Division Avenue Road Safety Audit

Prepared for:
Sandpoint, Idaho

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UT20-2220

FEHR PEERS

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Project Description

Fehr & Peers performed a Road Safety Audit (RSA) along Division Avenue from Michigan Street to Cedar Street in Sandpoint, Idaho as requested by the City of Sandpoint and the Local Highway Technical Assistance Council (LHTAC). **Figure 1** shows the RSA location map.

Data Collection

Field Review

Prior to observing traffic conditions Fehr & Peers gathered contextual data about the study area. The data included roadway speeds, Average Annual Daily Traffic (AADT), commercial truck traffic, number of travel lanes, intersection traffic controls, the presence of pedestrian and bicycle facilities, and the types of nearby land uses (e.g. business districts, schools, regional growth centers, and mixed use centers).

Figure 1 outlines the 2019 AADT reported by ITD within the RSA study area and **Figure 2** outlines the commercial truck traffic as a percentage that AADT.

Fehr & Peers visited the site to observe conditions during various times of the day. Fehr & Peers staff were joined by the following RSA team members:

- Amanda Wilson, City of Sandpoint Infrastructure and Development Services,
- Bruce Robertson, City of Sandpoint Infrastructure and Development Services,
- Corey Coon, City of Sandpoint Police Department,
- Steve Klatt, Bonner County,
- Brian Wright, LHTAC,
- Erin Billings, Lake Pend Oreille School District,
- Matt Diel, Lake Pend Oreille School District.

The study area was observed during the following times:

- School opening and morning commuter peak period (7:30 – 9:00 AM)
- School closing peak period (2:00 – 3:30 PM)
- Evening commuter peak period (5:30 – 6:30 PM)
- Nighttime off-peak period (8:30 – 9:30 PM)

As observed by the RSA team, traffic peaked during the 15 minutes immediately before the high school opened for the day from 7:45-8:00 AM, and again during the 15 minutes immediately after the high school closed for the day from 2:30-2:45 PM. Evening commuter traffic appeared more evenly dispersed than the school opening/closing peaks but was still observed to peak from about 5:30-5:45 PM. Minimal traffic was observed during the nighttime visit, and no peaking characteristics were observed during that period.

DIVISION AVE. RSA • ANNUAL AVERAGE DAILY TRAFFIC (AADT)

0 0.13 0.25 Miles

Figure 1

DIVISION AVE. RSA • TRUCK TRAFFIC AS A PERCENT OF AADT

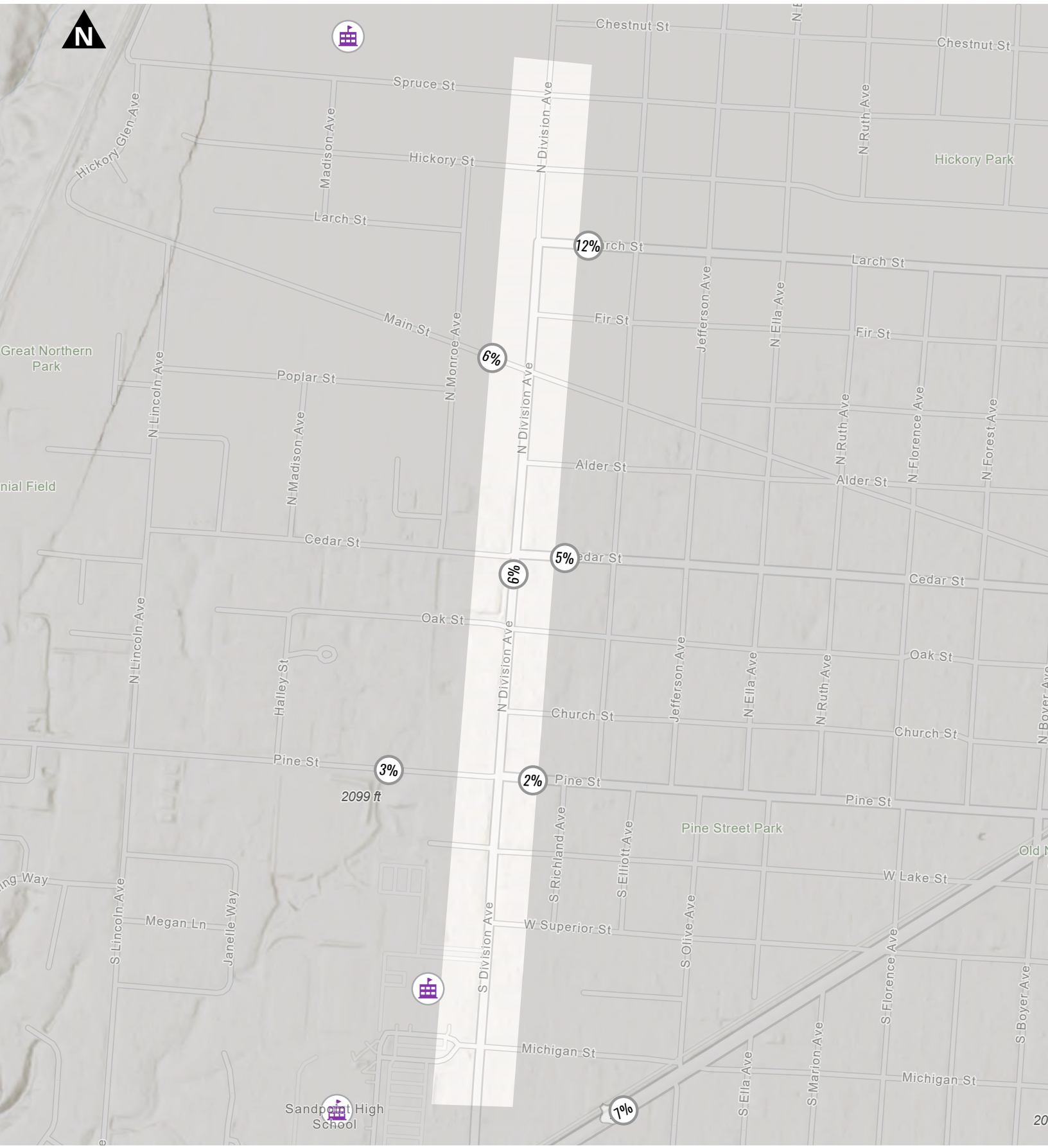


Figure 2

Crash Data

Fehr & Peers reviewed the available crash data from at 2015-2019 from the LHTAC interactive crash map and the ITD Safety Dashboard. The data was compiled to summarize trends, frequency, and severity of collisions along the study corridor. **Table 1** includes a summary of the crash data for the five study years.

