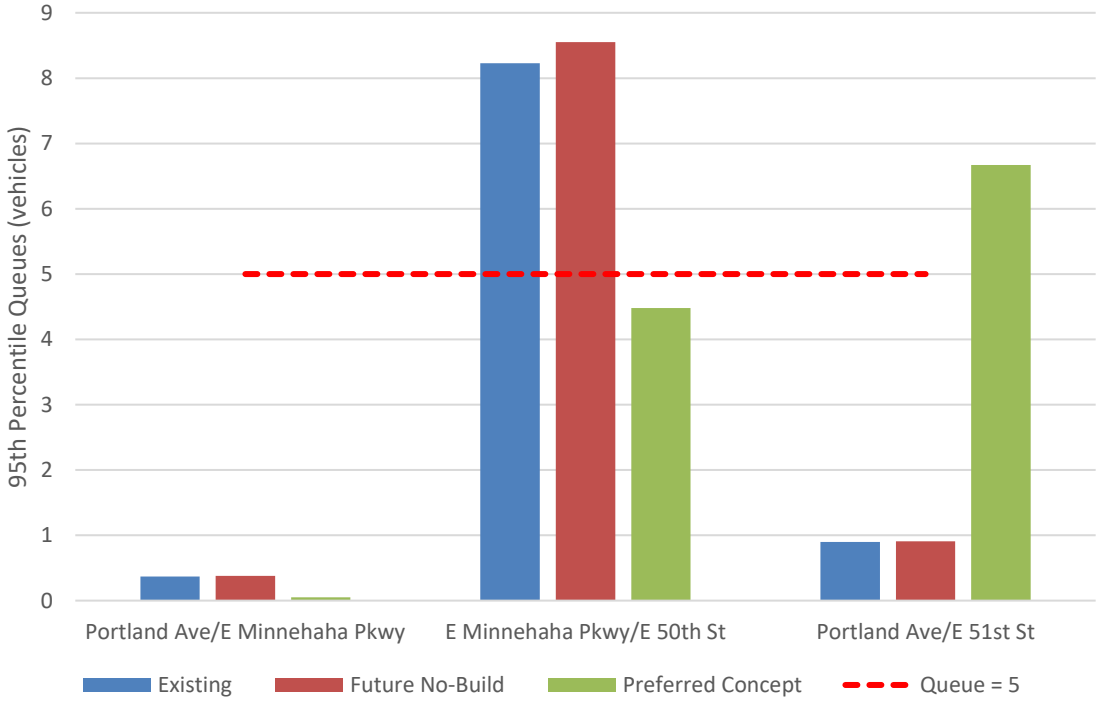


Chart 5 – Nicollet Avenue: Weekday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections

