TOWN COUNCIL
WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: June 13, 2018
MEETING DATE: June 18, 2018

SUBMITTING DEPARTMENT: Public Works
DEPARTMENT DIRECTOR: Johnny Ziem (Interim)
PRESENTER: Brian Lenz, Town Engineer

SUBJECT: North King Street Extension Traffic Study and Preferred Alternatives

PURPOSE OF WORKSHOP ITEM
The purpose of this item is to continue the discussion and seek Town Council input on the extension of North King Street from Gill to Mercill based on the Traffic Impact Study (TIS) conducted in 2017 and the conceptual designs that were the product of the study. If a preferred alternative is selected, obtain direction from the Council to develop the concept with any revisions and continue the design work on the King Street extension.

DESIRED OUTCOME
The desired outcome would be for Town Council to provide direction to staff relating to a preferred alternative conceptual design that would consider modifications to the design addressing concerns and consider preliminary costs for design and construction.

BACKGROUND/ALTERNATIVES
At the January 17, 2017 Town Council workshop Council directed staff to proceed with a TIS including conceptual alternatives for the North King Street extension. Staff worked with Jorgensen Associates, who performed a TIS for the Hidden Hollow development. In addition to traffic counts and traffic volume forecasting Jorgensen and their traffic consultant interviewed the various public agency stakeholders regarding the project.

The existing traffic volumes and forecast volumes show that the extension would qualify as a local road, though at a 10-year forecast the traffic volume would be at the high end or slightly higher than local road standards.

Four conceptual alternatives were included with the report that ranged from minor modifications to the existing layout to accommodate pedestrians, bicycles, and emergency vehicles to complete realignment of the extension with a complete streets design options. A summary of the alternative concepts follows:

1. **Existing alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue.** This would be the lowest-cost alternative with fewest changes to the Recreation Center access and parking. This should be considered the minimum improvements necessary on site in order to supply pedestrian/bicycle connectivity to North Jackson as well as emergency access to Hidden Hollow.
2. **Proposed alignment – Recreation Center access only – Recreation Center Remodel Concept Plan** Similar functional use as design Alternative 1 with pedestrian/bike/emergency access to the north end of the Recreation Center. Based on the Recreation Center Remodel Plan, this alternative would provide functionality of the site including improved drop-off/pick-up, improved parking, improved roadway alignment. This alternative does not provide vehicle connectivity/redundancy to the transportation network while still requiring major investment. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

3. **Proposed alignment – all modes – Complete Street with traffic calming; detached non-motorized facilities**. Meets numerous transportation plan and policy goals. Concept level design provides opportunity to develop traffic calming measures in street design including narrow corridor, raised cross walks, buffers between traffic and pedestrian/bike facilities. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.
4. **Proposed alignment –all modes – Complete Street with traffic calming; attached non-motorized**. Meets numerous transportation plan and policy and goals. Concept level design provides opportunity to develop traffic calming measures in street design including raised cross walks and low marked speed limits. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015

The stakeholders agreed that the extending the road for all modes of traffic would be beneficial and inline with the guiding development doctrines for the town and county. Generally, they preferred Alternative 3 that provides a narrower complete street with detached sidewalk and pathway amenities.

Issues for consideration of the alternatives include:

- **Rec Center Internal Pedestrian Movements**. This connector road will bisect a large portion of the parking at the Rec Center and any design of the through road will need to encompass concerns related to internal site pedestrian safety.
- **Parking Access and Circulation**. There are various options for access to the parking lot that may reduce traffic across the pedestrian crossing, including a possible access on Gill.
- **Accessible Parking Locations**. Current concepts propose that the accessible parking spaces are located in the parking lots and are not directly adjacent to the building entrance.
- **Pedestrian Crossing Treatments.** There are several options for addressing the pedestrian crossing, a simple raised crossing was proposed uniformly across the concepts but plazas or other options exist.
- **Traffic Circulation in the Area.** Pedestrian and traffic crossings for other intersections in the area, e.g. pedestrians crossing Gill Ave. at Center and Cache Streets. These are crossings that do not have stop signs or involve turning maneuvers that may benefit from diverted traffic. The school district uses this road for large food delivery vehicles to the north side of the school.
- **Cache Tube Realignment.** The area proposed for realignment of the North King Street extension coincides with the propose realignment of the Cache Tube. Work on the Cache tube is proposed for Spring 2019 and Fall 2019.
- **Emergency Access and Redundancy.** A complete street North King extension provides redundancy and continuity in our local roadway system. This is valuable not just during emergencies and peak travel periods, but also during times of construction. A rogue version of this redundancy already occurs through the Ranch Parking lot and providing a planned route better serves the community.

Stakeholders have discussed this issue at length and are recommending the Town Council affirm the extension of King Street and direct staff to continue design work on a preferred King Street extension. The work would consider the Rec Center expansion the results of the parking study (if available), and the new Traffic Demand Model as it relates to future needs at the Home Ranch parking lot, the Recreation Center, and the Jackson Elementary School.

The proposed North King Street extension has been in the Town's 10-year Capital Improvement Plan (CIP) for some time with $300,000 identified for the project out of the 2006 SPET but not being appropriated until FY2021. Should the Council want to move up the design of this project, that $300,000 could be expensed much earlier than 2021. The approved language from the 2006 SPET proposition is below:

> *<u>2006 SPET Proposition #4</u> – Roadway Extension, Downtown Parking, Downtown Public Restrooms and Downtown Public Amenities - $8,656,440:*

For the purpose of funding the acquisition of land and easements, and for the cost of planning, engineering and construction of a downtown roadway extension between East Gill Avenue and North Cache Drive, and to fund the construction of downtown parking, downtown public restrooms and downtown public amenities, and to the extent necessary and allowed by law, the pledge to or payment of debt service and/or lease payment thereon (the "project"), which project is sponsored by the Town of Jackson, Wyoming.

This remainder of the 2006 SPET proposition monies have already been spent on other approved projects associated with the ballot initiative.

Council has many options for consideration.

1. Affirm the extension of King Street with a preferred alternative and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).
2. Discuss the King Street extension and continue the discussion to a future Town Council workshop.
3. Make a motion for approval and vote against the motion thereby providing direction to staff to consider options for the Rec Center site that do not include a through street.
4. Direct staff to include options for the design of the Rec Center expansion that both include the King Street extension and exclude it with the understanding that the Council will make a decision at that time as to whether the extension will occur.
5. Other.

STAKEHOLDER ANALYSIS

The stakeholders include residents and visitors to the community that would benefit from alternate routes to critical services and specific neighborhoods, our own critical service providers, and those in the community wanting to utilize alternative modes of transportation more safely and conveniently.

FISCAL IMPACT

In the capital budget we show $300,000 out of 2006 SPET monies to be expensed in 2021.

STAFF IMPACT

Staff time to coordinate with the consultant and stakeholders on the study and conceptual drawings will be necessary.

LEGAL ISSUES

No Legal review required at this time.

ATTACHMENTS

2018 North King Street Extension Traffic Impact Study Report, by Jorgensen Associates
January 17, 2017 North King Street Extension Town Council Workshop Staff Report

RECOMMENDATION

Staff recommends that Council affirm the extension of King Street with preferred alternative 3 with any revisions discussed and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).

SUGGESTED MOTION

Should the Council be ready to act, one possible motion would be:

I move to affirm the extension of King Street with preferred alternative (insert preferred alternative) with any revisions discussed and direct staff to continue design work on the King Street extension in concert with the Cache Tube project, possible Recreation Center Expansion, and as informed by the results of the parking study and traffic demand model (if available).

Synopsis for PowerPoint (120 words max):
Purpose:
The purpose of this item is to continue the discussion and seek Town Council input on the extension of North King Street from Gill to Mercill based on the Traffic Impact Study (TIS) conducted in 2017 and the conceptual designs that were the product of the study. If a preferred alternative is selected, obtain direction from the Council to develop the concept with any revisions and continue the design work on the King Street extension.

NORTH KING STREET EXTENSION

TRAFFIC IMPACT STUDY REPORT

June 14, 2018

PREPARED FOR:

Town of Jackson
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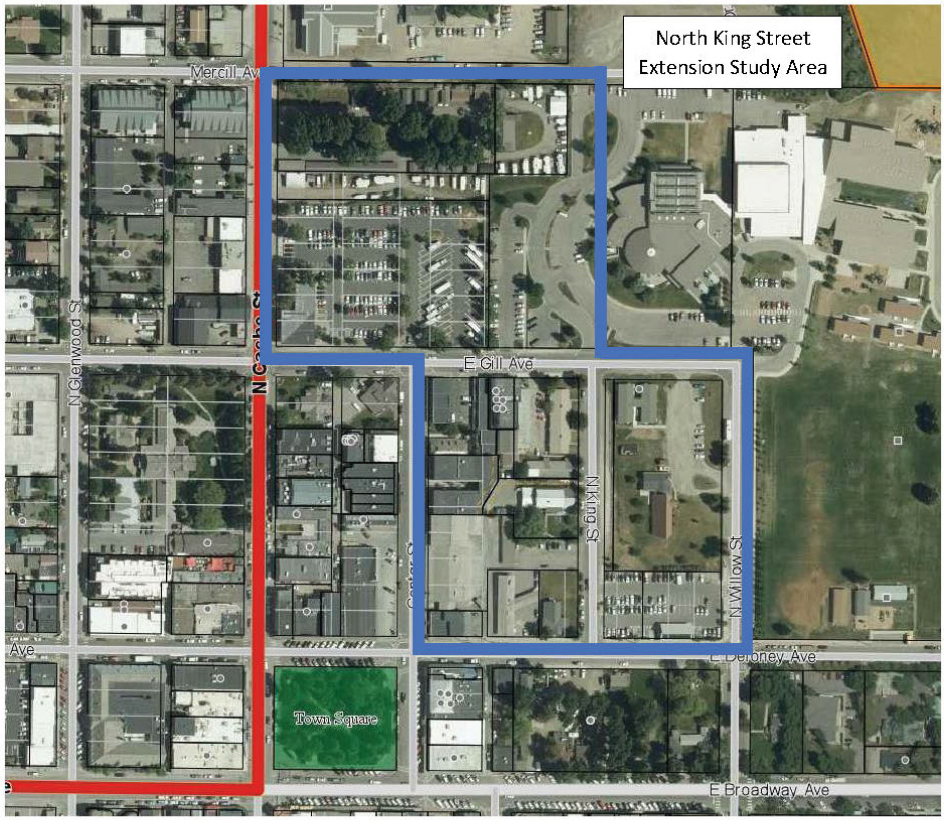

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North King Street Extension Study - Executive Summary

In 2006 voters approved a SPET proposition that included the cost for the planning, engineering, and construction of a downtown road extension between East Gill Avenue and North Cache Street. Since that time, Teton County Parks and Recreation has been working on plans for an expansion that includes site modifications to the Teton County Recreation Center. Site modifications include the option of revising the Recreation Center access drive to a complete street connection between East Gill Avenue and Mercill Avenue. The Town of Jackson (TOJ) Council has directed Town staff to look at alternatives for North King Street between East Gill Avenue and Mercill Avenue.

An important component to the North King Street project is to gain an understanding of how much traffic (all modes) would use this corridor once constructed. Future traffic volume forecasts were prepared for the planning year of 2027. Traffic growth rates were determined based upon historic traffic growth rates in the area as well as recent development proposals and student population reductions for Davey Jackson Elementary School (based upon the opening of Munger Mountain Elementary). Modal shifts consistent with the Jackson/Teton County Integrated Transportation Plan were applied. The westbound left turn from Mercill Avenue to southbound North Cache Street was eliminated as part of the Hidden Hollow project to improve that intersections performance. This is also reflected in the 2027 traffic volume projections.

The resulting estimated 2027 traffic volumes on a North King Extension are approximately equivalent to the upper end of traffic volumes for the TOJ Land Development Regulation Local Street classification design standards. Numerous advantages of developing a redundant route by implementing this extension were identified by stakeholder/user groups during the development of this study. Alternative street concepts were prepared for North King Street with traffic calming features to maintain slow travel speeds and minimize unnecessary cut-through traffic.

A workshop with the stakeholder/user groups was conducted on May 3, 2018 to review the alternative design concepts presented in this report. Workshop participants were in favor of Alternative 3. Workshop participants offered suggestions and comments for the alternatives. Recognizing that these alternatives are at a very conceptual level, each of these suggestions can be evaluated and incorporated into the preferred alternative as design progresses.

Based upon the finding of this traffic impact study, we recommend Alternative 3. The need for a redundant connection is imperative for all modes of transportation. However, because vehicular traffic volumes are anticipated to be on the upper end and potentially exceed a Minor Collector classification, it is imperative that traffic calming measures are implemented to maintain slow travel speeds and discourage bypass traffic.

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I. Introduction

In 2006 voters approved a SPET proposition that included the cost for the planning, engineering, and construction of a downtown road extension between East Gill Avenue and North Cache Street. Since that time, Teton County Parks and Recreation has been working on plans for an expansion that includes site modifications to the Teton County Recreation Center. Site modifications include the option of revising the Recreation Center access drive to a complete street connection between East Gill Avenue and Mercill Avenue.

The Town Council has directed Town staff to look at alternatives for North King Street between East Gill Avenue and Mercill Avenue. An important component to the North King Street project is to gain an understanding of how much traffic (all modes) would use this corridor once it is constructed. This report presents the study process, traffic data and traffic forecasting, a range of concepts for North King Street, schematic design alternatives, and preliminary recommendations. Twelve (12) traffic volume figures were prepared for this analysis to present each step of the analysis. They are all attached to this report for ease of sequencing through each figure.

II. User Group Interviews

A list of user groups was identified for North King Street by the Town of Jackson. One-hour interviews were held with each group. Brian Lenz, Town Engineer and/or Larry Pardee, Town Public Works Director participated in most of the interviews. User group interviews generally followed an outline of interview questions as provided in **Appendix A**. Notes from the interviews are also provided in **Appendix A**. The user groups and their attendees are listed below:

- Kathy Clay, Fire Marshall
- Todd Smith, Police Chief
- Brian Schilling, Jackson Hole Community Pathways Director
- Daren Brugmann, START Bus
- Steve Ashworth, Teton County Parks and Recreation Director
- Jeff Daugherty and Paul Rossolo, Teton County School District
- Tyler Sinclair, Town of Jackson, Planning Director
- Mike Oltman, United States Forest Service (USFS)
- Sean O'Malley and Amy Ramage, Teton County Public Works
- Darin Kaufman, Wyoming Department of Transportation - District 3 Traffic Engineer

The user group interviews resulted in a discussion of the users' relative perception of traffic mobility for their services and all modes of travel in the study area. The user groups expressed traffic and safety concerns. The discussion resulted in generating various design options for North King Street between East Gill Avenue and Mercill Avenue.

Most of the user groups encouraged development of North King Street to improve the street network and provide redundancy in the street network. Pedestrian, bicycle, and emergency access along North King Street, between Mercill Avenue and East Gill Avenue, was very important to all user groups. Teton County Parks & Recreation, as well as the Teton County Fire Marshall, were concerned with mixing pedestrians walking to and from the Recreation Center west parking lot and general-purpose traffic on a proposed North King Street. All user groups encouraged a design that incorporates traffic calming measures to keep vehicle speeds slow and discouraged use as a bypass route.

Highlights of existing and potential future use of North King Street by user group are summarized below.

- Emergency access to Hidden Hollow would be improved with a North King Street connection. Without the connection, there are 168 units with only one ingress/egress at the end of a long corridor.