Figure 3 shows a map of the crashes within the RSA study area by severity, **Figure 4** shows a map of the crashes within the RSA study area by type, and **Figure 5** shows a heatmap of the crashes in the study area to indicate crash density.

Table 1: RSA Area & Statewide Crash Data Summary

Crash Statistic	Division Avenue		Statewide	
	Crashes	Percent of Crashes	Crashes	Percent of Crashes
Severity				
Property damage only crashes	26	79%	80,151	63%
Possible injury/complaint crashes	0	0%	25,412	20%
Suspected minor/visible injury crashes	3	10%	15,133	12%
Suspected serious injury crashes	4	12%	5,060	4%
Fatal injury crashes	0	0%	1,069	1%
Lighting Conditions				
Day	28	85%	88,382	70%
Dawn or Dusk	0	0%	5,774	5%
Dark, No Street Lights	1	3%	17,429	14%
Dark, Street Lights On	4	12%	14,245	11%
Dark, Street Lights Off	0	0%	828	1%
Crash Type*				
Angle & Angle Turning	19	58%	26,241	21%
Head-on & Head-on Turning	2	6%	7,227	6%
Pedestrian	2	6%	1,149	1%
Rear-end	5	15%	34,124	27%
Side Swipe Opposite & Side Swipe Same	5	15%	12,196	10%

* **Table 1** only reports crashes by type that occurred within RSA area. Other crash types occur in Idaho that are not reported here.
Source: LHTAC Idaho Crash Data Map, ITD Highway Safety Dashboard.