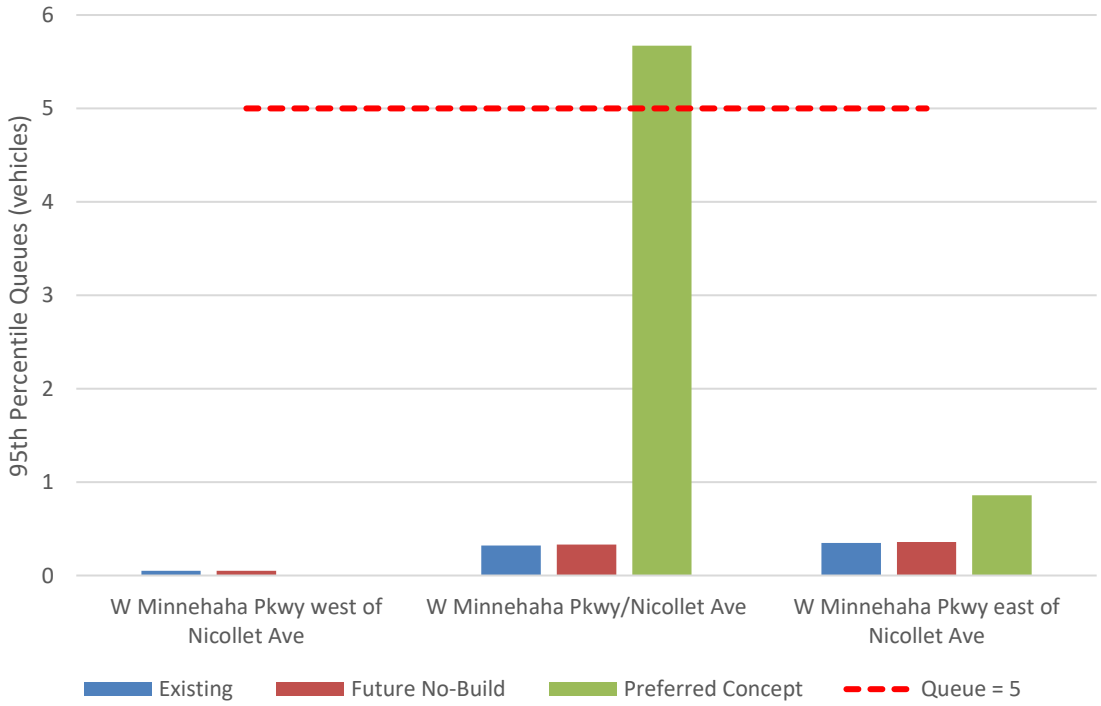


Chart 6 – Lynnhurst Neighborhood: Weekday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections

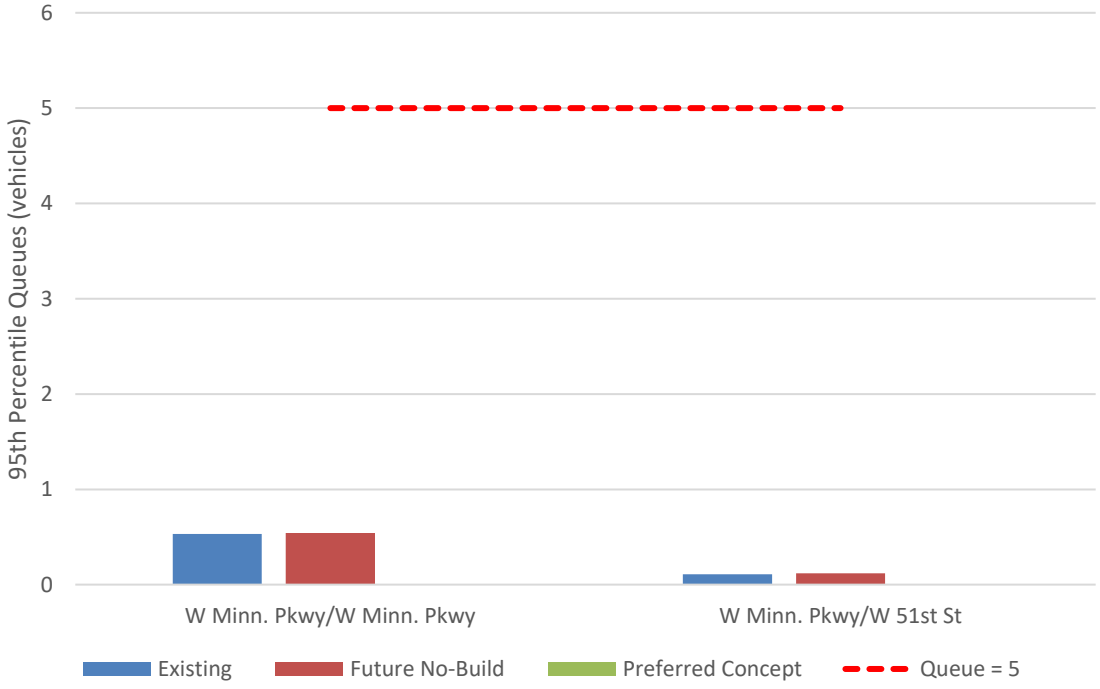


Chart 7 – The Bunny: Saturday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections

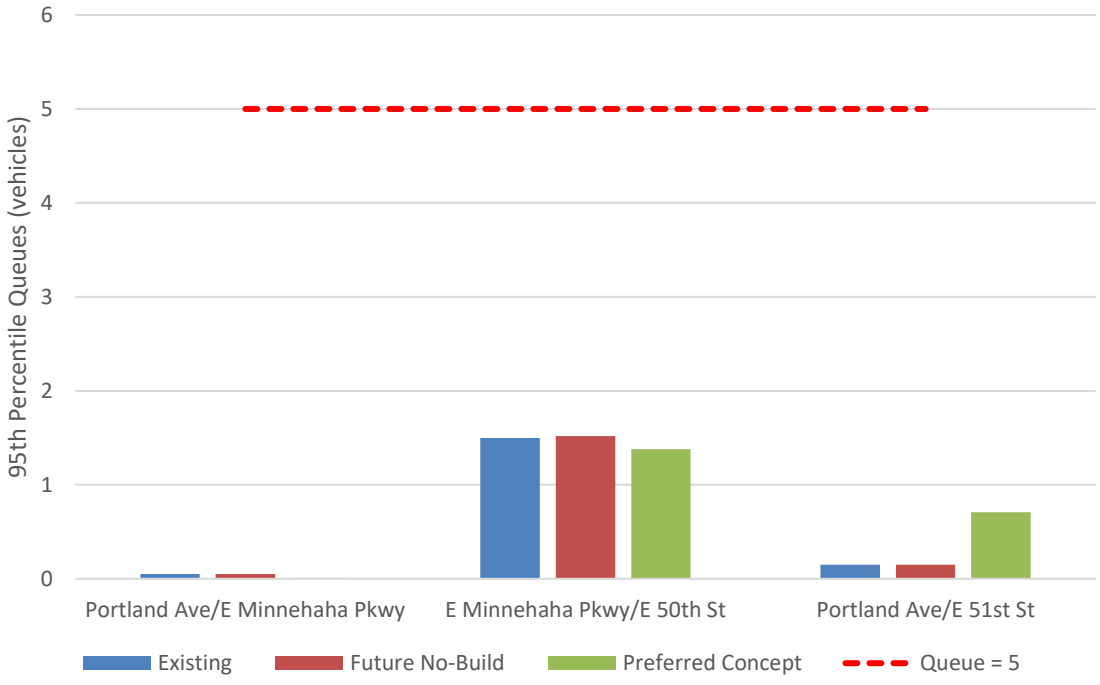


Chart 8 – Nicollet Avenue: Saturday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections

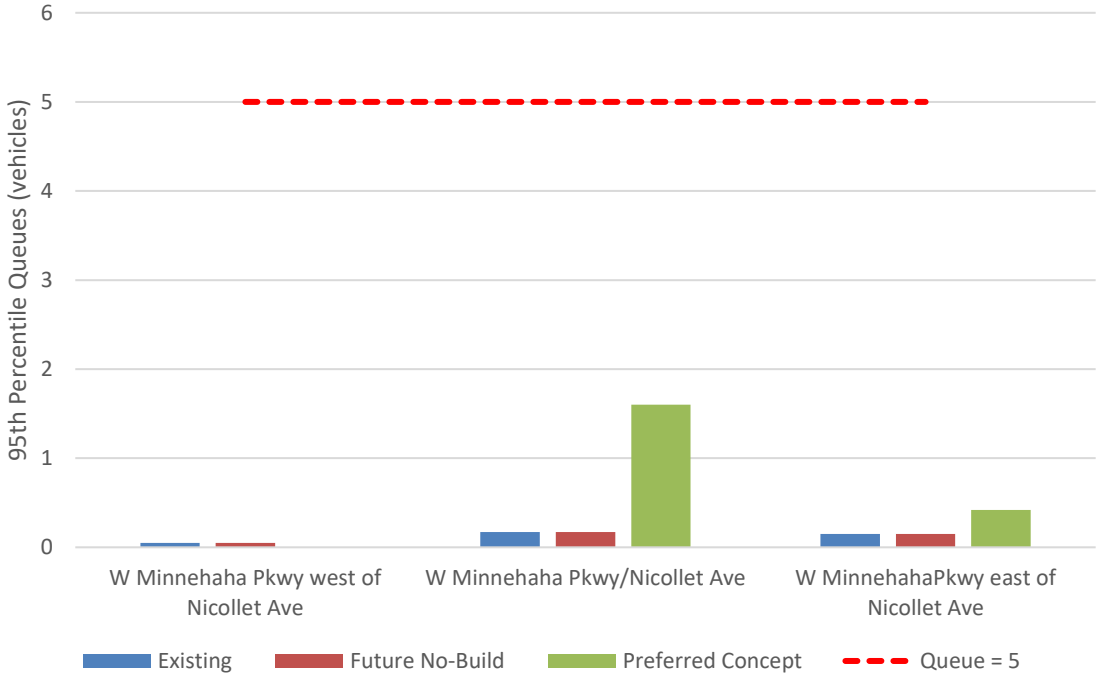
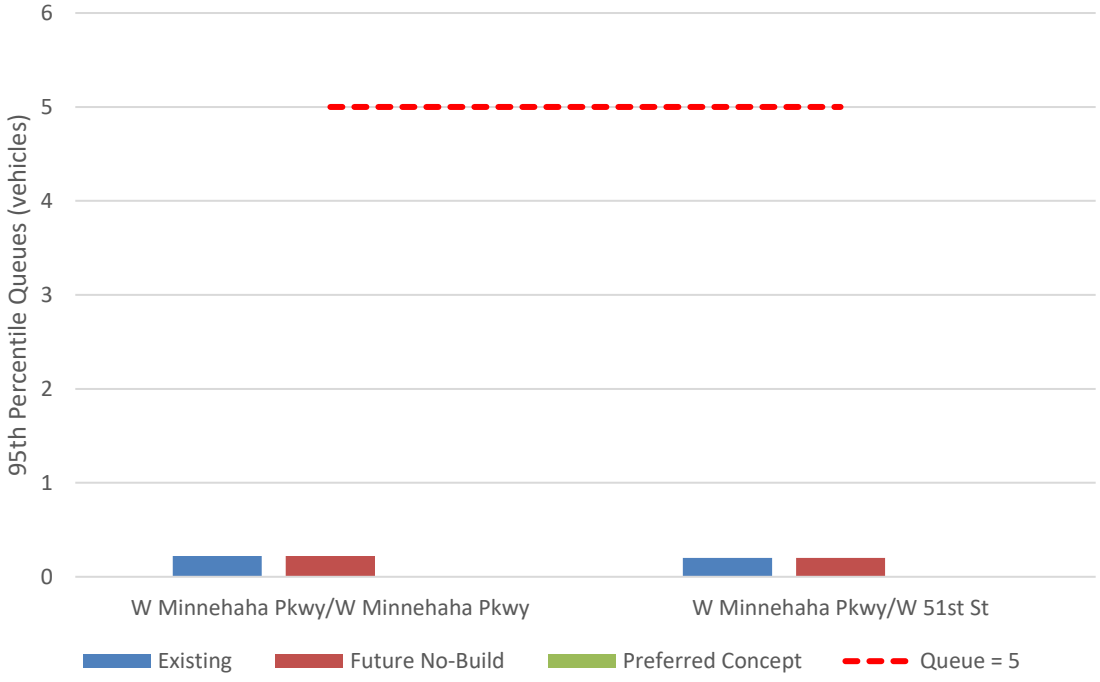


Chart 9 – Lynnhurst Neighborhood: Saturday P.M. Peak Hour Queues: Side Street Stop Sign Controlled Intersections



As shown in Chart 4 through Chart 9, all intersections are currently and are expected to continue operating acceptably in the Saturday p.m. peak scenario, however, some less than ideal conditions arise

in the weekday p.m. peak hour in the 2021 build scenario. At the E Minnehaha Parkway/E 50th Street intersection, eastbound queues are expected to improve from the current condition with the change in traffic control for the northbound movement, however, the eastbound queue at Portland Avenue/E 50th Street is expected to stretch back to the E Minnehaha Parkway/E 50th Street intersection and occasionally block vehicles from entering the intersection during the weekday p.m. peak hour.

Eastbound queues at both Portland Avenue/E 51st Street and Nicollet Avenue/W Minnehaha Parkway are expected to increase by four to five vehicles during the weekday p.m. peak. These movements also experience high delay for vehicles on the parkway attempting to cross the major streets. A deeper analysis showed that the delays at Nicollet Avenue are higher than preferred but fall within normal bounds for side-street stop-controlled intersections with access onto high volume mainlines during peak hours. However, the delays at Portland Avenue/E 51st Street do begin to become excessive in the 2021 build scenario. This delay is heavily impacted by the routing method used in the analysis area.