- A North King Street connection was not a high priority for emergency routing from north of Town to the Hospital. Emergency vehicles are accustomed to pushing through the traffic on North Cache Street.
- Community Pathways sees the connection as key to providing access for pedestrian and bicycle users to the street network without travelling on North Cache Street.
- Community Pathways also sees the benefits of connecting to the North Highway 89 Pathway without travelling on North Cache Street (the segment between Mercill Avenue the North Highway 89 is connected by a bike lane).
- START Bus appreciates a street network that provides options to adjust bus routing to capture more riders.
- Teton County Parks & Recreation uses the existing roadway for drop-off/pick-up at all times of the day with peaks in the morning, after school and evening. School buses pick up children at school and drop off at the front door of the Recreation Center.
- Teton County School District (TCSD) shared that attendance and traffic volumes would decrease at Davey Jackson Elementary School when Munger Mountain Elementary School is opened in the fall of 2018.
- TCSD is under pressure to adhere to State of Wyoming requirements that do not provide bus service to students within a one-mile radius of schools; therefore, encouraging walking or biking to school, due to budget constraints at the state level.
- The USFS encouraged development of a complete street network. No parking is allowed on Mercill Avenue adjacent to the building for security reasons.
- Teton County encouraged development of a complete street network.

III. Policy Guidance

A summary of adopted plans, policies, and regulations relevant to a potential North King Street extension is provided below.

2012 Jackson/Teton County Comprehensive Plan, Section 7. Multimodal Transportation

- Principal 7.1 - Meet future transportation demand through the use of alternative modes. Our transportation goal is to increase the use of alternative modes of transportation within the community to meet our future transportation demand. To achieve this goal, a year-round mode shift away from the single occupancy motor vehicle will be required. A combination of increased transit mode share along major corridors and the completion and use of an integrated transportation system that includes opportunities for rideshare, walking, and biking will all be needed to increase the use of alternative modes.
- Principal 7.2 – Create a safe, efficient, interconnected, multi-modal transportation network. The community's transportation network will be based upon the provision of "complete streets" that address the needs of all users, with an emphasis on providing alternative transportation options. The connectivity, redundancy and efficiency of the network will encourage the desired mode shift and meet our community's Ecosystem Stewardship Common Value.
- Principal 7.3 – Coordinate land use and transportation planning. Current and future land use patterns and the associated roadway network will greatly affect the community's ability to meet its transportation goal. Complete neighborhoods and complete streets facilitate the use of alternative modes of transportation, lessening our dependence on the SOV and reducing our overall energy consumption.

Integrated Transportation Plan, Jackson/Teton, September 2015

- Both the Town and County will continue to invest in and improve the pedestrian environment, with an emphasis on streets in Town and in the villages and rural neighborhoods of the County. Walking by residents and visitors for short trips within settled areas will be significantly safer and more convenient than today.

- The Town and County will make bicycle infrastructure improvements along streets and roadways in populated areas and will continue to expend and improve the region's highly successful pathways network.
- Over 5% of daily trips made in Teton County (including Jackson) in 2013 will shift from single-occupant vehicle trips to walk, bike, and transit trips by 2035.
- Encourage active travel to and from school (walking, biking, skating, skiing).

Community Streets Plan, Town of Jackson, December 2015

- It is assumed that an extension of North King Street north of East Gill Avenue would be classified as a Local street based on the Motor Vehicle Network, page 10, and based on nearby streets and local land use.
- North King Street south of Gill Avenue as a BT (bus/truck) street between East Deloney Avenue and East Gill Avenue. The BT street then continues on East Gill Avenue between North King Street and North Cache Street.
- Based on the Sidewalk and Pedestrian Network, page 12, wide sidewalks exist on North Willow Street south of East Gill Avenue. Substandard sidewalks exist along East Gill Avenue.
- Bicycle lanes exist on North Willow Street between Deloney Avenue and East Gill Avenue and along East Gill Avenue to nearly North Cache Street.
- A bike lane and widened sidewalk are on the east side of North Cache Street, north of Mercill Avenue.

Land Development Regulations (LDRs), Town of Jackson, January 2015, Div. 7.6 Transportation Facility Standards

- C.1. Adequate Access. Adequate vehicular, bicycle, and pedestrian access shall be provided to all lots of record.
- C.2. Minimize Through Traffic. Local street system shall be designed to minimize through-traffic movements.
- C.5. Not Detract from Efficiency. Local circulation systems and land development patterns shall not detract from the efficiency of bordering major streets.
- C.9. Design for Relatively Low Volume. The local street system shall be designed for a relatively uniform low volume of traffic.
- D.10. Design to Discourage Excessive Speed. Local streets shall be designed to discourage excessive speeds.
- G.2. Right of Way. Design speed of a Local street is 25 mph. The capacity for Average Daily Traffic (ADT) is up to 1,500.

Hidden Hollow Traffic Impact Study, Jorgensen Associates, P.C., May, 2017

- Trip generation, traffic assignment, analysis methodology and data resources are used in this study for coordination and consistency. The Hidden Hollow Traffic Impact Study was reviewed and approved by the Town of Jackson and the Wyoming Department of Transportation (WYDOT), consistent with regulations and policies.
- Mercill Avenue east of North Cache Street to the Hidden Hollow residential development will be designed with two 10.5-foot lanes, a 10-foot pathway on the north and a 6-foot sidewalk on the south. Both bicycle and pedestrian facilities are proposed to include 4 to 5-foot vegetated buffers to the back of curb providing additional protection for these alternative modes of transportation.

IV. Study Area Traffic Volumes

The study area includes North Cache Street to the west, North Willow Street to the east, East Deloney Street to the south and Mercill Avenue to the north. New traffic data were collected on East Gill Avenue in May 2017. May traffic is a good indicator of local traffic volumes as it reflects the lowest seasonal tourist visitation and schools are still in session. Traffic volume data were collected on a Tuesday and Thursday during three hours of the A.M. peak period and three hours of the P.M. peak period.

Traffic volume data were provided by WYDOT on North Cache Street at East Gill Avenue and Mercill Avenue. These data were collected in September 2015. A growth factor of 1% per year was applied to the 2015 volumes, consistent with the *Hidden Hollow Traffic Impact Study*, May 5, 2017, to prepare 2017 baseline traffic volumes at North Cache Street and Gill Avenue. On a daily basis, September volumes on North Cache Street are higher than May traffic volumes. However, the A.M. and P.M. peak hour east-west volumes on Gill Avenue to and from North Cache Street were less in September than the May A.M. and P.M. peak hour traffic volumes collected in May 2017 at East Gill Avenue and Center Street. The traffic volumes on Gill Avenue approaching North Cache Street were therefore balanced to the traffic volumes on East Gill Avenue at Center Street.

A.M. peak hour traffic volumes are presented in **Figure 1** and the P.M. peak hour traffic volumes are presented in **Figure 2**. The A.M. and P.M. peak hours were identified by evaluating the peak three hours of traffic data. The A.M. peak hour occurs between 7:45 A.M. and 8:45 A.M. The P.M. peak hour occurs between 4:00 P.M. and 5:00 P.M. Two intersections showed a P.M. peak hour between 3:45 P.M. and 4:45 P.M., but the hourly traffic volume was close to the 4:00 P.M. to 5:00 P.M. hour so 4:00 P.M. to 5:00 P.M. was selected for consistency. Tuesday and Thursday traffic volume data were averaged.

Traffic volumes on East Gill Avenue at North Cache Street were adjusted to balance with traffic volumes on East Gill Avenue at Center Street. The westbound approach volume on East Gill Avenue at North Cache Street (left turn, through, and right turn volume) was less than the westbound volume leaving the intersection of East Gill Avenue and Center Street. The approach volume on East Gill Street at North Cache Street was increased to balance to the westbound volume west of Center Street. The traffic volumes North Cache Street at the northbound approach to Mercill Avenue were balanced to the northbound volumes leaving East Gill Street, and the southbound volumes on North Cache leaving Mercill Avenue were balanced to the approach volume at East Gill Street. Balancing was relatively minimal. Traffic volumes on East Gill Avenue and North Willow were not balanced between intersections as the volumes were very close to balanced and any inconsistencies would reflect driveway activity.

V. Traffic Volume Forecasts

Future baseline A.M. and P.M. peak hour traffic volumes were increased consistent with the *Hidden Hollow Traffic Impact Study* (Hidden Hollow TIS) methodology. The Hidden Hollow TIS reported historical traffic growth on North Cache Street at 0.85% per year since 2009, and a 1% per year traffic growth rate was applied over a 10-year horizon. Existing A.M. and P.M. peak hour traffic volumes were increased by 1% per year to 2027. A trip reduction factor for a shift in mode share was applied to the forecast traffic volumes based on the findings as documented in the *Jackson/Teton County Integrated Transportation Plan* (Jackson/Teton ITP, 2015) and consistent with the Hidden Hollow TIS. A 3% mode shift to walk, bicycle, and transit is identified in the Jackson/Teton ITP by 2024 (ITP Figure 6). A 3% reduction factor was applied to the forecast 2027 volumes. The small incremental increase that could occur between 2024 and 2027 was not estimated for simplicity and would reflect a more conservative estimate. Future baseline 2027 A.M. peak hour traffic volumes are presented in **Figure 3** and future baseline 2027 P.M. traffic volumes are presented in **Figure 4**. A decision was made to eliminate the westbound left turn from Mercill Avenue to southbound North Cache Street during design upgrades of this intersection for the Hidden Hollow project. This is reflected in the 2027 future baseline traffic volumes.

Development Potential within Transportation Network

There are three potential redevelopment projects within the project area and a reduction in students at Davey Jackson Elementary School (DJES) due to the construction of the new Munger Mountain Elementary School. The projects include:

- The Center Street project – this project will replace a walk-in bank and single office tenant off with a hotel/apartment/restaurant/retail development. This project is currently in the Town of Jackson development approval process.
- The CaRE project – this project will replace a commercial office building, a duplex, and a 4-unit apartment building with a seasonal housing/residential short-term rental/affordable and workforce housing/retail project. This project has had a Town of Jackson Pre-Application Conference, but is subject to the moratorium.
- The Westmount Workforce Housing project – the project will construct apartments and some retail space on the lot currently housing the Jackson Hole Children's Museum. This project has submitted the Town of Jackson Pre-Application conference application.
- The construction of the new Munger Mountain Elementary School will result in the reduction of students at DJES from an enrollment of 569 students to 275 students.

A trip generation estimation of these projects was prepared to check on their impact to the 1-percent per year traffic growth estimate included in this study. Trip generation was developed based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition). The table below summarizes that estimation:

Project	Current P.M. Peak Hour Generation	Proposed P.M. Peak Hour Generation
Center Street Project*	95 trips/hour	100 trips/hour
CaRE Project	12 trips/hour	52 trips/hour
Westmount Workforce Project	15 trips/hour	29 trips/hour
DJES	148 trips/hour	72 trips/hour
Total	**270 trips/hour**	**253 trips/hour**

* Estimate per Center Street Project Development Plan Submittal Traffic Impact Analysis prepared by Nelson Engineering, September 2017

The trips on the network within the study area are actually reduced due to the significant reduction in students at DJES. Based upon this analysis, we conclude that the 1% traffic growth assumption is appropriate.

Traffic Forecasts

Future baseline traffic volume diversion to a North King Street connection was estimated independent of the Hidden Hollow traffic diversion estimates. Diverted traffic occurs when vehicles that are already on the street system change their route due to changes in the street network or other traffic conditions. Diverted traffic results in both additional traffic on North King Street and reduced traffic volume at other intersections. Guidelines for diversion estimates are listed below.

- During the A.M. and P.M. peak hour, all of the westbound right turn traffic on East Gill Avenue at North Cache Street would divert to North King Street for a worst-case estimate.
- During the A.M. and P.M. peak hour, all of the southbound left turn traffic on North Cache Street to East Gill Avenue would divert to North King Street.
- The resulting redistribution of traffic at the intersection of East Gill Avenue and North King Street is estimated based on directional approach volumes at the intersection.

The trip assignment of diverted 2027 baseline trips is presented in **Figure 5** for the A.M. peak hour and **Figure 6** for the P.M. peak hour. Note that when trips are diverted, intersection approaches show a volume added to an intersection movement and the same volume removed from an intersection movement (shown in parenthesis).

Trip generation and traffic assignment for the Hidden Hollow development, with and without a North King Street connection, was prepared for the Hidden Hollow TIS. Figure 8 of the Hidden Hollow TIS is provided as **Figure B.1** in **Appendix B** and shows A.M. and P.M. peak hour traffic volumes at the intersections of North Cache Street/Mercill Avenue and North Cache Street/East Gill Avenue. The traffic distribution shown in Figure B.1 were modified to reflect the "No Left" on Westbound Mercill Avenue, included in the final designs submitted to WYDOT for the proposed Mercill Avenue corridor. These traffic volumes were assigned to study area intersections. **Figure 7** shows Hidden Hollow A.M. peak hour trip assignment without a North King Street Extension and **Figure 8** shows Hidden Hollow A.M. peak hour trip assignment with a North King Street Extension. **Figure 9** shows Hidden Hollow P.M. peak hour trip assignment without a North King Street Extension and **Figure 10** shows Hidden Hollow P.M. peak hour trip assignment with a North King Street Extension.

The 2027 estimated A.M. and estimated P.M. traffic volume with a North King Extension was calculated by summing:

- 2027 Baseline P.M. Peak Hour Traffic Volumes,
- Peak Hour Diverted Trips, and
- Hidden Hollow Traffic Assignment with a North King Extension.

The 2027 A.M. and P.M. peak hour traffic forecasts are presented in **Figure 11** and **Figure 12**, respectively. At the intersection of North King Street and East Gill Avenue the total number of vehicles entering the intersection, when each approach is summed, is approximately the same without or with a North King Street connection. Traffic volumes shift from one movement to another at this intersection. Some minor differences occur due to some vehicles being trip ends for the Recreation Center. A few trip ends would ingress/egress the Recreation Center from Mercill Avenue on the north via the connection.

Daily Traffic

The P.M. peak hour typically represents 10% of daily traffic. The North King extension would include both through traffic with Hidden Hollow traffic and Recreation Center traffic. The future baseline traffic volumes, without a North King Street Extension, reflect Recreation Center traffic with a 1% per year increase. Recreation Center traffic exists independent of the connection. The P.M. peak hour two-way traffic volume for through traffic plus Hidden

Hollow is 190 and as an estimated 10% of daily traffic the estimated future daily traffic would be 1,900 vehicles. An example of similar traffic volume exists on Kelly Avenue, west of Millward Street where daily traffic volumes were 2,113 vehicles on June 13, 2017 (Source WYDOT).

Table 1: North King Street 2027 Traffic Volumes – with extension

Peak Hour	Traffic Source	NB	SB	Total	Estimated Daily Traffic
A.M.	Through/diverted traffic plus Hidden Hollow traffic	74	104	178	n/a
	Recreation Center Traffic	68	34	102	n/a
P.M.	Through Traffic plus Hidden Hollow	111	79	190	1,900[a]
	Recreation Center Traffic	66	41	107	n/a

a) Daily traffic volume estimated as 10% of P.M. peak hour for typical mixed neighborhood traffic.

The estimated daily through traffic volume exceeds the daily volume of a Local street (1,500) by approximately 400 vehicles. A reduction of 40 vehicles in the P.M. peak hour, or approximately 20 in each direction would achieve 2027 future daily traffic volumes consistent with a local street designation. With this in mind, design concepts should be developed to discourage bypass type through traffic through complete street and traffic calming methodologies.

VI. Future Traffic Conditions

The intersection of North Cache Street and Mercill Avenue would have a reduction in traffic for the northbound approach that becomes an increase in the Mercill Avenue westbound right turn volume. This would reduce overall intersection delay. The right turn volume from Mercill Avenue would experience delay due to pedestrian and bicycle crossing of the north leg. The southbound approach volume on North Cache Street is a reduction in the through volume and an increase in the southbound left turn volume. The road section of this approach includes a separate left-turn-lane. This increased left turn volume would increase overall intersection delay; however, the delay caused by waiting for the southbound left turn signal to turn green could reduce the volume of diverted traffic to North King Street. Additionally, with the historic use of the left-turn-lane minimal, the turning movement has available capacity. The elimination of the westbound left turn from Mercill Avenue to southbound North Cache Street would improve intersection operations. Pedestrians and bicyclists accessing the North Highway 89 Pathway, to and from East Jackson, would shift to the intersection of Mercill Avenue and North King Street and reduce vehicle delay at the intersection at the North Cache Street and Mercill Avenue intersection.