DIVISION AVE. RSA • CRASHES

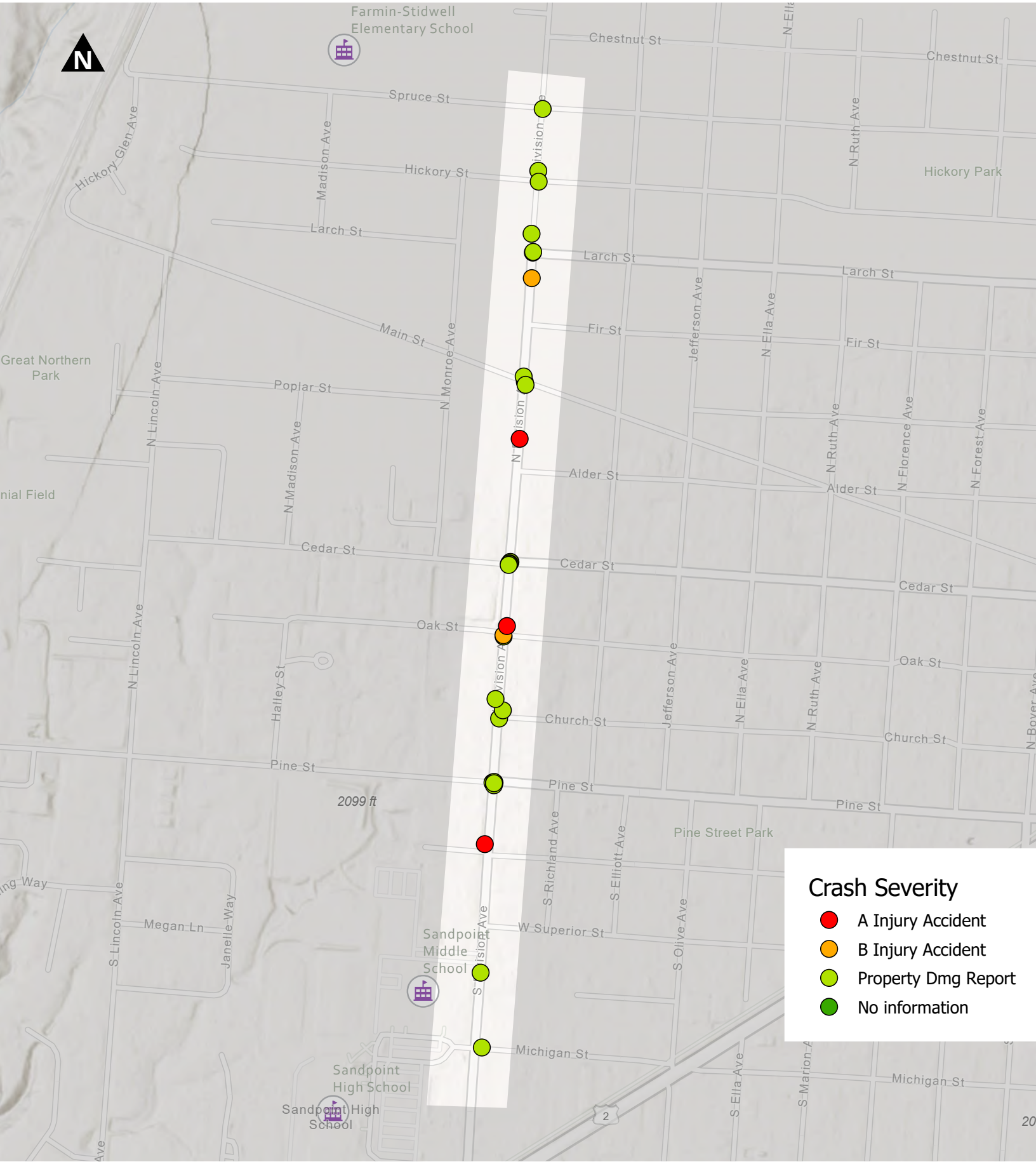


Figure 3

DIVISION AVE. RSA • CRASHES

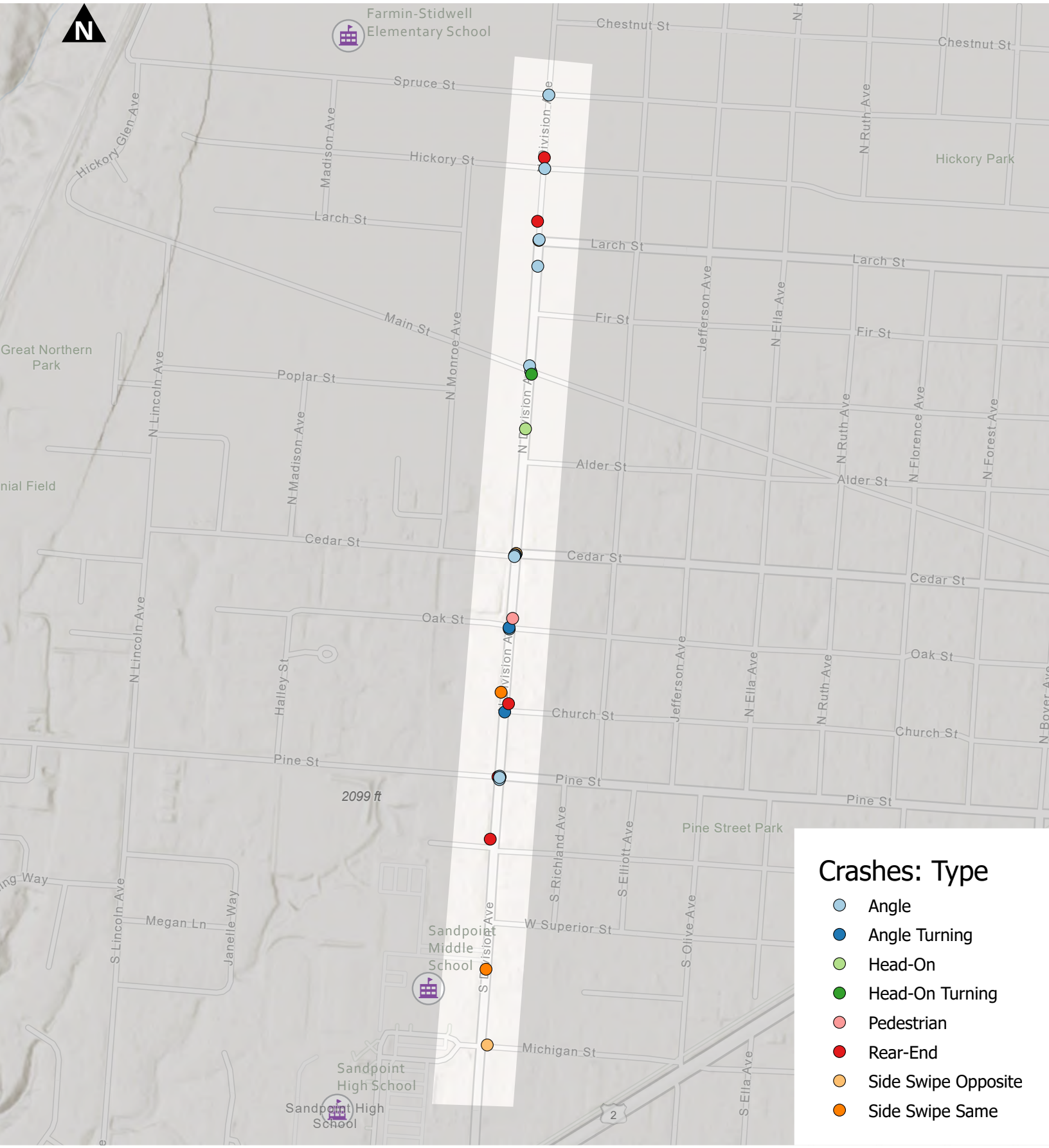
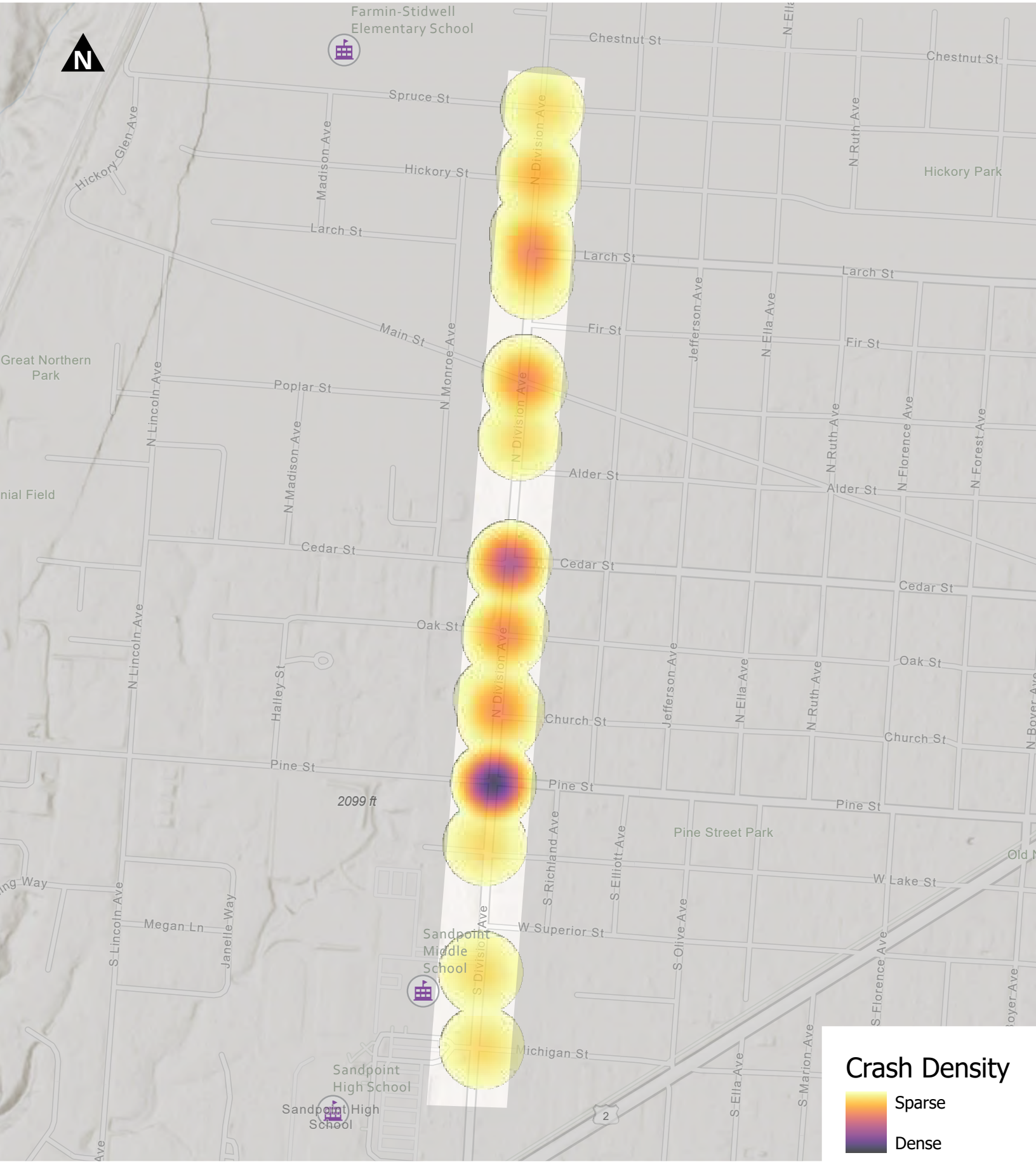


Figure 4

DIVISION AVE. RSA • CRASHES



0 0.13 0.25 Miles

Figure 5

Summary of Observations

Based on the traffic patterns observed during the field visit and the data gathered from LHTAC and ITD, the RSA team made the following observations:

Observation 1: Significant traffic peaks at school start and end times (Photo: Fehr & Peers).