To ensure a worst-case scenario analysis, all northbound left turning vehicles at E Minnehaha Parkway/E 50th Street were rerouted along E 51st Street to Portland Avenue. This routing distribution may occur for a short time after the closure occurs, however, as parkway users become aware of new intersection configurations and restrictions, they would reroute their trip to utilize different paths to their destination. A number of these vehicles would reroute their trip off the parkway earlier with vehicles utilizing Lyndale Avenue and Nicollet Avenue to get to their destinations. Based on this condition, a secondary routing distribution was completed shifting roughly 50% of the rerouted traffic to Nicollet Avenue or Lyndale Avenue, with the remaining 50% routed along E 51st Street. This analysis results in the eastbound queue at Portland reducing to less than four total vehicles with delays remaining higher than preferred, but not outside of standard traffic engineering bounds for side-street stop delays onto higher volume mainlines.

Mitigation Options

The Bunny - As mentioned previously, with the shifting of vehicles at the E Minnehaha Parkway/E 50th Street, Portland Avenue/E 51st Street, and Portland Avenue/E 50th Street intersections, operations at those intersections are forecast to operate with longer than desired vehicle queueing and delays in the pm peak hours. In an effort to improve operations at the intersections, changes in signal timing and lane configuration were explored. Through this analysis it was determined that changes to signal timing alone would not be enough to improve queueing at the Portland Avenue/E 50th Street intersection, and that additional lanes would need to be constructed to reduce queue lengths. The addition of a westbound left-turn lane would reduce westbound queues from approximately 20 vehicles to eight in the thru lane and four in the left-turn lane. For this mitigation option, the parkway would need to be expanded south to allow for the additional lane. Eastbound queues are forecast to remain generally the same with the addition of a single turn lane.

Beyond signal timing and simple geometric changes, other items considered to improve traffic operations using the forecasted volumes include:

- Roundabouts – Would not work due to geographic and right-of-way constraints.
- Signalization of or All-Way Stop control at E Minnehaha Parkway/E 50th Street – Utilizing the existing volumes, the Four-Hour Vehicular Volume and Peak Hour Vehicular Volume Warrants were met at this intersection. This suggests that additional intersection control may be justified. Due to the tight spacing to the adjacent traffic signal at Portland Avenue signalization is not preferred. However, the all-way stop configuration could be applied. This would improve and reduce the eastbound queue at the intersection, however the westbound 95th percentile queue is expected to reach roughly seven vehicles.

- Signalization of Portland Avenue/E 51st Street – Traffic Signal Warrants were not met for this intersection based on existing volumes and are not projected to meet the level required in the future scenario. Based on this condition signalization or all-way stop control are not warranted at the intersection. However, as previously mentioned, assuming a more even distribution of rerouted traffic flow along the parkway delays and queueing at this intersection are expected to remain higher than preferred but at levels common for similar side-street stop-controlled intersections during peak hours.

Lynnhurst Neighborhood and Nicollet Avenue – Based on the results of the capacity analysis, no additional intersection mitigation options were analyzed for the study intersections. Updated signal timing should be pursued to help facilitate efficient traffic flow for the new travel patterns if the preferred concepts are pursued.

Preferred Concept Key Takeaways

The preferred concept layouts were reviewed to determine the impacts of each layout on vehicle and pedestrian/bicycle traffic. The following are the key takeaways:

- **E Minnehaha Parkway/E 50th Street by The Bunny** – The restriction of the northbound left, westbound left, and eastbound right turn movement, and reconfiguration of the intersection, would results in the following conditions:
    - Westbound vehicles wanting access to the parkway would have the option of taking a left turn at Portland Avenue and a right onto E 51st Street, or they could continue on 50th Street to Lyndale Avenue. Cross-town commuters would also be able to continue on 50th Street all the way across town.
    - A maximum of 100 new westbound left turns during the weekday pm peak hour would occur at Portland Avenue with the conversion of E Minnehaha Parkway from E 51st Street to E 50th Street to a one-way. With more vehicles wanting to make a left turn, westbound queues at Portland Avenue/E 50th Street are expected to double.
    - Assuming all northbound left turning vehicle from E Minnehaha Parkway/E 50th Street reroute to E 51st Street, eastbound volumes on the corridor are expected to more than double in the weekday pm peak hour (from 43 vehicles to 120 vehicles). Eastbound queues of more than six vehicles with delays of 2.5 minutes per vehicle would be expected as a result. Assuming a more even distribution of the rerouted traffic to Lyndale Avenue, Nicollet Avenue, and E 51st Street results in queues of less than four vehicles and an approach delay of roughly 80 seconds.
    - The travel distance for the existing westbound left-turn, northbound left-turn, and eastbound right-turn movements would increase by approximately ¼ mile as a result of the restrictions.
    - Eastbound queues at E Minnehaha Parkway/E 50th Street are forecast to improve by approximately four vehicles with the reconfiguration and change in traffic control.
    - Less pedestrian/bicycle and vehicle conflicts would be present. 185 weekday pedestrian crossing, and 236 weekend day crossings would see benefits from this modification, based on October counts, while 375 pedestrian/bicycle crossings would see benefit from this preferred concept based on July counts.
    - A more standardized “T” intersection that would be easier understood by motorists and pedestrians/bicyclists increasing safety.
- **W Minnehaha Parkway in Lynnhurst** – The closure of W Minnehaha Parkway between W 51st Street and W Minnehaha Parkway would result in the following impacts:
    - Roughly 120 new southbound trips and less than 100 northbound trips are expected to shift to adjacent routes with this potential modification.

  - Northbound redistributed traffic would consolidate along James Avenue.
  - Southbound redistributed traffic would distribute along James Avenue to the adjacent residential roadways as well as Fremont Avenue.
  - Northbound left turning traffic from W Minnehaha Parkway to W Minnehaha Parkway would be able to use Lyndale Avenue and residential roadways resulting in minimal impact to total vehicle route length.
  - Burroughs Elementary School utilizes the east side of James Avenue for bussing operations. School Departure begins at 3:40 p.m. meaning that a majority of school pick-up and bussing operations will be completed by the p.m. peak hour (4:30 p.m. to 5:30 p.m.) reducing the school traffic and p.m. peak hour traffic interaction.
  - Shir Tikvah Synagogue traffic would require routing south on Girard Avenue or Fremont Avenue to provide connection to northbound W Minnehaha Parkway for on-street parking.
  - The reconfiguration of the parkway would remove the 2-way to 1-way conflict present at the existing "T" intersection.
  - Reduction of vehicle routes at 50th Street/W Minnehaha Parkway would reduce vehicle and pedestrian/bicycle conflicts at an already busy and heavily used intersection.
  - Removal of W Minnehaha Parkway at W Minnehaha Parkway would remove vehicle and pedestrian/bicycle conflicts along the parkway. Roughly 126 weekday pedestrians/bicycles and 272 weekend day pedestrians/bicycles would be positively impacted with this change, based on October counts. 384 pedestrian/bicycle crossings would see reductions in vehicle conflicts based on the July counts.
- **Minnehaha Parkway by Nicollet Avenue –** The preferred realignment of this roadway section would have the following impacts:
  - Traffic on the upper parkway leg would be expected to increase with the closure of the lower leg of W Minnehaha Parkway. As a result, traffic on the road would increase by approximately 130 vehicles and eastbound queues at Nicollet Avenue are forecast to increase by approximately five vehicles during the weekday pm peak hour.
  - Homes along W Minnehaha Parkway both east and west of Nicollet can expect to see an increase in traffic with the change in vehicle routes. Traffic would increase to roughly 1,200 vehicles per day to the west of Nicollet Avenue (currently 300 vehicles per day) and to 1,500 vehicles per day to the east of Nicollet Avenue (currently 560 vehicles ped day) due to the rerouted Minnehaha Parkway traffic. These volumes are still well within the standard range of residential roadways in Minneapolis.
  - One-way operation on the western leg would improve safety along the roadway as it provides more room for vehicle traffic and on-street parking operations. Currently two-way operation and parking is permitted, though the cross section does not provide sufficient width for this operation.
  - The W Minnehaha Parkway/Nicollet Avenue intersection is currently skewed, the intersection should be squared up as part of the realignment to help improve safety.
  - Westbound drivers, with driveway access on the upper parkway road to the west of Nicollet Avenue would have to use Diamond Lake Road to Pleasant Avenue to access their homes after the modification. This would result in a roughly 0.6-mile addition to their commute. This would only impact westbound vehicles; eastbound drivers would experience no changes.

Attachments

- Turning Movement Counts
- Warrant Analyses

- Capacity Analysis