The intersection of North Cache Street and East Gill Avenue would have an overall reduction in traffic volume due to diversion of the southbound left and the westbound right turns. This intersection would experience a reduction in overall delay.

The intersection of North King Street and East Gill Avenue would experience shifts in traffic volume for nearly all movements, but the sum of all approaches would remain the same (except for a small amount of Hidden Hollow traffic).

Traffic volumes at the intersections of North Willow Street/East Gill Avenue and North Willow Street/Delaney Avenue would remain the same (except for a small amount of Hidden Hollow Traffic).

The intersection of Mercill Avenue and North King Street would be a very low-volume intersection that provides an option for pedestrians and bicycles to cross at a low-volume intersection to the North Highway 89 Pathway.

Overall, the connection would supply a redundant route in Jackson and supply crucial connectivity for bicyclists, pedestrians, and vehicles. An opportunity exists for public transit (START) to play a larger role in this vicinity given the dense residential development in Hidden Hollow and the high intensity of use at the Recreation Center. The re-routing of traffic will largely aid in increasing serviceability on the two signalized intersections in the study. Due to the location of the connector in relation to the Recreation Center, design of should focus on minimizing through traffic to keep the roadway as a local roadway designation. Narrow travel ways, complete streets, and traffic calming features should be utilized in providing a safe, functional connector that helps the community meet its transportation goals.

VII. North King Street Connection Design Concepts

Design concepts for a North King Street connection to Mercill Avenue were developed through feedback from the user group interviews and the project team, complete street design considerations for Mercill Avenue, and complete street design considerations for the North King Street connection developed as part of the Recreation Center master planning project. Design concepts and key features are described below, followed by a summary of the concept findings. Up to three concepts were selected for preliminary design.

1. Existing alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue

- Design intersection of Mercill Avenue and driveway to Recreation Center north parking lot as a four-leg intersection with pedestrian crosswalks and pathway crossing.
- Provide 20-foot-wide travel way from Mercill Avenue to turnaround at Recreation Center.
- Bikeway crossing to north side of Mercill Avenue.
- Pedestrian access to sidewalk on Mercill Avenue.
- Install Teton County Fire and EMS acceptable gate for emergency vehicles.

Concept level findings:

- Low cost.
- Provides pedestrian, bicycle, and emergency access to Hidden Hollow residences.
- Provides connection to bike path on north side of Mercill and North Highway 89 Pathway.
- Gates can malfunction, cause delay to emergency vehicles.
- Hidden Hollow vehicular traffic must circulate through intersection of Mercill Avenue and North Cache Street.
- Lower traffic volumes through the Recreation Center driveway reduces vehicle/pedestrian conflicts between parking lot and Recreation Center.

2. Proposed alignment – Recreation Center access only – Recreation Center Remodel Concept Plan

[see file: Teton County/Jackson Recreation Center – Master Plan dated October 2017]

- Turnaround loop at north end.
- Access to Recreation Center parking lot as intersection with Mercill Avenue on north side forms four-leg intersection.
- Stop sign control for north and south legs.
- Pedestrian Connection.
- Bicycle path west of sidewalk, crossing Mercill west of new intersection.
- 20-foot emergency access between north parking lot and turnaround loop.

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue.
- Infrastructure investment could be comparable to complete street options without providing local traffic circulation option or system redundancy.
- Hidden Hollow vehicular traffic must circulate through intersection of Mercill Avenue and North Cache Street.
- Truck access for school deliveries should be confirmed with truck turning templates. Design of new parking area on the north side of the Recreation Center could include potential alternative access off of Hidden Hollow Road to aid in school deliveries.
- Gates can malfunction, cause delay to emergency vehicles.
- Lower traffic volumes through the Recreation Center driveway reduces vehicle/pedestrian conflicts between parking lot and Recreation Center.

3. Proposed alignment – all modes – Complete Street with traffic calming

- 24 feet wide section with 10.5-foot wide lanes plus 1.5 foot to curb.
- Full 5-foot vegetated buffers between curb and pathways/sidewalks.
- Detached 6-foot sidewalk east of North King Street.
- 10-foot detached pathway west of North King Street.
- Wide, raised crosswalk between parking lot and Recreation Center to slow traffic
- Design includes drop-off/pick-up
- START Bus integration. Provides access to transit circulation. Geometry may require transit to be completed in car pooling or micro-transit alternatives within the site. Potential for bus station on East Gill Avenue for larger transit vehicles.
- Signed speed limit of 15 mph

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue. Provides opportunity for connection to North Pathway without using North Cache Street
- Improves options for START bus to develop new service plans including new drop-off/pick up locations and micro-transit in downtown areas
- Develops a street network and provides redundancy
- Local traffic from Hidden Hollow is not forced to circulate through signal at Mercill Avenue and North Cache Street, removing traffic from busy corridor
- Narrow corridor provides natural traffic calming feature to interact with other traffic calming features such as raised cross walks, low speed limits, vegetated buffer areas, etc. Help to meet the needs associated with providing vehicle connectivity, bicycle/pedestrian connectively, and pedestrian conflict with Recreation Center access.
- Pedestrians from Recreation Center west parking lot cross North King Street which carries local traffic [refer to traffic volume increase shown in figure/report]

4. Proposed alignment –all modes – Complete Street with traffic calming

[see file: 15063 DD Civil Progress Set 20151009]

- 12-foot travel lanes.
- 5-foot directional pathways on shoulders.
- Attached 6-foot sidewalk east of North King Street.
- Wide, raised crosswalk between parking lot and Recreation Center to slow traffic.
- Design includes drop-off/pick-up.

- Signed speed limit of 15 mph.

Concept level findings:

- Pedestrian, bicycle, and emergency vehicle access provided between East Gill Avenue and Mercill Avenue. Provides opportunity for connection to North Pathway without using North Cache Street.
- Improves options for START bus to develop new service plans including new drop-off/pick up locations and micro-transit in downtown areas.
- Develops a street network and provides redundancy.
- Local traffic from Hidden Hollow is not forced to circulate through signal at Mercill Avenue and North Cache Street, removing traffic from busy corridor.
- With direction pathways on shoulders, the street corridor is much wider than Alternative 3. Corridor is wide enough that it will not have the same traffic calming ability of the narrower cross-section described in Alternative 3. Other calming features such as raised cross walks and lower speed limits can help slow traffic.
- Bicycle lanes on shoulders does not provide the vertical separation or horizontal buffer from traveling vehicles.
- Pedestrians from Recreation Center west parking lot cross North King Street which carries local traffic.
- [refer to traffic volume increase shown in figure/report].

Alternatives for concept level design

A range of alternatives is recommended for concept level design, from low cost with minimal changes to the Recreation Center to a Complete Street design for all modes. The alternatives recommended are:

1. Existing Recreation Center access road alignment, existing infrastructure – add pedestrian facility, bike path connection and emergency access between East Gill Avenue and Mercill Avenue. This would be the lowest-cost alternative with fewest changes to the Recreation Center access and parking. This should be considered the minimum improvements necessary on site in order to supply pedestrian/bicycle connectivity to North Jackson as well as emergency access to Hidden Hollow.

2. Proposed alignment - Recreation Center access only – Recreation Center Remodel Concept Plan. Similar functional use as design Alternative 1 with pedestrian/bike/emergency access to the north end of the Recreation Center. Based on the Recreation Center Remodel Plan, this alternative would provide functionality of the site including improved drop-off/pick-up, improved parking, improved roadway alignment. This alternative does not provide vehicle connectivity/redundancy to the transportation network while still requiring major investment. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

3. Proposed alignment – all modes (vehicles, START, school buses, bicycles, and pedestrians) – Complete Street with traffic calming. Meets numerous transportation plan and policy goals. Concept level design provides opportunity to develop traffic calming measures in street design including narrow corridor, raised cross walks, buffers between traffic and pedestrian/bike facilities. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

4. Proposed alignment - all modes (vehicles, START, school buses, bicycles, and pedestrians) – Complete Street with traffic calming. Meets numerous transportation plan and policy and goals. Concept level design provides opportunity to develop traffic calming measures in street design including raised cross walks and low marked speed limits. Design does not change parking design as developed during the Teton County Parks and Recreation Design Development plans developed in 2015.

See North King Street Conceptual Renderings

VIII. Conclusions/Recommendations

The construction of a North King Street Connector, connecting East Gill Avenue to Mercill Avenue, would provide much needed redundancy in the downtown Jackson street network for all modes. The traffic analysis included evaluated existing May traffic levels, anticipated traffic growth, proposed developments, reduction in school enrollment anticipated at Davey Jones Elementary School, anticipated trip generation from Hidden Hollow Development, and assumed conservative scenario re-routing of existing traffic. As analyzed, traffic volumes are anticipated to be approximately 1,900 vehicles/day. This value is slightly higher than the Town of Jackson Land Development Regulation Local Road designation of 1,500 vehicles/day (LDR Section 7.6.3.G). For comparison, a similar traffic level currently experienced in Jackson would be Kelly Avenue, west of Millard Street. This segment was measured to have 2,113 vehicles on June 13, 2017.

Overall, anticipated traffic levels represent a redundant route in the transportation network as opposed to a bypass route. The development of a complete streets connection provides great benefits to the community including, but not limited to;

- Redundant access to 168 unit residential area (Hidden Hollow).
- Pedestrian/bicycle redundant connectivity to north Jackson.
- Alternative Route/System Redundancy improving circulation and emergency access.
- Potential to aid in congestion relief at busy signalized intersections along North Cache Street by re-routing residential trips to Hidden Hollow, emergency vehicles, and end trips to the Recreation Center.

Due to the safety concerns of the mixing of a connector roadway with residential users of the Recreation Center, the design of the roadway is essential on minimizing and slowing through traffic and strategically utilizing traffic calming features to improve roadway crossing safety. Proper signing for pedestrians, speed limits (recommended 15 mph), etc. should be incorporated into final designs.

Preferred Alternative:

Jorgensen recommends the design of the collector as a complete street designed connector in order to help aid the community in progressing in its long-term transportation goals. Alternatives 3 and 4 both supply the area with a redundant route as well as provide bicycle/pedestrian/emergency access connectivity/transit connectivity. Both promote the following principals from the 2012 Jackson/Teton County Comprehensive Plan.

1. Principal 7.1 - Meet future transportation demand through the use of alternative modes.
    a. Provide bicycle/pedestrian connectivity.
    b. Potential for transit improvements through additional drop-off/pick-up locations, downtown circulation, and micro transit.
2. Principal 7.2 – Create a safe, efficient, interconnected, multi-modal transportation network. The community's transportation network will be based upon the provision of "complete streets" that address the needs of all users, with an emphasis on providing alternative transportation options.
3. Principal 7.3 – Coordinate land use and transportation planning.
    a. Connectivity of neighborhood area.

The connector is a feasible improvement to progress the transportation system in Jackson, supplying redundancy and promoting active travel within a connected community. Upon review of the alternatives, a final preferred alternative will be developed with coordination between the Town Council and Jorgensen.

Other Design Consideration:

With any improvements, the following items should be considered with final design of any of the alternatives.

1. **Parking**
   The parking identified in the North King Street alternative concept plans is either the existing parking supply for alternative 1, or as designed in the Teton County Parks and Recreation Design Development plans developed in 2015 for alternatives 2, 3, and 4. As the horizontal alignments in these alternatives is very similar to those shown in the DD plans, parking has not been altered from the requirements as determined by the Recreation Center. As a preferred alternative is selected and detailed design moves forward, it will be important to coordinate with the Recreation Center to ensure an adequate supply of parking is provided.

2. **Transit**
   Inclusion of improved START Bus facilities, routes, functionality is crucial in promoting alternative transportation modes in the community. As identified in alternatives 2, 3, and 4, additional drop-off/pick-up locations, improved circulation, and potential micro-transit are all possible improvements that can be incorporated into final design. It is important that transit have a physical and visual presence in improvement projects.

3. **School Deliveries/North Recreation Parking Access**
   During the review meeting with Town Staff (outlined in Task 6 of the Project Scope), the design of the parking area north of the Recreation Center could use improvements to solve the current issue of delivery vehicles to the school. The final design will need to accommodate a WB-40 vehicle. Providing an area for the vehicle to safely back up to the school delivery area is important. With the presence of Hidden Hollow Road to the north, a potential alternative access to the parking area could be explored off of Hidden Hollow Road (opposite underground parking access to eastern apartment) to help aid truck deliveries. Final design may alter access to this parking area and improve upon this existing problem.

4. **Final Design Considerations**
   The alternatives provided are conceptual, including the items most helpful in determining how to move forward. Final design components, including access points, moving components, grading, island locations, etc. will need to be finalized within final design improvements of the roadway/Recreation Center site.

Recommended Associated Improvements:

- Signal phasing and channelization at Mercill Avenue and North Cache Street. Pedestrians and bicycle intersection improvements.
- North King Street between East Deloney Avenue and East Gill Avenue – wide sidewalks for bus loading.
- Implement pathway link from Mercill Avenue at the Recreation Center driveway to Rosencrans and north to the North Highway 89 Pathway.

North King Street
Conceptual Renderings

JORGENSEN

North King Street Extension

Alternative 1

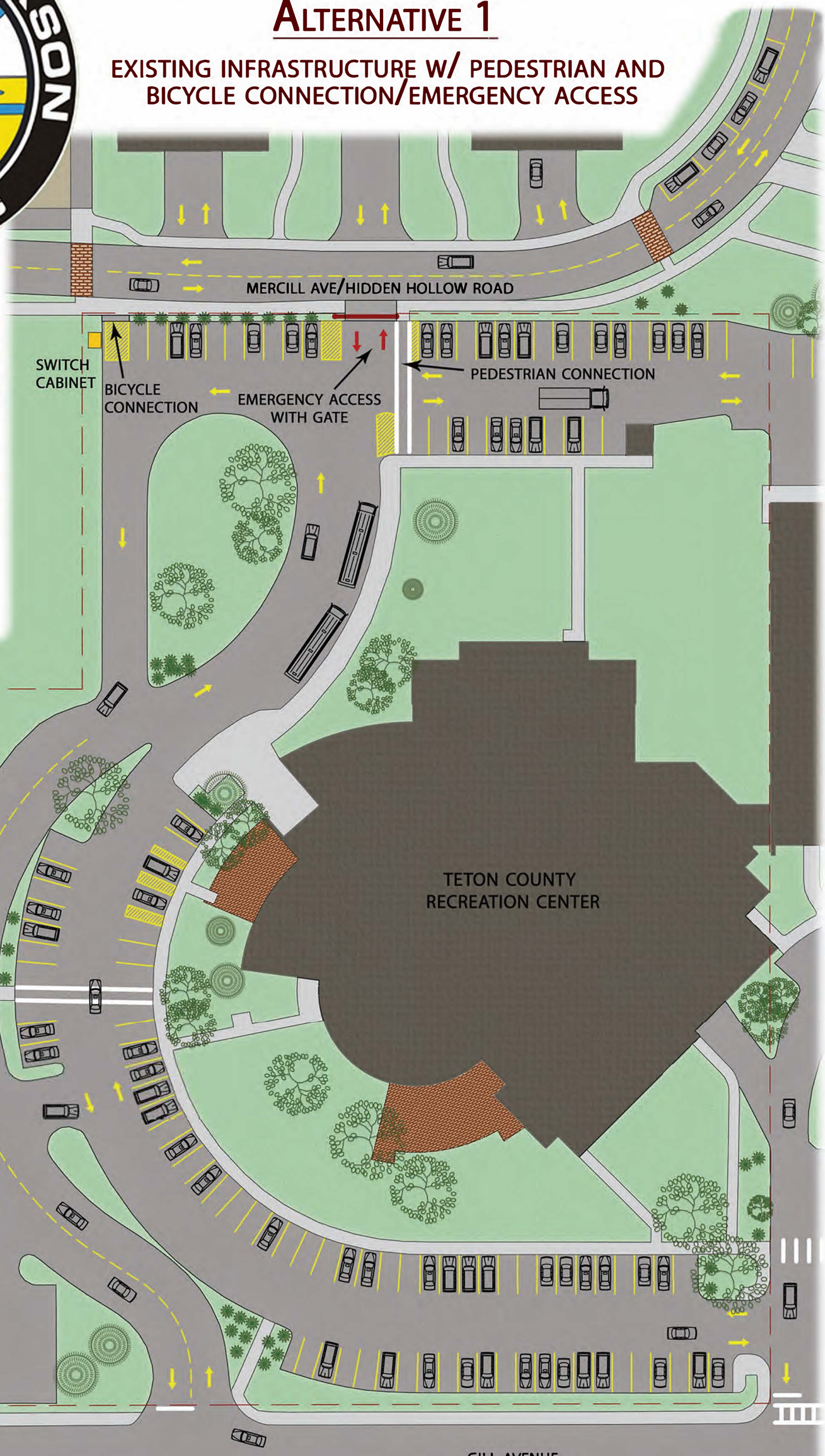
Existing Infrastructure w/ Pedestrian and Bicycle Connection/Emergency Access