Traffic was observed to exhibit significant peaking characteristics at school start & end times. The City has made incremental improvements to this area to improve safety and address citizen complaints.

During the school start peak period, a trained crossing guard closes the southbound left turn lane on Division Avenue and directs traffic at Michigan Street. The crossing guard was observed to be effective in managing both vehicle and pedestrian traffic to reduce pedestrian/vehicle conflicts during the AM peak.

No additional traffic or pedestrian control was observed during the school closing peak.

Observation 2: Jaywalking between school and church parking lot (Photo: Fehr & Peers).

Jaywalking was occasionally observed between the high school and the church parking lot on the other side of Division Avenue. As shown in Observation 2, many parents use the church parking lot as a pick-up/drop-off parking lot for the school. The jaywalking at this location was observed to be more frequent during the school closing peak, likely because the crossing guard provided additional protection to pedestrians in the school opening peak.

Observation 3: Non-ADA-compliant pedestrian ramps and crosswalks (Photo: Fehr & Peers).

At the Division Avenue intersections at Michigan Street, Superior Street, and Pine Street, the RSA team observed that pedestrian ramps and crosswalks were not ADA compliant. More specifically, the team observed that the crosswalks did not properly align with the pedestrian ramps. Furthermore, the truncated domes used at the Pine Street intersection were not installed correctly, and the raised curb in the middle of the pedestrian ramps creates an additional hazard for pedestrians.

Observation 4: School zone signs posted for 20mph with low compliance (Photo: Fehr & Peers).

The RSA team observed that school zone signs along Division were posted to reduce the speed limit to 20mph. The speed limit along the rest of Division Avenue is 25mph, so the school zone only reduces the speed limit by 5mph. Furthermore, the school zone speed limit is active from 7:30 AM to 3:30 PM, even during periods when the school is not starting or ending. The law enforcement representative on the RSA team noted that the minor reduction in speed limit and broad time that the school speed limit is in effect has resulted in low compliance, but the increased police presence has helped.

Observation 5: Long northbound queues at Division Avenue & Pine Street during school closing peak (Photo: Fehr & Peers).

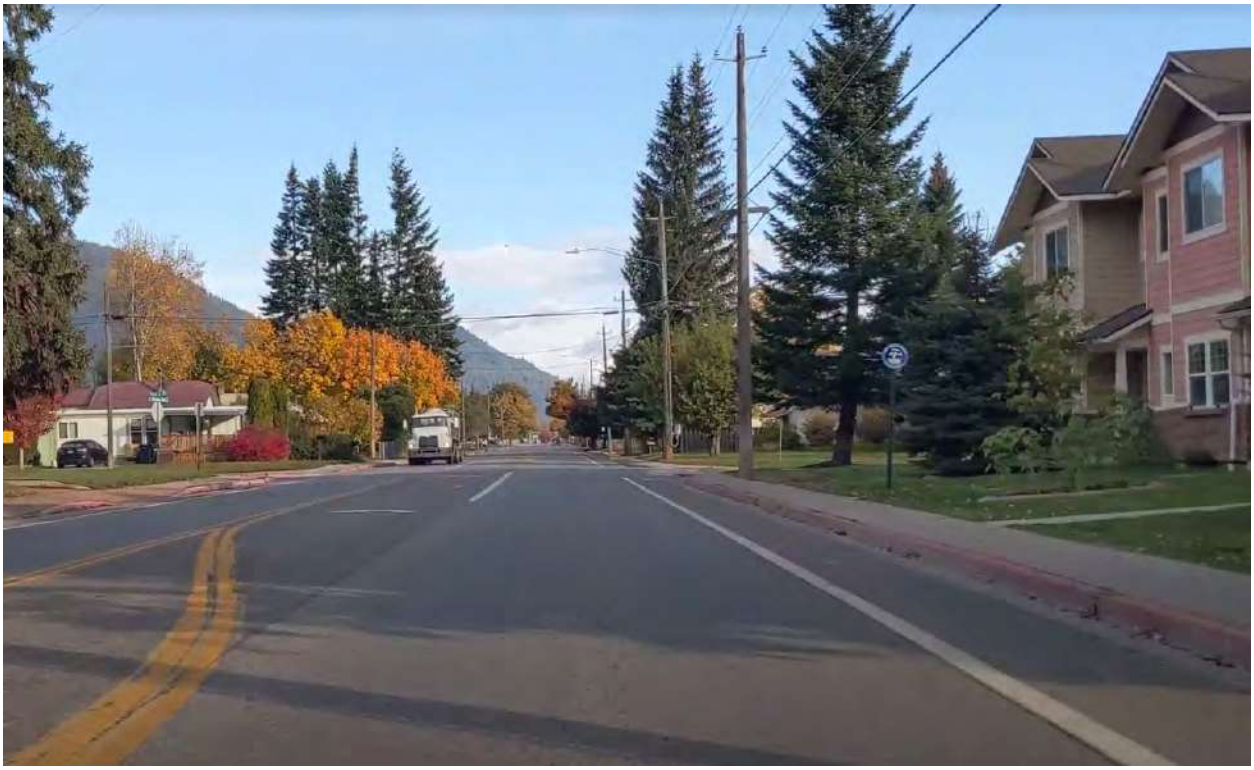
Northbound left-turning vehicles were observed driving along the two-way left-turn lane along Division Avenue far in advance of the intersection at Pine Street to illegally get around northbound through/right-turn queue. Law enforcement staff on the RSA team reported that this has caused crashes at this location.

Observation 6: Street lighting observed to be sparse for pedestrians. (Photo: Fehr & Peers).

Division Avenue was not observed to be continuously lit at night. Crosswalks were lit from one corner of each intersection. However, lighting was observed to sparse in some sections, especially for pedestrians and cyclists on the multi-use path along the west side of Division Avenue.

Observation 7: Sight distance obstructed at Division Avenue & Church Street (Street view image: Google Earth, September 2013).

The RSA team observed that vegetation and a light pole at Church Street obstructs the westbound sight distance. The RSA team also observed several instances of low-hanging tree branches over sidewalks occasionally obstructing the pedestrian walkway. Low-hanging branches were observed along Division Avenue near Alder Street, Church Street, Cedar Street, and Pine Street.



Observation 8: Substandard bus stop (Photo: Fehr & Peers).

The northbound bus stops on Division Avenue were observed to lack pedestrian amenities such as waiting areas, bus shelters and benches.

Observation 9: Nonstandard signage near Sandpoint High School (Photo: Fehr & Peers).

As shown in the Observation 9 photo, the driveway north of the middle school uses nonstandard signs to indicate which driveway is enter only, and which is exit only. These signs may be confusing to drivers since the STOP EXIT ONLY DO NOT ENTER sign is directly adjacent to the ENTER ONLY sign.

Observation 10: Power pole in the center of sidewalk at Division Avenue & Fir Street (Photo: Fehr & Peers).

As shown in Observation 10, a power pole is placed in the center of the sidewalk on the northeast corner of the intersection at Division Avenue & Fir Street. This pole is obstructing the walkway and is preventing the sidewalk from being ADA compliant. Similarly, a pole obstructs the sidewalk the northeast corner of the intersection at Division Avenue & Larch Street.

Observation 11: RRFB at Division Avenue & Spruce Street (Photo: Fehr & Peers).

The City has implemented an RRFB crossing at Spruce which was observed to be effective at managing both vehicle and pedestrian traffic to reduce pedestrian/vehicle conflicts during all observed times of the day. The RRFB was observed to operate well and drivers were observed to comply with the sign during the team's field visits.

Additional Observations

The RSA team made four additional general observations:

1. Snow buildup along the sidewalk on the east side of Division Avenue has been reported to be an issue due to the lack of snow storage and lack of snow removal. Sandpoint City staff has indicated that a 5 feet minimum park strip buffer between the travel lanes and the sidewalk/multi-use path would be preferred for snow storage.
    a. It should be noted that the City was reported to successfully keep travel lanes in the road clear of snow along Division Avenue. The multi-use path was also reported to be maintained during snowy months; however, snow storage continues to be a concern along the multi-use path. Implementing the suggestions recommended in the following section will likely improve the conditions of the path and the road during snowy months.
2. Division Avenue is currently designated as a truck route and should continue to accommodate trucks until a different truck route is established.
3. The multi-use path along Division is 8 feet wide, whereas 10 feet is the preferred minimum for a bidirectional multi-use path. Staff also noted that gravel and sand buildup was common along the multi-use path.
4. The reflectivity of current street signs at night appeared to be adequate along Division Avenue.
5. Division Avenue is striped with three-lanes from Michigan Street to Pine Street. The rest of Division Avenue is striped with two-lanes but maintains the same cross-sectional width. In the segments with only two lanes, the lane widths increase to 17 feet. The wider lanes encourage speeding.
6. The RSA team observed that most cyclists avoided the bike lanes along Division Avenue and instead used the multi-use path. Cyclists were also occasionally observed biking northbound in the southbound bike lane to get around other users in the multi-use path. The bike lanes are currently 5 feet wide and utilize the gutter to accomplish this width. However, the AASHTO Guide for the Development of Bicycle Facilities state that "the gutter should not be included in the measurement as usable width, as bicyclists will typically ride well to the left of the joint," (AASHTO, 2012)

Figure 6 outlines the key issues and their locations along Division Avenue that were mentioned in this section.

DIVISION AVE. RSA • KEY ISSUES

Key Issues

1. Crosswalks do not align with ped ramps.
2. NW corner has "desire line" worn in landscaping.
3. Crossing guard at Michigan St is required for safe operation. Only available in AM.
4. Occasional jaywalking between school and church parking lot. More frequent in PM.
5. Vehicles parked on SE corner may obstruct WB LT sight distance.
6. Ped ramps & crosswalks are not ADA compliant.
7. Cars use NB left turn lane to skip RT queue. Has caused crashes.
8. Ped ramps & crosswalks are not ADA compliant.
9. Crosswalk on north side is not lit sufficiently at night
10. Vegetation obstructs WB sight distance.
11. Vegetation & pole obstructs WB sight distance.
12. Low hanging branches over sidewalk.
13. Low hanging branches over sidewalk.
14. Low hanging branches over sidewalk.
15. Substandard bus stop.
16. Pole placed in center of sidewalk. Not ADA compliant.
17. School zone sign is 5mph from the posted speed limit 25 to 20mph. Low compliance.
18. Traffic peaks during school start & end times. Frequen vehicle/ped conflicts.
19. School zone sign is 5mph from the posted speed limit 25 to 20mph. Low compliance.
20. Nonstandard sign configuration

Summary of Recommendations

Based on the observations outlined in the previous section, the RSA team has outlined several recommendations organized into three levels of mitigation:

1. Easy/Short-Term Mitigations: signing, striping, lighting
2. Medium/Medium-Term Mitigations: sidewalk, pedestrian ramp improvements (flatwork)
3. Hard/Long-Term Mitigation: roadway reconfiguration

Easy/Short-Term Mitigations

Recommendation 1: Coordinate with Lake Pend Oreille School District to Implement Walking School Bus for Elementary School

A "walking school bus" program organizes a group of children to walk to school with one or more adults. The goal of walking school bus programs is to reduce the number of vehicles traveling to and from a school and provide a safer walking environment for the elementary aged children. A "walking school bus" program could be implemented and maintained by the school district at the elementary school on Spruce Street to encourage children to walk to school and reduce the number of drop-off and pick-up trips to and from the school during the school opening and closing peaks, respectively. By reducing the number of vehicle trips, the number of pedestrian/vehicle conflicts near elementary school would be reduced. Having an organized "walking school bus" program will also provide parents with a sense of security for their children to safely walk to/from school and the leading adult can walk the children along safer routes or the other side of the street when, for instance, the east side sidewalk on Division Avenue is full of snow.

Recommendation 2: Implement Crossing Guard During School Closing Peak Period

Due to the effectiveness of the crossing guard during the school opening peak period, the City is recommended to coordinate with the school district to implement a similar crossing guard in the school closing peak to provide additional protection to pedestrians and reduce pedestrian/vehicle conflicts.