Key Features

EMERGENCY ACCESS THROUGH GATED ACCESS TO MERCILL AVE

PEDESTRIAN CONNECTION HIDDEN HOLLOW DEV. TO RECREATION CENTER AND SOUTH STREET NETWORK

BICYCLE CONNECTION TO NORTH JACKSON PATHWAYS



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North King Street Extension

Alternative 2

Recreation Center Remodel
Concept Plan

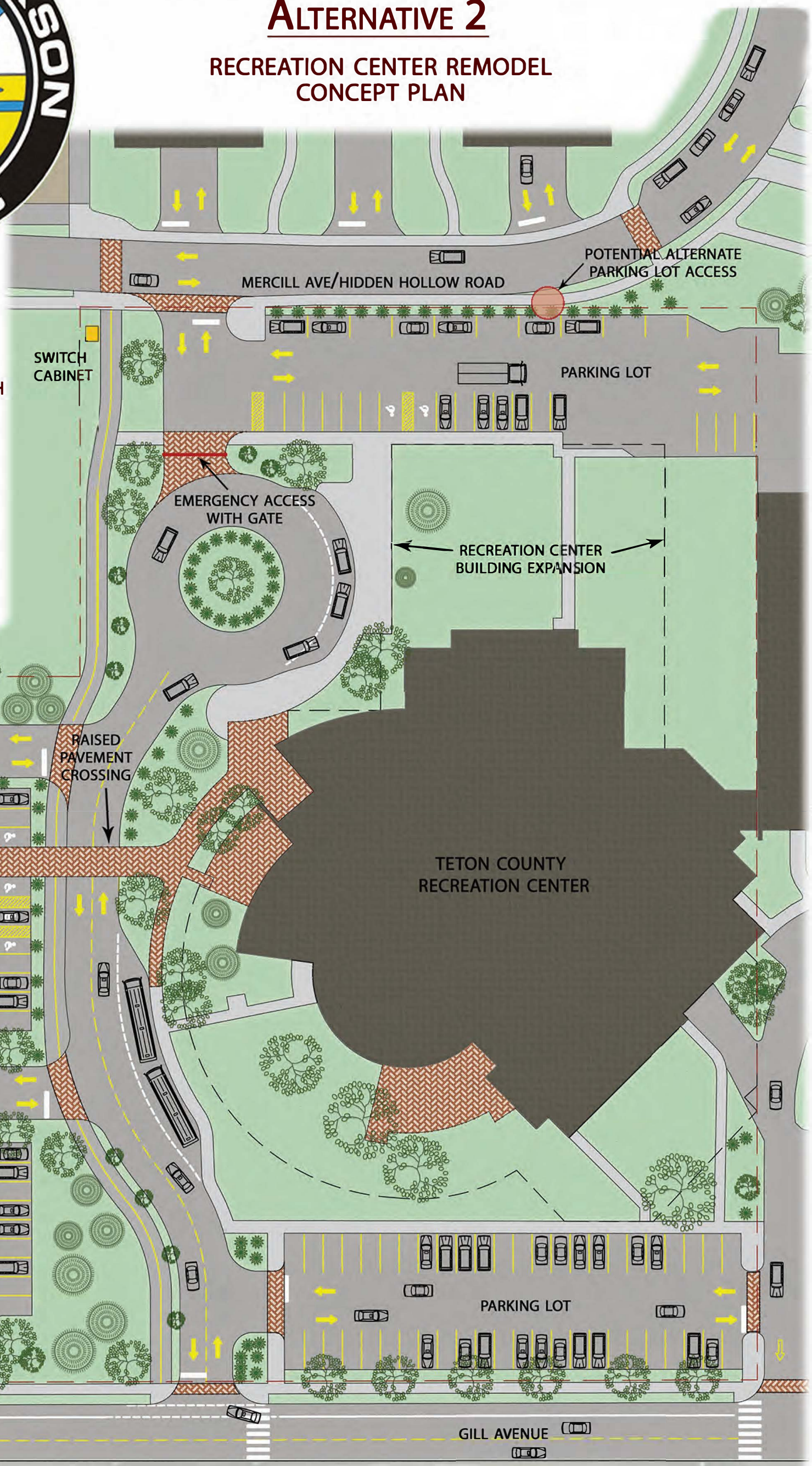
Key Features

TURNAROUND LOOP AT NORTH END

EMERGENCY ACCESS THROUGH GATED ACCESS TO MERCILL

BICYCLE CONNECTION TO NORTH JACKSON PATHWAYS

PEDESTRIAN CONNECTION HIDDEN HOLLOW DEV. TO RECREATION CENTER AND SOUTH STREET NETWORK



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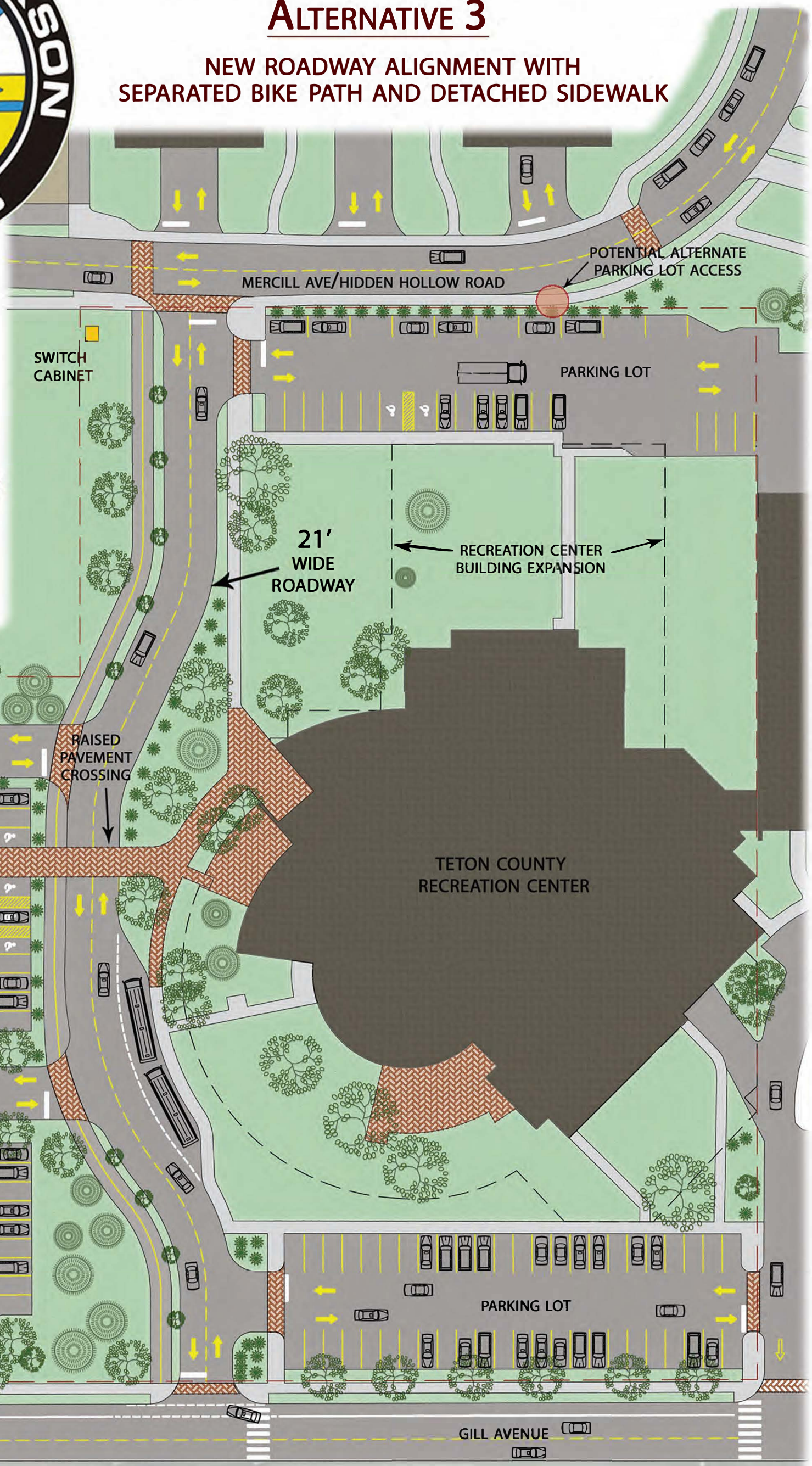
North King Street Extension

Alternative 3

New Roadway Alignment with Separated Bike Path and Detached Sidewalk

Key Features

- Complete Streets & Continous Flow
- 10.5′ Traffic Lanes & 5′ Landscape Buffers
- 10′ Pathway & 6′ Sidewalk
- Raised Ped Crossings
- Pedestrian Connection Through Property



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North King Street Extension

Alternative 4

New roadway alignment with 12' lanes and 5' bikepath

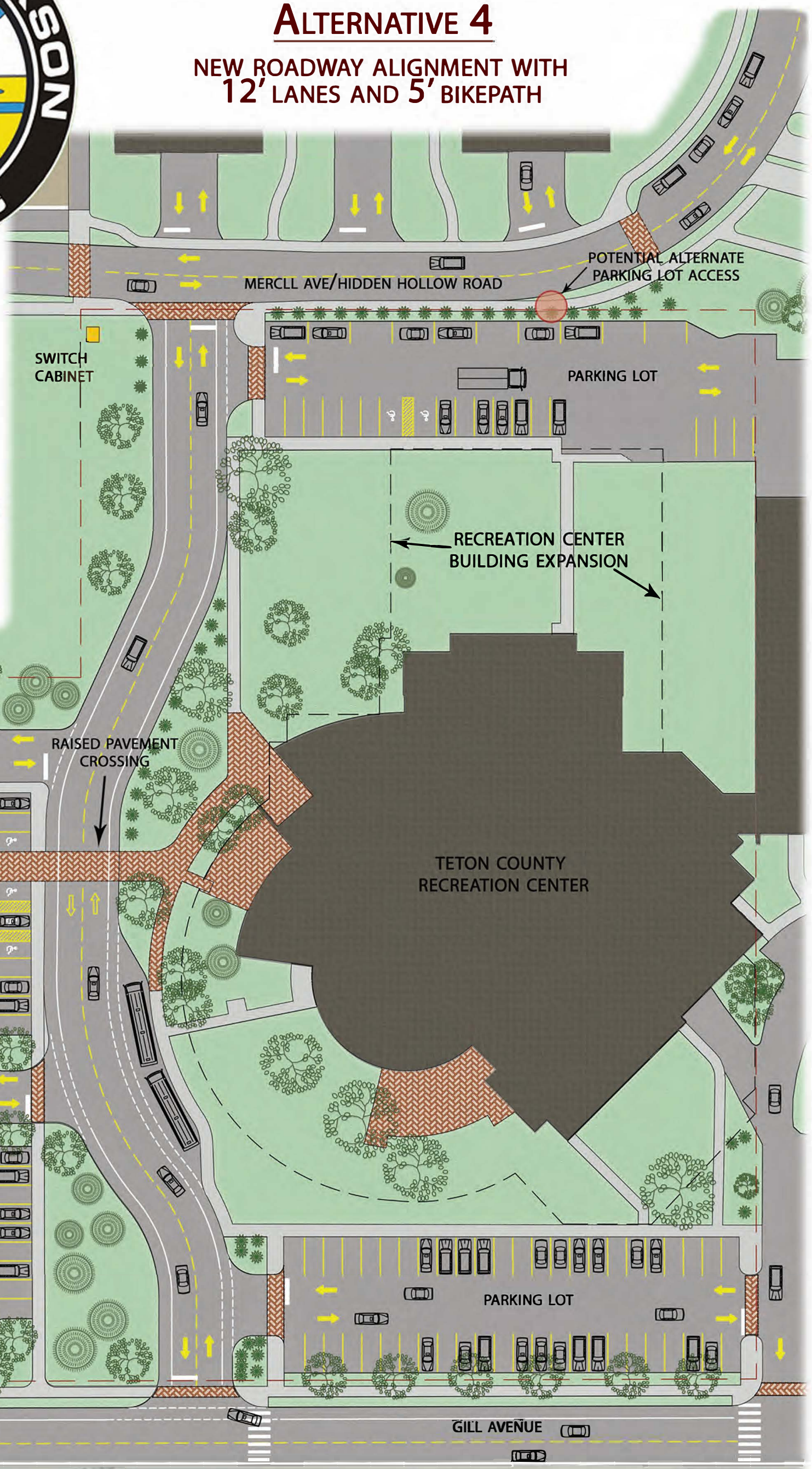
Key Features

Complete streets & continuous flow

Mercill to Gill connection bicycle lanes roadway

Raised pedestrian crossings

Pedestrian connection through property



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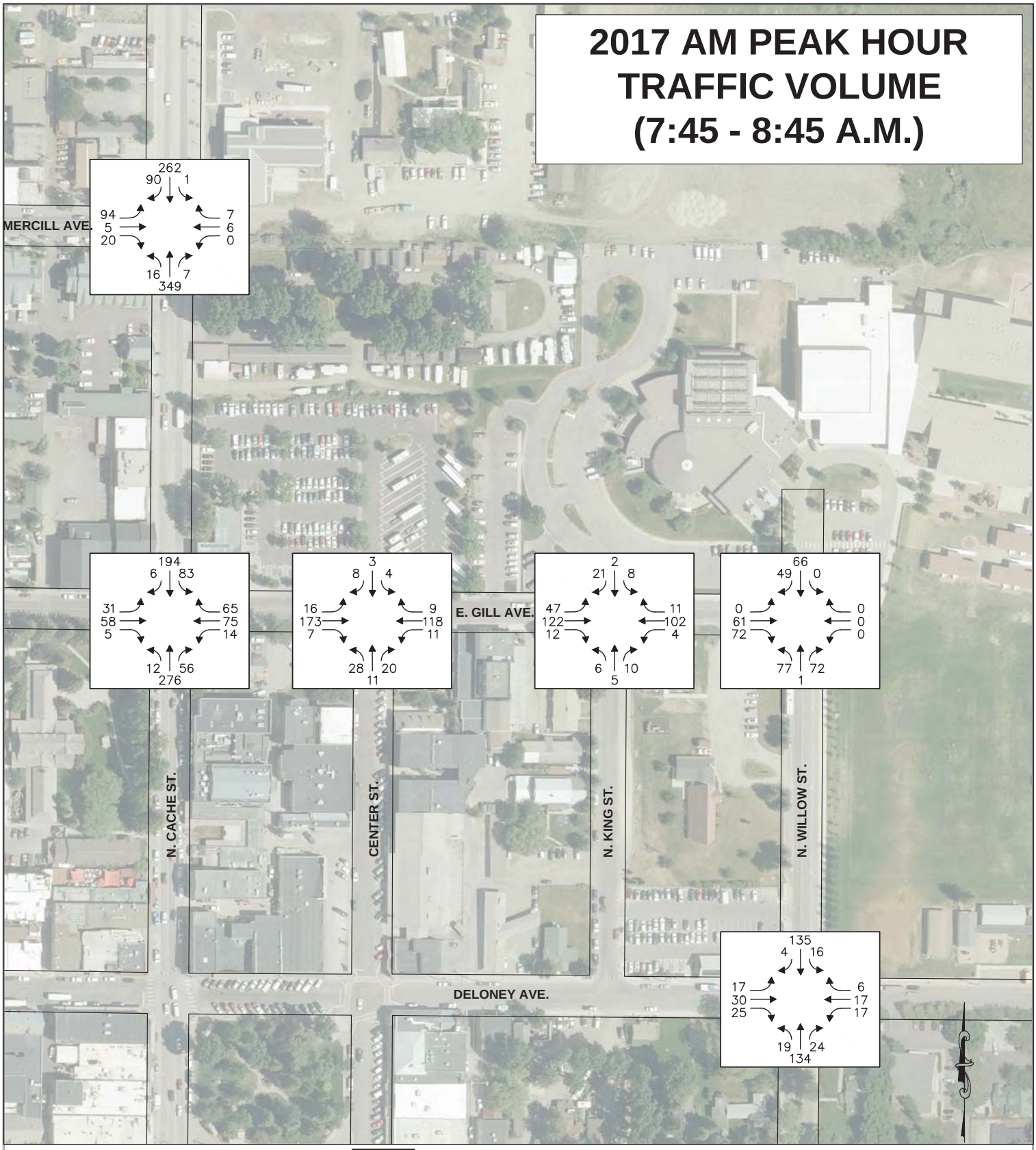
TRAFFIC FIGURES