Recommendation 3: Add East-West Crosswalk at Fir Street

Division Avenue currently has no crosswalks between Cedar Street and Spruce Street. Fehr & Peers recommends adding an east-west crosswalk at Fir Street to improve pedestrian connectivity and to reduce the likelihood of jaywalking in areas without a crosswalk.

Recommendation 4: Increase School Zone Sign Visibility, Limit Restrict Time Active

The school zone speed limit is 20mph (5mph lower than the normal speed limit on Division Avenue) and active from 7:30 AM to 3:30 PM. To increase compliance with the school zone speed limit, the RSA team

recommends adding flashing lights to the school zone speed reduction signs (see **Figure 7** for example); the flashing lights should be either automatically scheduled, or manually activated by a crossing guard. The RSA team also recommends that the school zone speed limit reduction should only active during school opening and closing peak periods, when students are likely to be present. If speeds continue to be an issue during the school opening and closing peak period, then reducing the school zone speed limit to 15mph (10mph lower than the normal speed limit) would be appropriate. Police presence to enforce the speeds should continue to be a priority.

Figure 7: School Speed Limit Signs with Flashing Beacons

Recommendation 5: Reconfigure Northbound Approach at Division Avenue & Pine Street

To prevent northbound left-turning vehicles from driving in the two-way left-turn lane along Division Avenue the two-way left-turn striping should end at Lake Street instead of at Pine Street. Standard left north- and southbound left-turn lanes should be striped at Lake Street to provide left turn storage for those movements. Furthermore, the northbound left-turn storage lane at Pine Street should be extended to provide additional queue storage space. If this problem continues, a raised center curb median could be added along the left-turn lane to more fully prohibit this movement from occurring.

Recommendation 6: Perform a Lighting Inventory and Add Lighting as Needed

Fehr & Peers recommends performing a lighting study to determine where additional lighting is needed along Division Avenue, especially for pedestrians and cyclists on the multi-use path. The study should aim to provide sufficient lighting for the multi-use path, sidewalk, and crosswalks along Division Avenue.

Recommendation 7: Remove or Restrict Vegetation in Problem Areas

Fehr & Peers recommends removing or limiting the vegetation on the northeast corner of Division Avenue & Church Street to prevent the westbound sight distance from being obstructed. Fehr & Peers also recommends managing or limiting the vegetation along the sidewalk and multi-use path to prevent low-hanging tree branches over sidewalks from obstructing the pedestrian walkway.

Recommendation 8: Relocate or Replace Driveway Signs North of High School

Fehr & Peers recommends replacing and relocating the nonstandard signs located at the driveway north of the high school. The signs should be replaced with standard MUTCD signs to better indicate which driveway is enter-only and which driveway is exit-only. The sign marked STOP EXIT ONLY DO NOT ENTER is an improper use of a stop sign and should be replaced with an R5-1 (DO NOT ENTER) or R5-1a (WRONG WAY) and relocated closer to the exit-only driveway. The ENTER ONLY post should be relocated to the other side of the entry-only driveway.

Medium/Medium-Term Mitigations

Recommendation 9: Redo the pedestrian ramps

The pedestrian ramps at Division Avenue & Michigan Street, at Division Avenue & Superior Street, and at Division Avenue & Pine Street are not ADA compliant and should be reconstructed to achieve ADA compliance.

Recommendation 10: Provide Bus Benches or Bus Shelters at Bus Stops

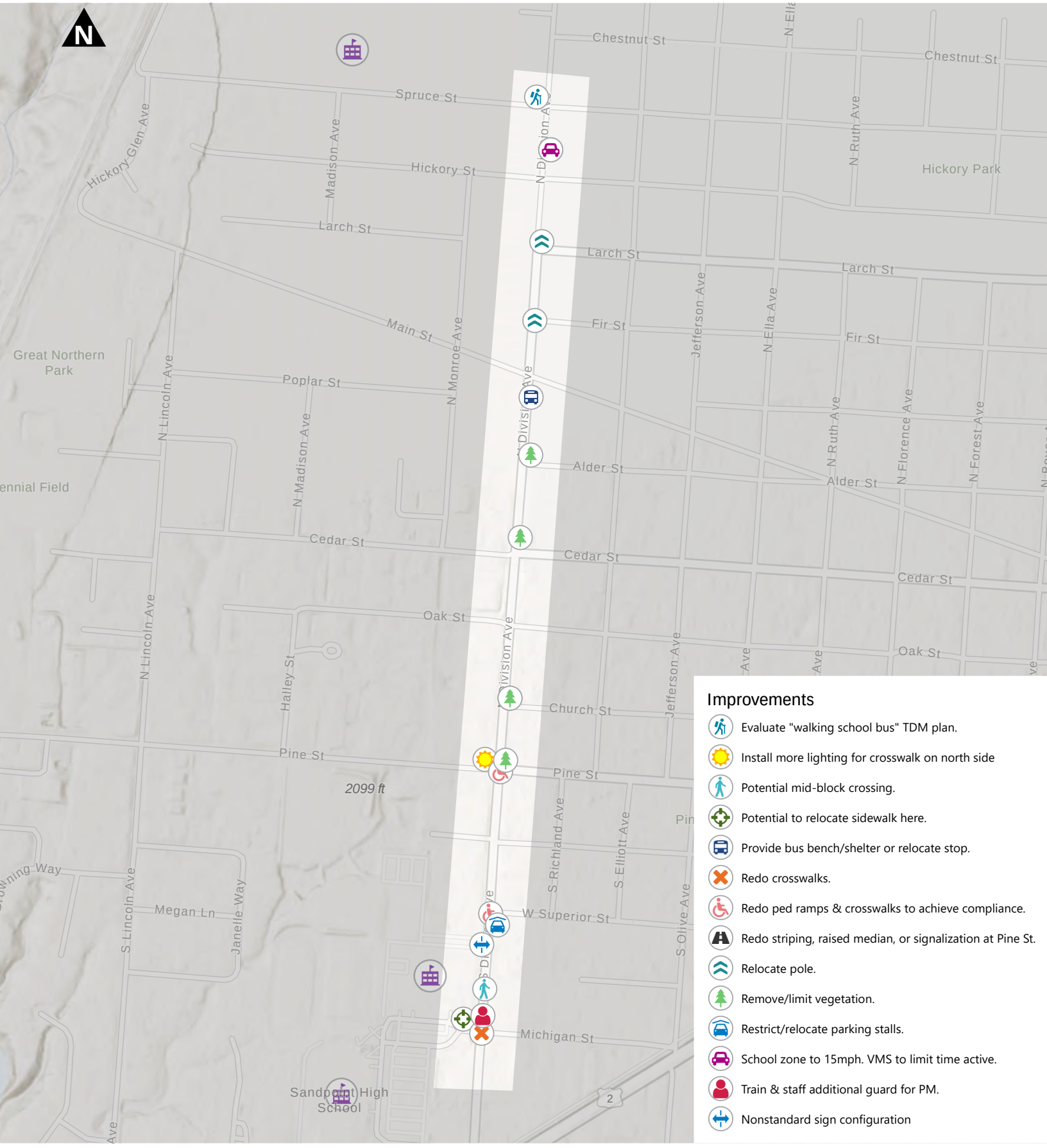
Fehr & Peers recommends providing pedestrian amenities such as concrete waiting areas, benches and/or shelters for transit users. The southbound bus stop near the library between Cedar Street and Oak Street currently provides a bus shelter with a bench that could serve as a template for other bus stops along the corridor. Depending on the location of the bus stop, relocating the bus stop poles may also be necessary to adequately provide space for a bench or shelter.