FIGURE 1
NORTH KING EXTENSION STUDY



DRAFTED BY: TJ
CHECKED BY: AP

SCALE: 1" = 16'

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Project No.: 17036

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FIGURE 2
NORTH KING EXTENSION STUDY

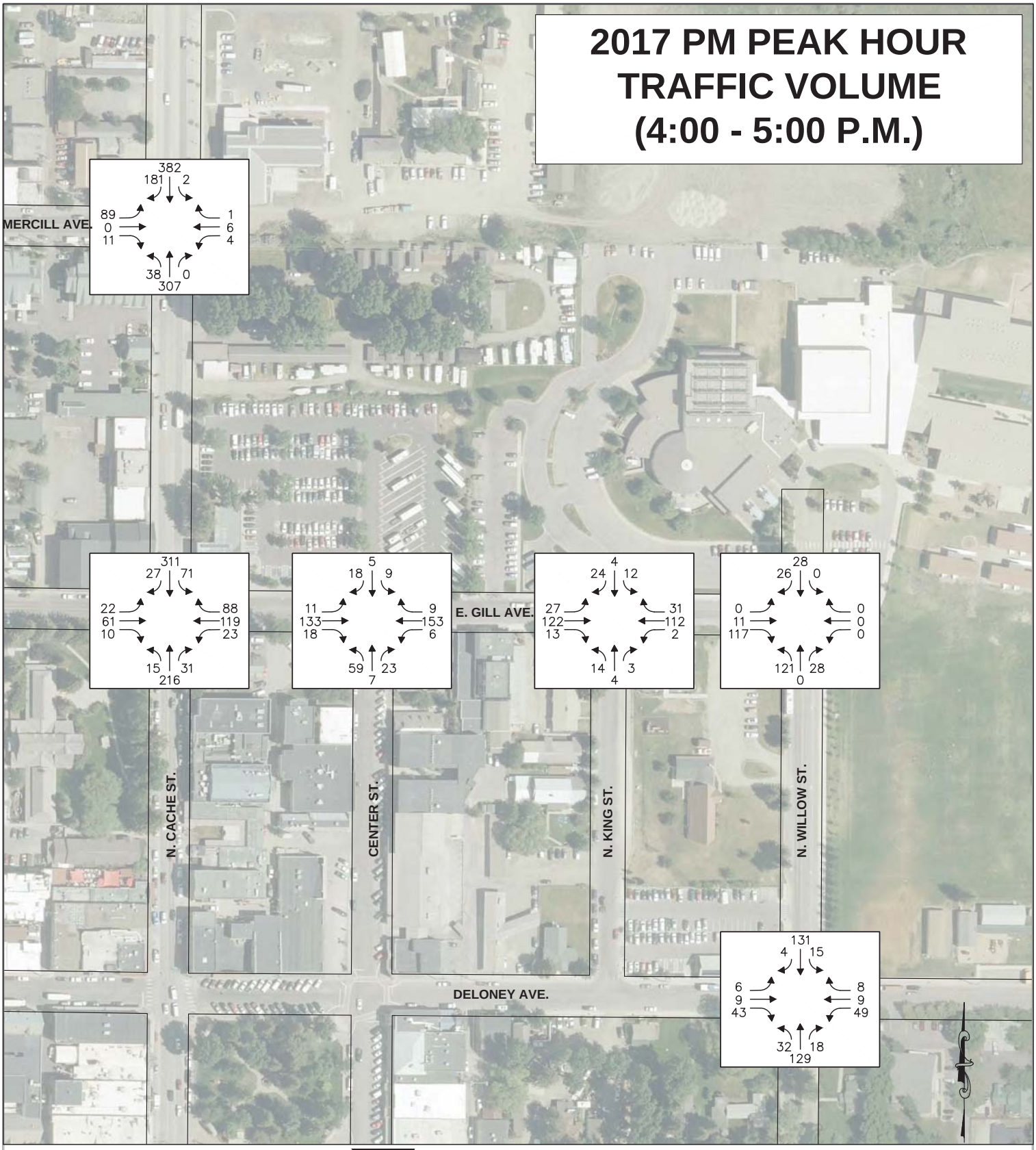

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FIGURE 3
NORTH KING EXTENSION STUDY

2027 BASELINE AM PEAK HOUR TRAFFIC VOLUME (WITHOUT HIDDEN HOLLOW)

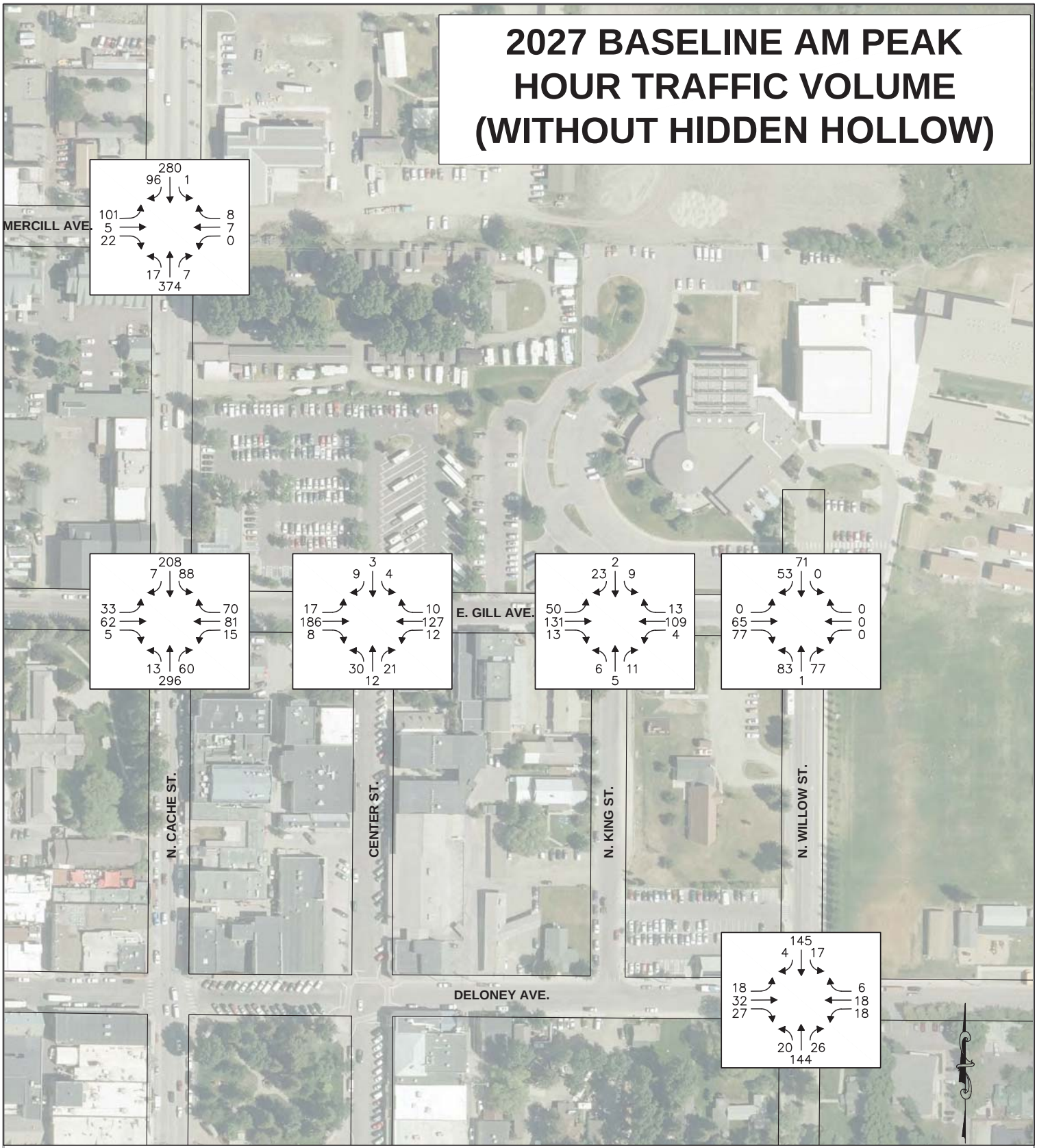

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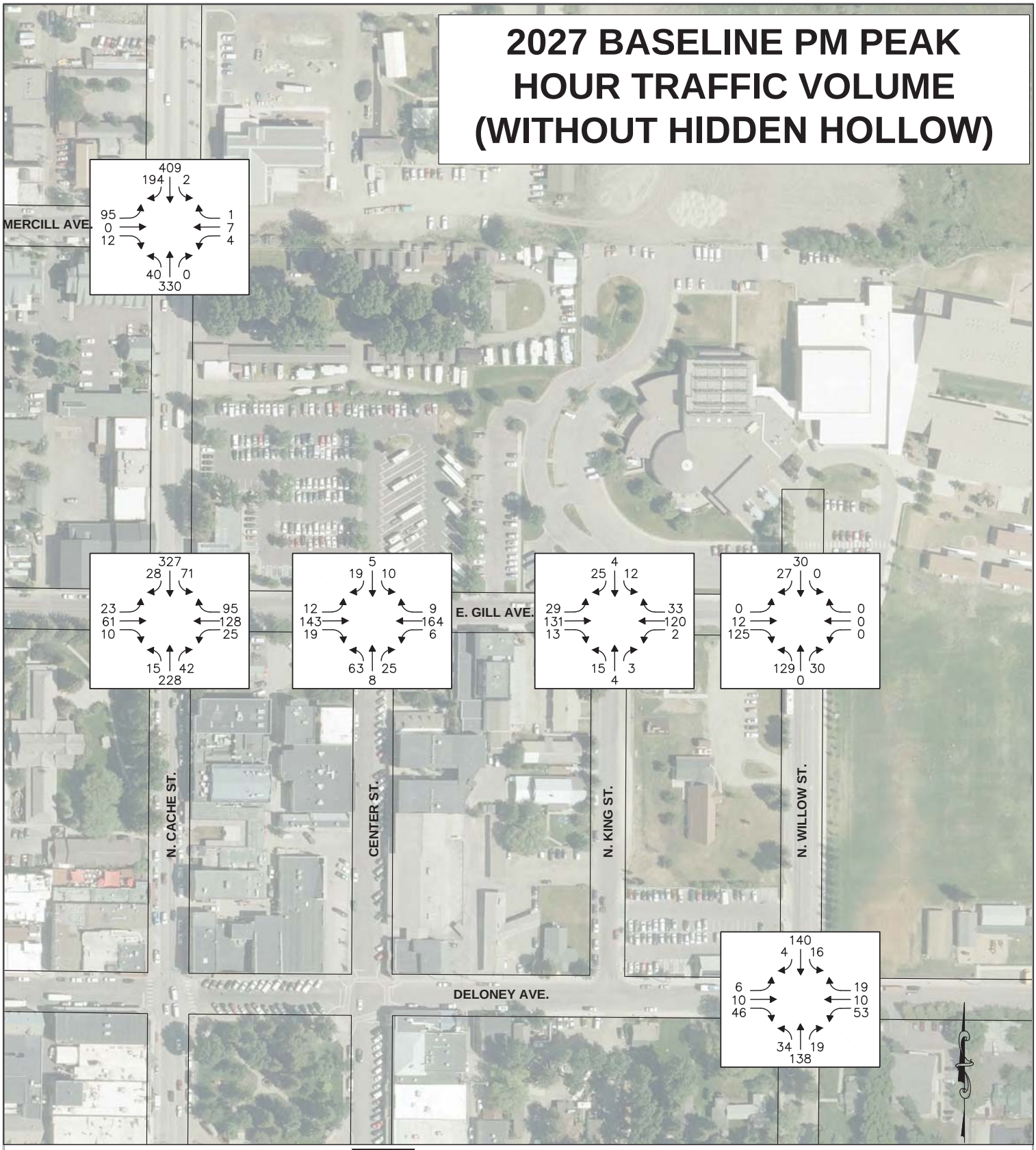
FIGURE 4
NORTH KING EXTENSION STUDY

2027 BASELINE PM PEAK HOUR TRAFFIC VOLUME (WITHOUT HIDDEN HOLLOW)



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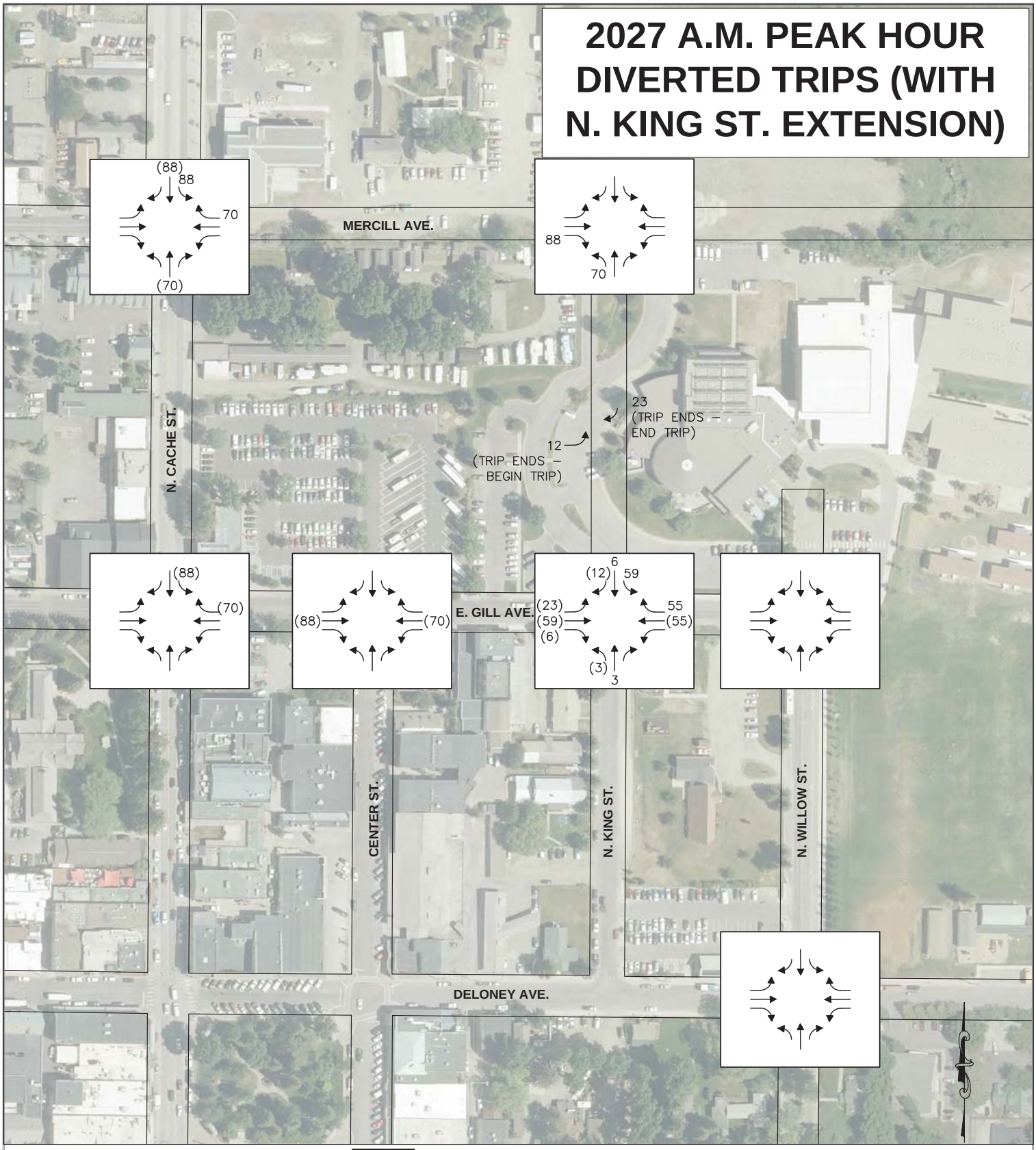
LEGEND
XX - 2027 BASELINE DIVERTED (ADDED TRIPS)
(XX) - 2027 BASELINE DIVERTED (REMOVED TRIPS)

FIGURE 5
NORTH KING EXTENSION STUDY



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LEGEND

XX - 2027 BASELINE DIVERTED (ADDED TRIPS)
(XX) - 2027 BASELINE DIVERTED (REMOVED TRIPS)

FIGURE 6
NORTH KING EXTENSION STUDY

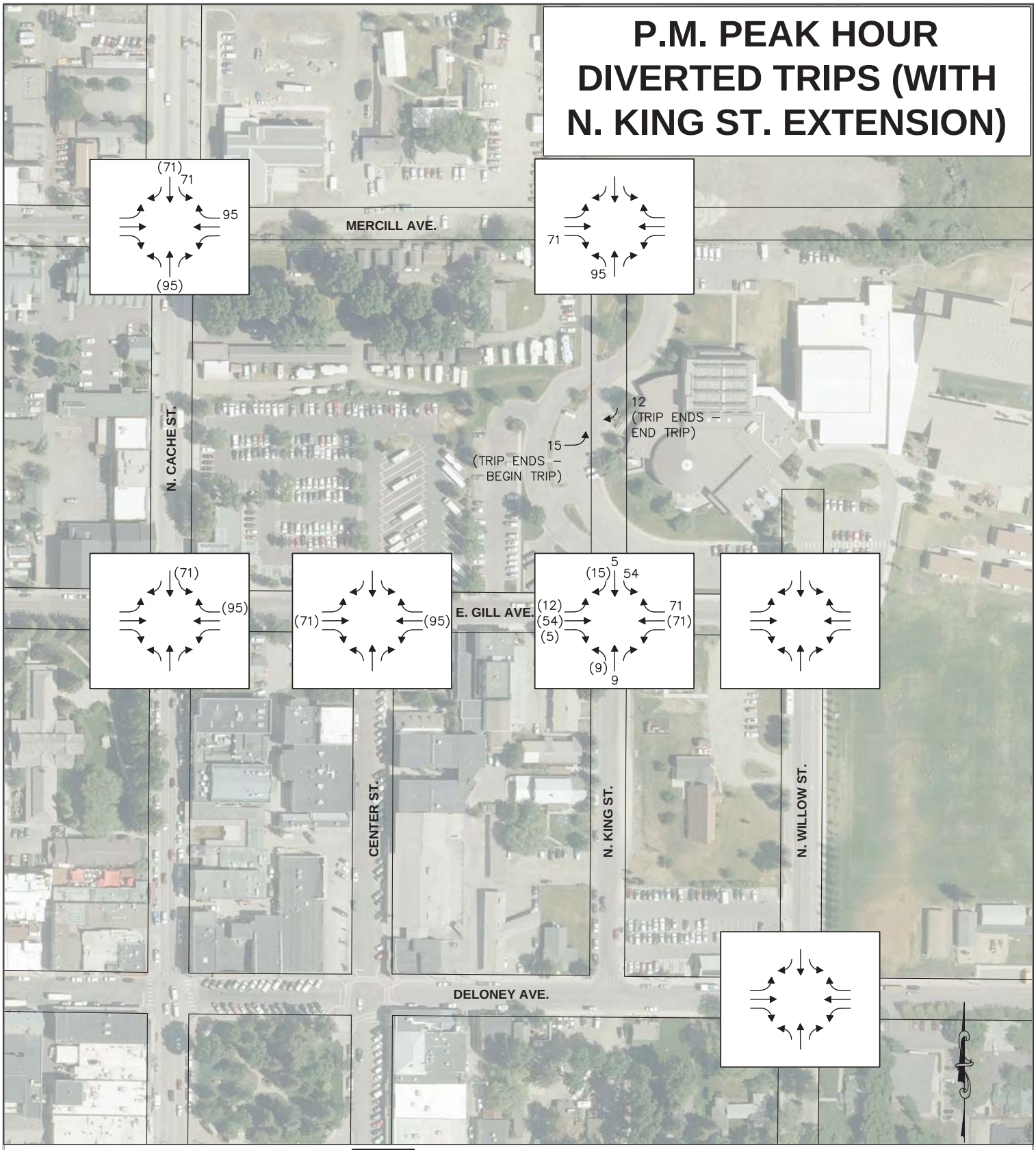

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FIGURE 7
NORTH KING EXTENSION STUDY

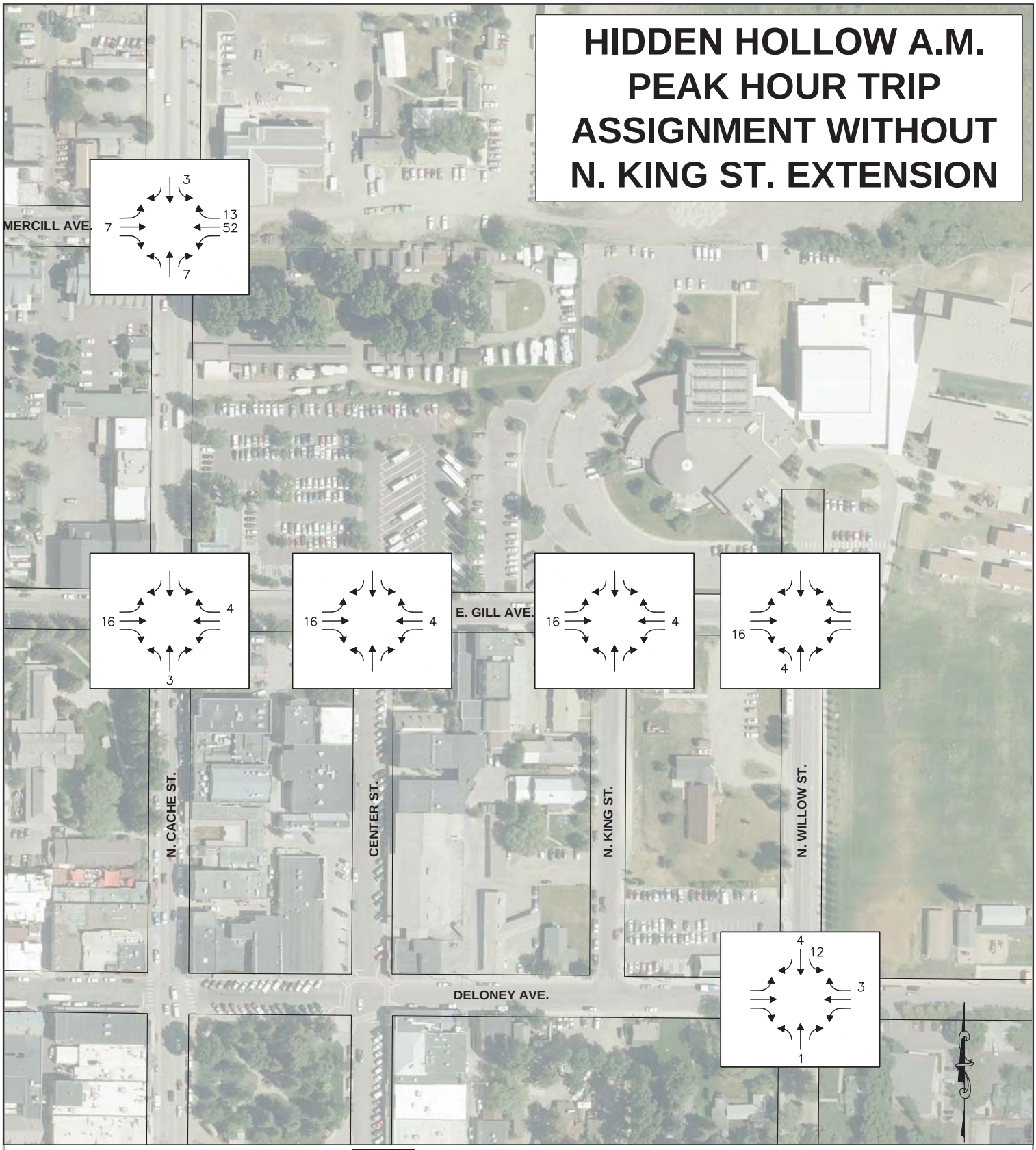

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FIGURE 8
NORTH KING EXTENSION STUDY

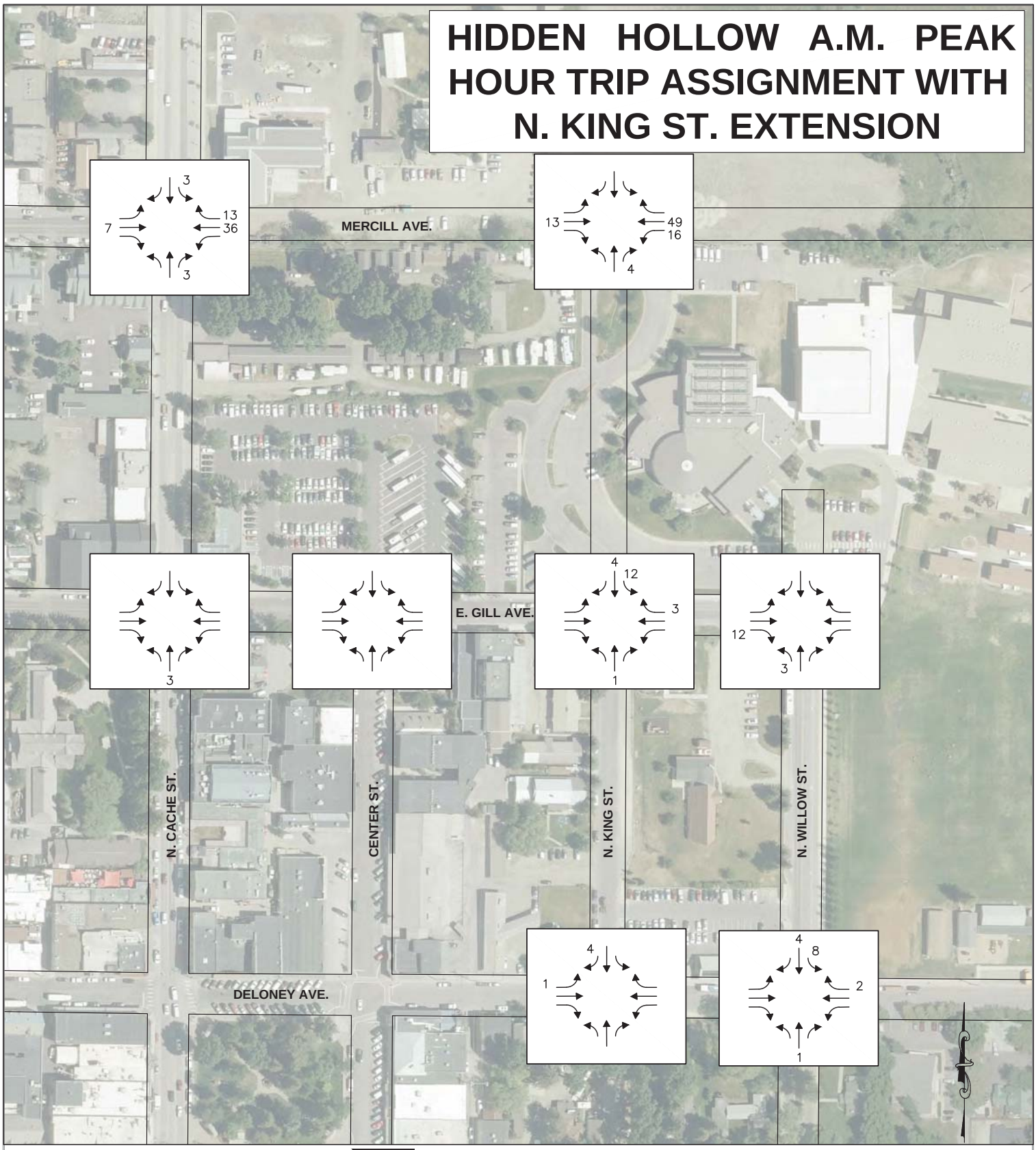

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FIGURE 9
NORTH KING EXTENSION STUDY