Recommendation 11: Relocate the Power Poles in the Sidewalk at Division Avenue & Fir Street and at Division Avenue & Larch Street

The power poles placed in the center of the sidewalk on the northeast corner of the intersections at Division Avenue & Fir Street and at Division Avenue & Larch Street should be relocated to prevent them from blocking the walkway.

Figure 8 outlines the easy/short-term and medium/medium-term improvements recommended along the RSA study area.

DIVISION AVE. RSA • CORRIDOR SPOT IMPROVEMENT



Improvements

- Evaluate "walking school bus" TDM plan.
- Install more lighting for crosswalk on north side
- Potential mid-block crossing.
- Potential to relocate sidewalk here.
- Provide bus bench/shelter or relocate stop.
- Redo crosswalks.
- Redo ped ramps & crosswalks to achieve compliance.
- Redo striping, raised median, or signalization at Pine St.
- Relocate pole.
- Remove/limit vegetation.
- Restrict/relocate parking stalls.
- School zone to 15mph. VMS to limit time active.
- Train & staff additional guard for PM.
- Nonstandard sign configuration

0 0.13 0.25 Miles

Figure 8

Hard/Long-Term Mitigation

Recommendation 12: Reconfigure the Cross Section of Division Avenue

To better serve cyclists, pedestrians, and vehicle traffic along Division Avenue, Fehr & Peers recommends reconfiguring the full length of Division Avenue. Fehr & Peers measured the cross section of Division Avenue at multiple locations and found the average cross section to be about 57 feet across. Sandpoint Public Works staff indicated that maintaining the multi-use path was essential. For bi-directional travel, the multi-use path should be expanded to be at a minimum 10 feet wide. The Public Works staff also indicated that landscaped buffers should be included in any reconfiguration to provide space for snow storage during the winter and to serve as a buffer between cyclists, pedestrians, and vehicle traffic. Since Division Avenue is a designated truck route, Fehr & Peers also recommends maintaining at least 11 feet lanes throughout the corridor.

Figure 9 shows the cross section of Division Avenue near intersections where a left-turn lane is required. In these segments, the bike lanes are recommended to be removed and the vehicle lanes are recommended to be narrowed to 11 feet to accommodate the widened multi-use path, planting strips, and sidewalk. Since bike lanes would no longer be provided along Division Avenue, Fehr & Peers recommends adding "Sharrow" pavement markings to indicate to drivers that cyclists may use the vehicle travel lane. The sharrows will provide an area for the commuting cyclists while the multi-use path provides an area for the other users who are less comfortable sharing the road with motor vehicles. With the additional space, Fehr & Peers recommends widening the multi-use path to 12 feet and marking it for bi-directional travel. The east side sidewalk is also recommended to be widened to 6 feet for the length of the corridor. Planting strips are also recommended to be added to provide snow storage. While Sandpoint City staff expressed that planting strips should be 5 feet wide, due to the limited cross-section space, staff also expressed that a minimum planting strip width of 3 feet would be acceptable near intersections with left-turn lanes.