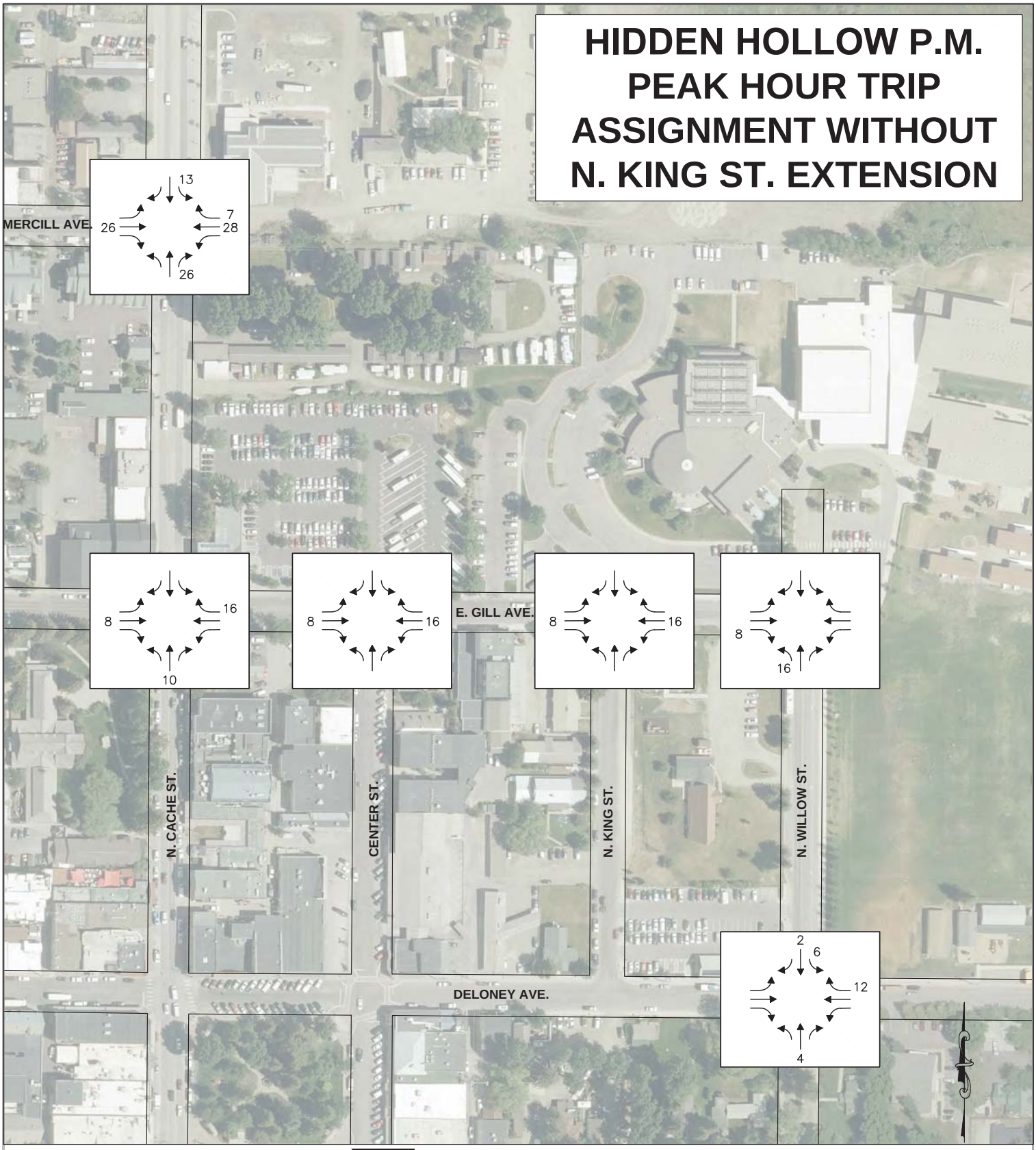

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FIGURE 10
NORTH KING EXTENSION STUDY

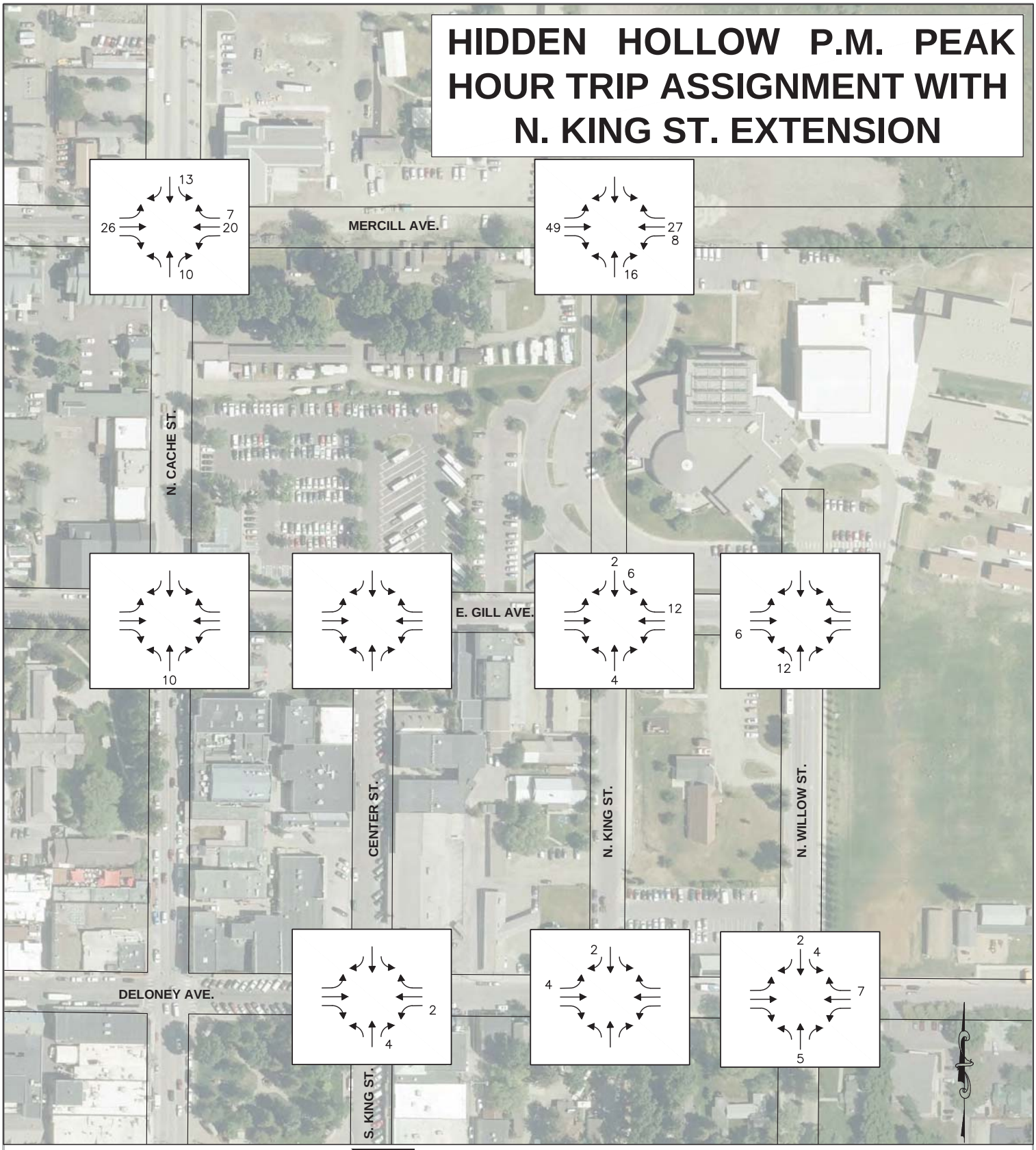

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FIGURE 11
N. KING EXTENSION STUDY

2027 A.M. PEAK HOUR TRAFFIC VOLUME WITH N. KING ST. EXTENSION AND HIDDEN HOLLOW

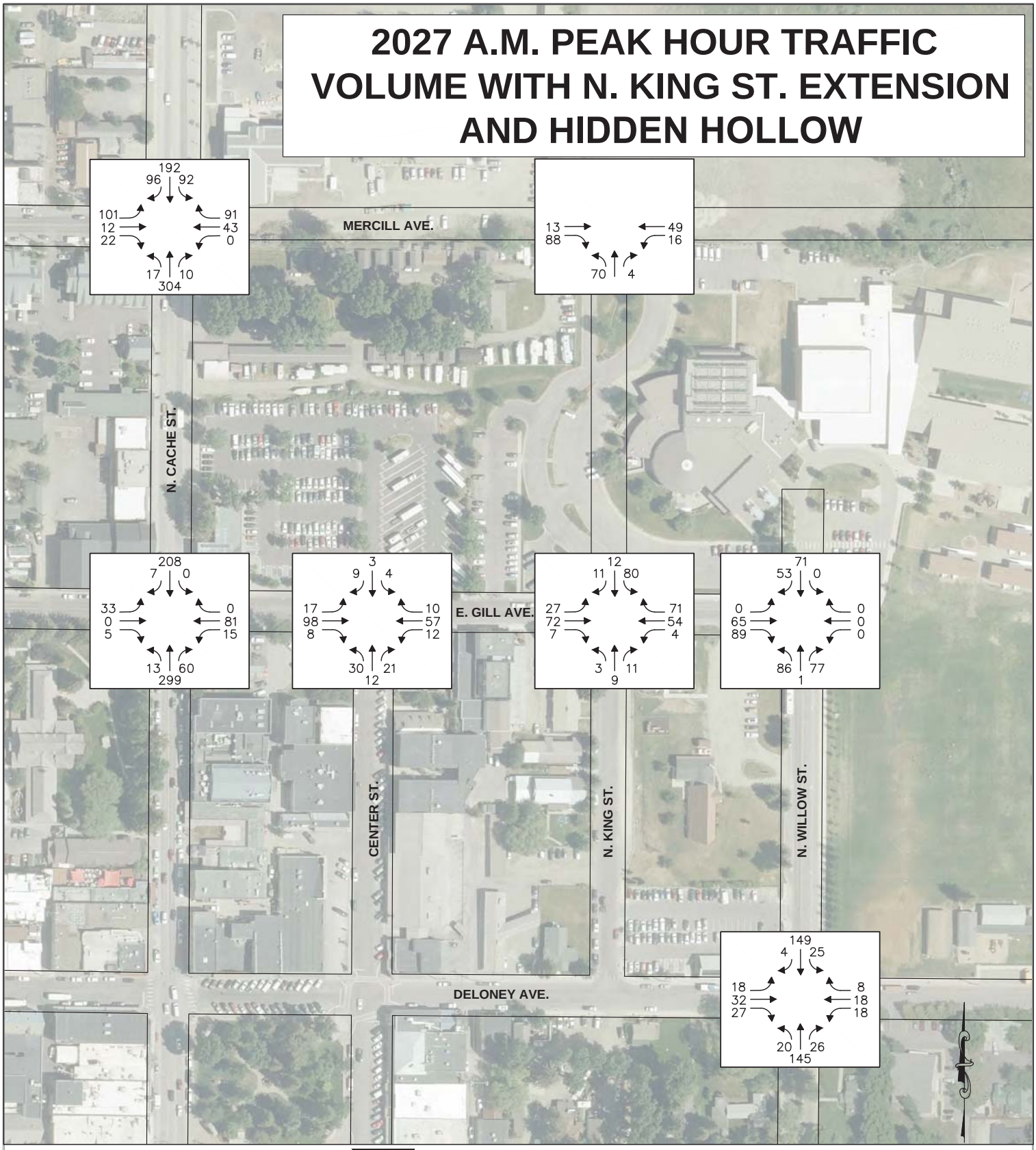

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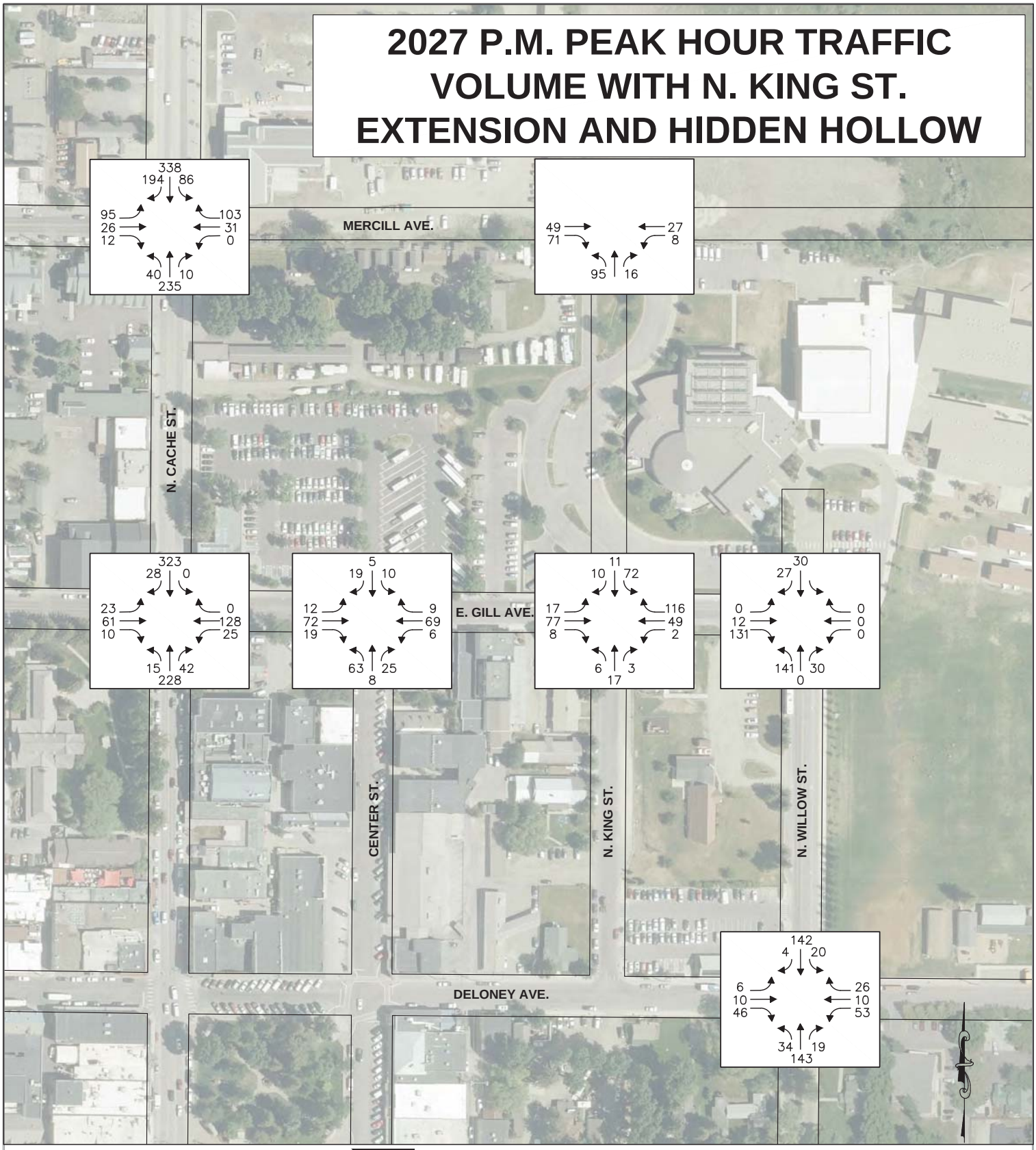
FIGURE 12
NORTH KING EXTENSION STUDY

2027 P.M. PEAK HOUR TRAFFIC VOLUME WITH N. KING ST. EXTENSION AND HIDDEN HOLLOW



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Appendix A

User Group Interview
Questions & Notes

JORGENSEN

North King Extension Project
Town of Jackson
Kick-off Meeting Agenda
November 1, 2017, 2:00 p.m.
Project No.: 17036.00

Draft Stakeholder Interview List:

Jackson Hole Fire/EMS
Jackson Hole Community Pathways
START Bus
Teton County Parks and Recreation
Teton County School District (TCSD)
    TCSD Transportation Services
    TCSD Jackson Elementary School Access
Town of Jackson Planning Department
WYDOT

Draft Interview Questions:

1. Project briefing – N King Street Extension
    a. Please describe your agencies' current circulation patterns in the vicinity of N. King Street. Morning, mid-day, and afternoon
    b. Please describe how you would expect to use a N King Street connection to Mercill Avenue. Would current operations be modified?
        i. Vehicles; access, egress, drop-off/pick-up
        ii. Pedestrians
        iii. Bicycles
        iv. Buses
        v. Deliveries
        vi. Emergency vehicles
        vii. Parking
    c. What would be the benefit to your agency of a N King Street connection to Mercill Avenue?
    d. What are your concerns?
    e. How might the concerns be addressed through street design or traffic operations?
        i. Roadway cross section
        ii. Roadway alignment
        iii. Intersection turn movement restrictions at N King Street and Mercill Avenue
        iv. One-way versus two way motor vehicle access
        v. Slow speeds through design (traffic calming) posted speed limit, and enforcement
        vi. Pedestrian crosswalks
        vii. Bicycle use

2. Mercill Avenue and N Cache Street – short briefing
    a. Early findings of potential modifications to channelization and signal operations
    b. Feedback or other thoughts
3. Any other feedback you would like to share about traffic and transportation in the project vicinity?

Appendix A

N King Street Extension Project

User Group Interview Notes

Interviews conducted by: Reed Armijo, Jorgensen Engineering, Claudia Hirschey, Transportation Consulting Services.

Interview dates: November 15, 16, 17, 2017

Teton County School District
Jeff Daugherty, Assistant Superintendent
Paul Rossolo, Facilities Director

Schools are encouraging walking to school within 1 mile and so less concerned with traffic congestion due to drop-off/pick-up.

WY Ch. 20 of RCW – state pays for transportation beyond 1.0 to 1.5 miles, unless there is a safety concern. State will become stricter in distribution of transportation funds due to decreased budgets. School district will encourage walking to reduce bus transportation cost.

Walking school buses need a 10-foot sidewalk.

Deliveries are on the north side of building, accessed through the Recreation Center.

If parking stalls are lost at the Recreation Centers drivers will park at Jackson Elementary

Maintain ability for school bus circulation.

Encourage quality pedestrian infrastructure between Hidden Hollow, Jackson Elementary, and the Recreation Center.

Other notes of nearby activity:

NE quadrant of N Willow Street and E Deloney Avenue will be a day care.

Will maintain field adjacent to N Willow Street for athletics.

Plans for employee housing along E Deloney Avenue, probable two-story multi-family.

School population will reduce by one third when Munger Mountain Elementary School opens.

Jackson Hole EMS
Kathy Clay, Fire Marshal
Todd Smith, Police Chief
Larry Pardee, Director of Public Works, Town of Jackson

Access for emergency response and emergency vehicle circulation always encouraged.

Minimum 20 feet of street width needed for fire trucks.

Concern with risk associated if pedestrians are crossing through traffic to access the Recreation Center from the parking lot.

Consider gates for fire access.

N King Street south of E Gill Avenue does not have sidewalks. Tour buses are using this segment for parking.

Consider making N King Street one-way southbound and N Willow Street one-way northbound. The purpose would be to reduce traffic in front of Jackson Elementary. Pedestrians crossing at the intersection of E Gill Avenue and N Willow Street would only need to look for traffic from one direction. Construct a curb bulb in the southwest quadrant of E Gill Avenue and N Willow Street to reduce pedestrian crossing distance and block southbound movement of N Willow Street for vehicles exiting the school.

For the segment of N King Street between E Gill Avenue and Mercill Avenue, could shift the alignment to the west adjacent to the property.

Teton County
Sean O'Malley, Directory of Public Works
Amy Ramage, Engineering Manager
Brian Lenz, Town Engineer, Town of Jackson

Consider grade separation. If the street drops down there would be less vertical distance to construct a grade-separated pedestrian crossing.

Consider incremental approach. First implementation of N King Street would be for pedestrians, bicycles, and emergency vehicles. Add traffic later.

Discussion of one-way circulation option on N King Street and N Willow Street.

The county encourages development of a transportation network and developing redundancy in the transportation network.

Teton County Jackson Parks & Recreation Center
Steve Ashworth, Director
Brian Lenz, Town Engineer, Town of Jackson

Jackson Elementary deliveries use the parking lot to the north of the Recreation Center to back in to the delivery doors. Teachers also park there.

Busiest time at Recreation enter is about 8 a.m. tapering off by 9 a.m. Jackson Elementary drop-off also uses the parking lot to the south of the Recreation Center. School buses do not impact the Recreation Center.

Drainage on the north side of the Recreation Center is problematic. There can be 10-12 inches of standing water.

The Town of Jackson temporary RV spots in the north parking lot were discussed. There were mixed feelings, but the spaces provided temporary housing for seasonal workers at the Recreation Center. The school district thought that loss of these spaces shifted parked cars to the school parking lot.

Recreation Center remodeling concepts should consider a future parking garage overlapping the surface parking footprint. A parking garage could serve dual needs to provide tourism parking at the north end of town and recreation center. The solution for N King Street should not preclude a parking garage.

The campus concept for the Recreation Center and Jackson Elementary should set the stage for discussion of street improvements.

The Recreation Center has a fleet of vehicles to transport children to and from various activities throughout the year. There are seven to fifteen vans a minibus, and five passenger vehicles transporting during summer months. There is after school transportation to the Recreation Center and parent drop-off and pick-up. In addition, the recreation center transports kyaks, there is a race trailer, and there is summer RV parking.

The Recreation Center would prefer not mixing pedestrians and traffic.

Drop-off/pick-up at the front door is important to the children's safety.

Access to the Getting to the north pathway is difficult.

United States Forest Service (USFS)
Mike Oltman, Engineering and Minerals Staff Officer
Darin Martins, USFS Consultant

Asked why a connection to Rosencrans was not considered for Hidden Hollow.

Recognized that the last time N. King was considered was in 2006 after the Multi-Agency Campus was no longer moving forward.

Dispersing traffic through a more complete street network is a benefit. Encourages two points of connection to the street network for Hidden Hollow.

Encourages slow speeds.

Would be concerned with parking on Mercill Avenue due to USFS safety protocol.

A pathways connection to Rosencrans and north to the North pathway would be a beautiful facility.

START Bus
Darren Brugmann, Transit Director

Lack of redundancy in the street network affects START buses. START buses are sitting in the same traffic as everyone else.

START is in support of N. King so that there are options for restructuring transit service downtown. Future routing will need flexibility.

Currently buses circulate clockwise from transit center on W Deloney Avenue to northbound on Center Street, eastbound on W Gill Avenue, southbound on N Willow Street and westbound on E Deloney Avenue back to the transit center.

START would like to provide access to transit for Hidden Hollow residents.

Jackson Hole Community Pathways
Brian Schilling, Pathways Coordinator
Larry Pardee, Director of Public Works, Town of Jackson

Shared space encouraged with very slow speeds. Shared space means that modes are combined unless there is a need for separation due to differing speeds or differing mass.

Introduced concept of "Sustainable Safety". Dutch version of Vision Zero.

Physical features for traffic calming needed – vertical and horizontal deflections.

Manage pedestrian flow in a way that is the easiest, most logical, and direct route from the point of view of the pedestrian.

Include lighting for pedestrians from parking areas to Recreation Center entrance.

The more we have to add safety features, means the more we've shown that we haven't designed for the original intent which is to keep traffic slow. More emphasis on designing to keep cars moving slow.

Appendix B

Hidden Hollow
Trip Generation

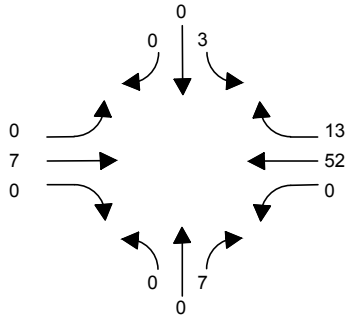
JORGENSEN

TRIP GENERATION
MERCILL AVE/N CACHE ST

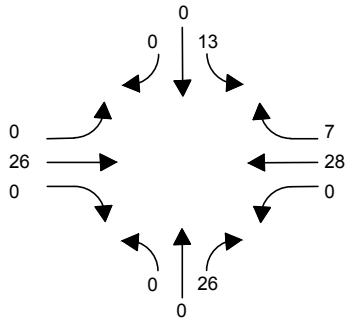
Figure 8 - HIDDEN HOLLOW TRAFFIC IMPACT STUDY
TRIP GENERATION W/OUT (LEFT) AND WITH (RIGHT)
NORTH KING STREET EXTENSION

NO KING STREET ACCESS

A.M. PEAK HOUR MOVEMENTS

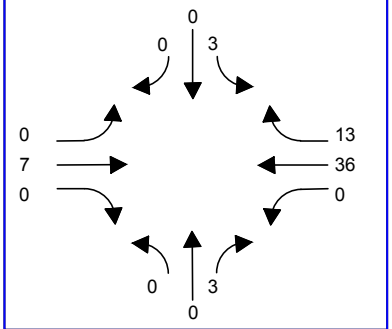


P.M. PEAK HOUR MOVEMENTS



W/ KING STREET ACCESS

A.M. PEAK HOUR MOVEMENTS



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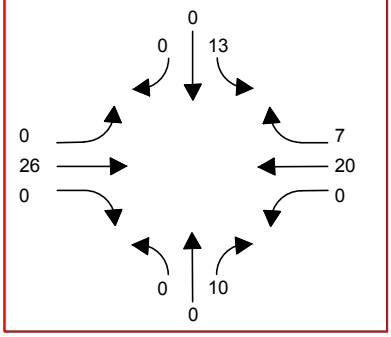
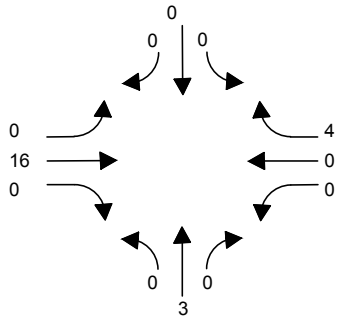


GILL AVE/N CACHE ST

A.M. PEAK HOUR MOVEMENTS



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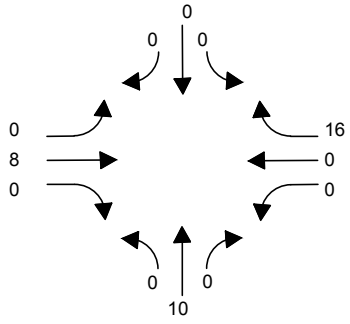

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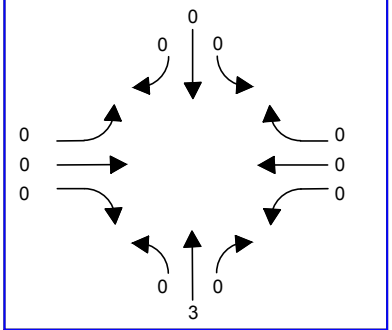

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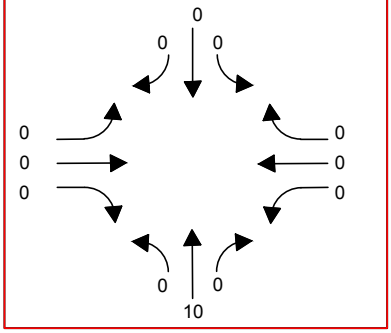

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NOTE:
A.M. PEAK HOUR IN BLUE
P.M. PEAK HOUR IN RED

TOWN COUNCIL
WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: December 12, 2016
MEETING DATE: January 17, 2017

SUBMITTING DEPARTMENT: Public Works
DEPARTMENT DIRECTOR: Larry Pardee
PRESENTER: Larry Pardee, Public Works Director

SUBJECT: North King Street Connection Discussion

PURPOSE OF WORKSHOP ITEM

The purpose of this item is to seek Town Council input on the extension of King Street and obtain direction from the Council to continue the design work on the extension of King Street in concert with the Rec Center expansion and as informed by the 2017 Parking Study.

DESIRED OUTCOME

The desired outcome would be for Town Council to provide direction to staff relating to the proposed future North King Street extension to the new proposed Mercill Avenue Extension.

BACKGROUND/ALTERNATIVES

Town staff met in December and discussed the opportunities and challenges with the proposed future North King Street Extension through the Recreation Center parking area. Issues that support the extension include:

- **Roadway Redundancy**. Creation of this through road creates an additional route from the north where it connects with Mercill so that not all traffic must travel the same path along West Gill.
- **Bypass for Emergency Services**. The through road allows an alternate route for emergency services to get off of North Cache earlier and get to the hospital quicker and avoid congestion at Gill and Cache or closer towards the Town Square.
- **Multimodal Connectivity**. Creation of this through road also provides connectivity for pedestrians and bicycles so that those wanting to access the pathway north towards the parks can safely access the pathway from Home Ranch north through Hidden Hollow and avoid a portion of North Cache. This connectivity also facilitates pathway users parking at the Home Ranch public parking lot v. parking at the visitor center when there is no intention to access services at the visitor center. This connection also provides alternative access and routes for START Bus services.
- **Multiple Access Points for Rec Center**. Users of the Rec Center from the north can use this through road and exit off of North Cache more quickly. Those coming from the west can also cross over at the stoplight at Mercill and avoid congestion that occurs more intensely the closer you are to the Town Square.
- **Comp Plan Connectivity**. Overall improved connectivity in the community is called for in the Comprehensive Plan and this through road supports that connectivity. This connection also supports the goal of improved, vibrant, walkable, mixed-use areas.
- **Improved Planning of Future Parking Needs at Home Ranch**. This connection allows staff the opportunity to better plan for future comprehensive parking needs utilizing the space at the Home Ranch in combination with the western portion of the parking at the Rec Center to potentially produce a better overall parking project.
- **Conformance with 2006 SPET Question**. Completion of this through road supports the 2006 successful SPET ballot initiative that included the King Street extension.

Issues for consideration that may not support the extension include:

- **Rec Center Internal Pedestrian Movements**. This connector road will bisect a large portion of the parking at the Rec Center and any design of the through road will need to encompass concerns related to internal site pedestrian safety.
- **Rec Center Site Use**. Bisecting the Rec Center property with a through road will result in less usable space on the site for Rec Center uses including travel lanes and drop off spaces.

Members of Senior Staff discussed this issue at length and are recommending the Town Council affirm the extension of King Street and direct staff to continue design work on the King Street extension in concert with the Rec Center expansion and also as informed by the results of the 2017 Parking Study as it relates to future needs at the Home Ranch parking lot. The Rec Center expansion project may be up for consideration with the next set of SPET initiatives and so the question may need to be addressed sooner rather than later, and the 2017 Parking Study will be completed in calendar year 2017.

The proposed North King Street extension has been in the Town's 10-year Capital Improvement Plan (CIP) for some time with $300,000 identified for the project out of the 2006 SPET but not being appropriated until FY2021. Should the Council want to move up the design of this project, that $300,000 could be expensed much earlier than 2021. The approved language from the 2006 SPET proposition is below:

> *2006 SPET Proposition #4 – Roadway Extension, Downtown Parking, Downtown Public Restrooms and Downtown Public Amenities - $8,656,440:*
>
> *For the purpose of funding the acquisition of land and easements, and for the cost of planning, engineering and construction of a downtown roadway extension between East Gill Avenue and North Cache Drive, and to fund the construction of downtown parking, downtown public restrooms and downtown public amenities, and to the extent necessary and allowed by law, the pledge to or payment of debt service and/or lease payment thereon (the "project"), which project is sponsored by the Town of Jackson, Wyoming.*

This remainder of the 2006 SPET proposition monies have already been spent on other approved projects associated with the ballot initiative.

Council has many options for consideration.

1. Affirm the extension of King Street and direct staff to continue design work on the King Street extension in concert with the Rec Center expansion and also as informed by the results of the 2017 Parking Study as it relates to future needs at the Home Ranch parking lot.
2. Discuss the King Street extension and continue the discussion to a future Town Council workshop.
3. Make a motion for approval and vote against the motion thereby providing direction to staff to consider options for the Rec Center site that do not include a through street.
4. Direct staff to include options for the design of the Rec Center expansion that both include the King Street extension and exclude it with the understanding that the Council will make a decision at that time as to whether the extension will occur.
5. Other.

STAKEHOLDER ANALYSIS

The stakeholders include residents and visitors to the community that would benefit from alternate routes to critical services and specific neighborhoods, our own critical service providers, and those in the community wanting to utilize alternative modes of transportation more safely and conveniently.

FISCAL IMPACT

In the capital budget we show $300,000 out of 2006 SPET monies to be expensed in 2021.

STAFF IMPACT
None at this time.

LEGAL ISSUES
No Legal review required at this time.

ATTACHMENTS
No supporting attachments.

RECOMMENDATION
Staff recommends the Council affirm the extension of King Street and direct staff to continue design work on the King Street extension in concert with the Rec Center expansion and also as informed by the results of the 2017 Parking Study as it relates to future needs at the Home Ranch parking lot.

SUGGESTED MOTION
Should the Council be ready to take action, one possible motion would be:

I move to affirm the extension of King Street and direct staff to continue design work on the King Street extension in concert with the Rec Center expansion and also as informed by the results of the 2017 Parking Study as it relates to future needs at the Home Ranch parking lot.

Synopsis for PowerPoint (120 words max):
Purpose:
The purpose of this item is to seek Town Council input on the extension of King Street and obtain direction from the Council to continue the design work on the extension of King Street in concert with the Rec Center expansion and as informed by the 2017 Parking Study.