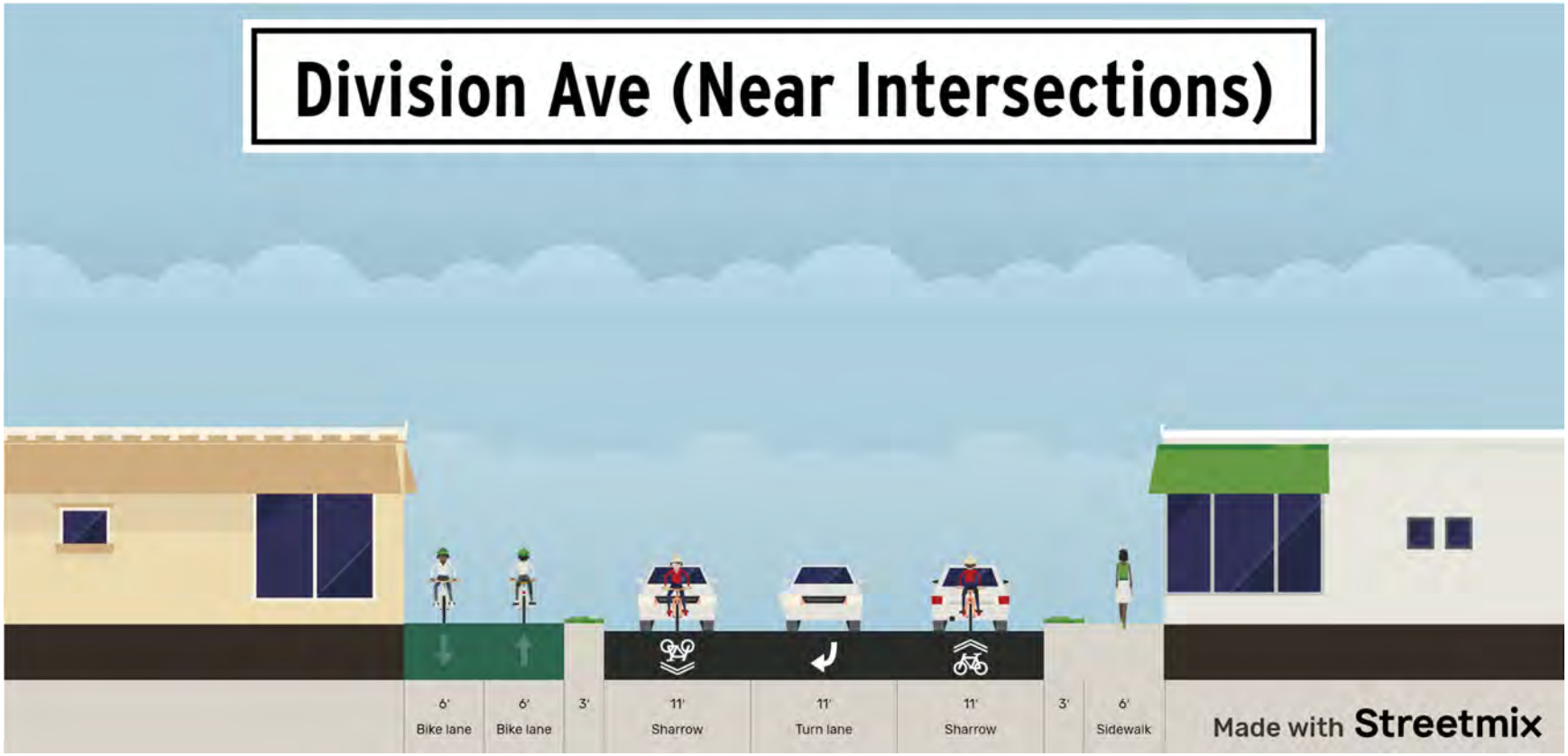


Figure 9: Proposed Division Avenue cross section near intersections.

Figure 10 shows the cross section of Division Avenue between intersections where no left-turn lane is required. In these segments, the 11 feet turn lane is removed and the planting strips are recommended to be widened to provide additional snow storage. The travel lanes are also widened to 12 feet with an extra 0.5 foot added to the gutter, also for snow storage. The multi-use path and sidewalk widths are also recommended to be maintained to provide a continuous walking/biking trail.

The reconfiguration is recommended for the following reasons:

1. The wider, directionally marked, multi-use path would provide additional space to cyclists and pedestrians.
2. The current 5 feet sidewalk is restrictive for pedestrians with disabilities. Widening to 6 feet provides additional space to make the sidewalk more comfortable.
3. The planting strips between the multi-use path/sidewalk and the vehicle travel lanes serve as snow storage and as additional buffer space between bikes/peds and vehicle traffic.
4. Historically, wide vehicle travel lanes, like the current lanes along Division Avenue encourage speeding. Narrowing the lanes along Division Avenue is recommended to discourage speeding.

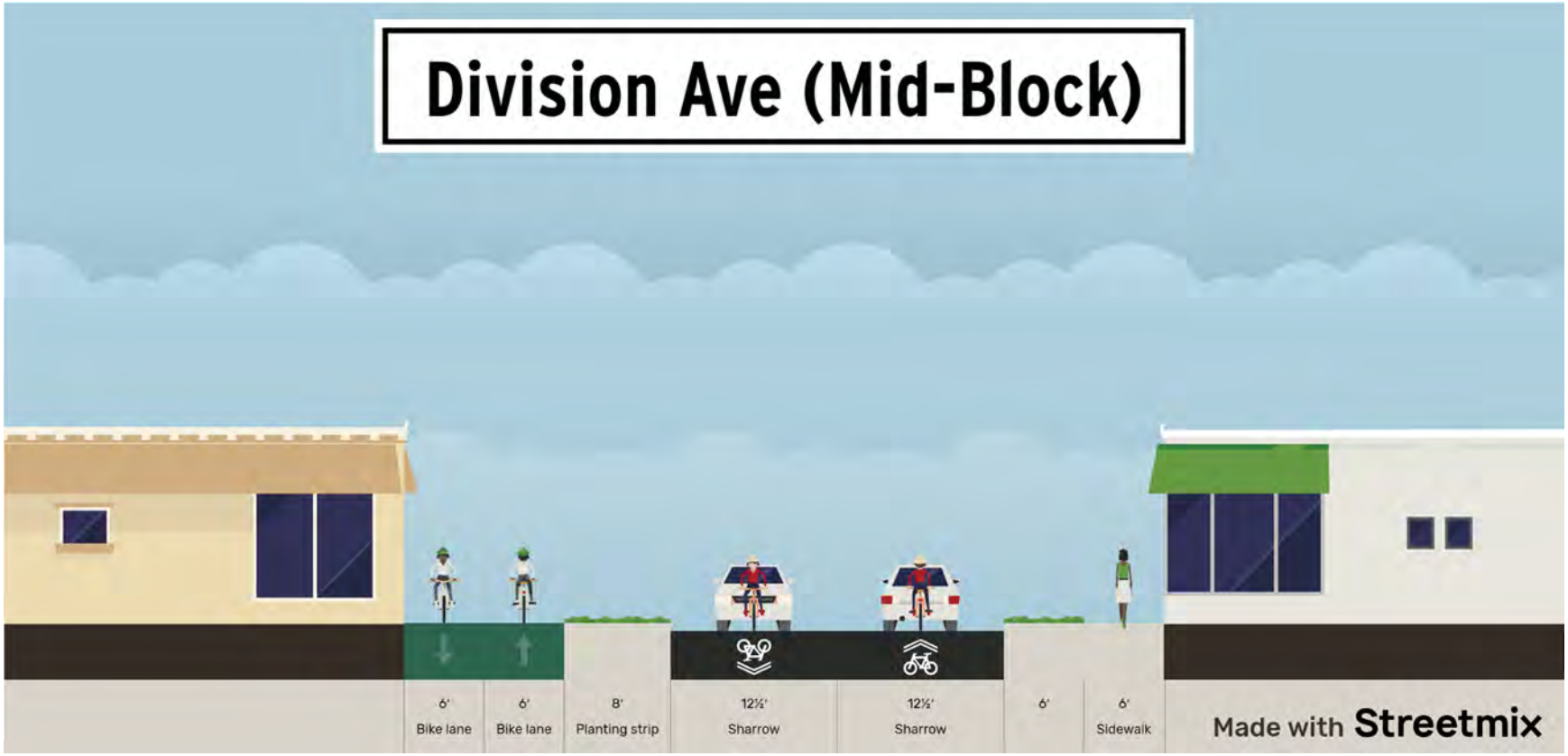


Figure 10: Proposed Division Avenue cross section mid-block (away from intersections).

Acknowledgements

The RSA team acknowledges the efforts and contributions of the following groups:

- Sandpoint Public Works
- Bonner County
- LHTAC
- Lake Pend Oreille School District
- Sandpoint Police Department

Next Steps

This RSA is also intended to inform the direction of the Sandpoint MTMP currently in development. This RSA should be consulted when outlining development plans and strategies within the RSA study area.