

APPENDIX F

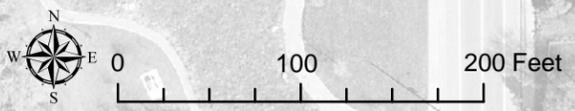
LOWRY AVENUE NE PRELIMINARY

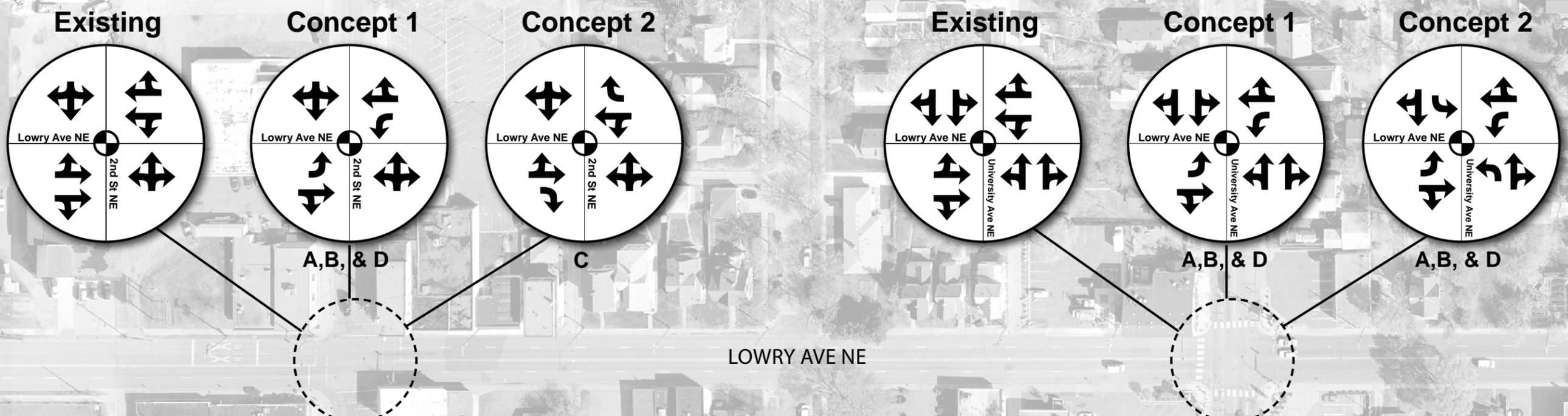
INTERSECTION CONCEPTS



LEGEND

-  Signalized Intersection
-  Lane Designations
- A, B, C, D** Corresponding Roadway Sections





LOWRY AVE NE

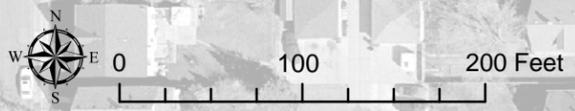
2nd St NE

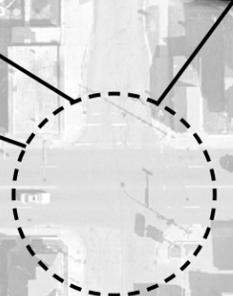
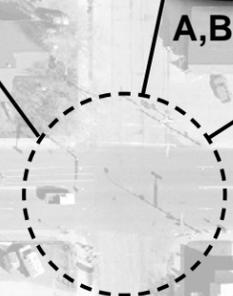
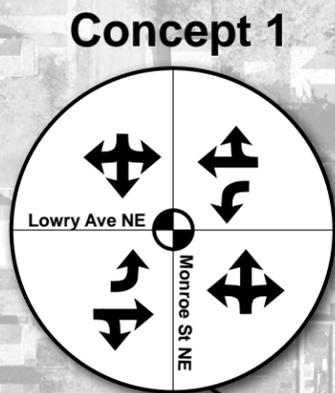
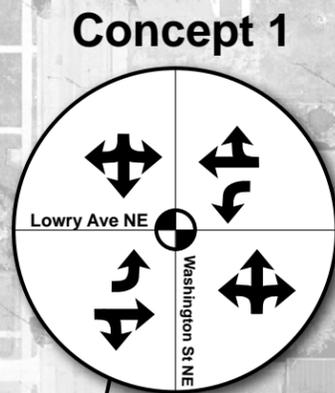
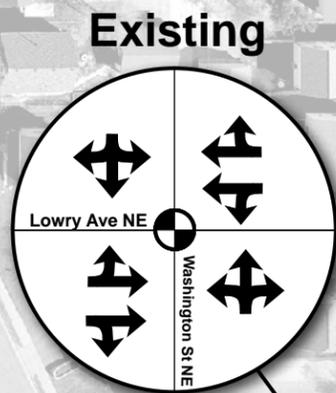
3rd St NE

University Ave NE

LEGEND

- Signalized Intersection
- Lane Designations
- A,B,C,D Corresponding Roadway Sections





LOWRY AVE NE

Washington St NE

Jefferson St NE

Madison St NE

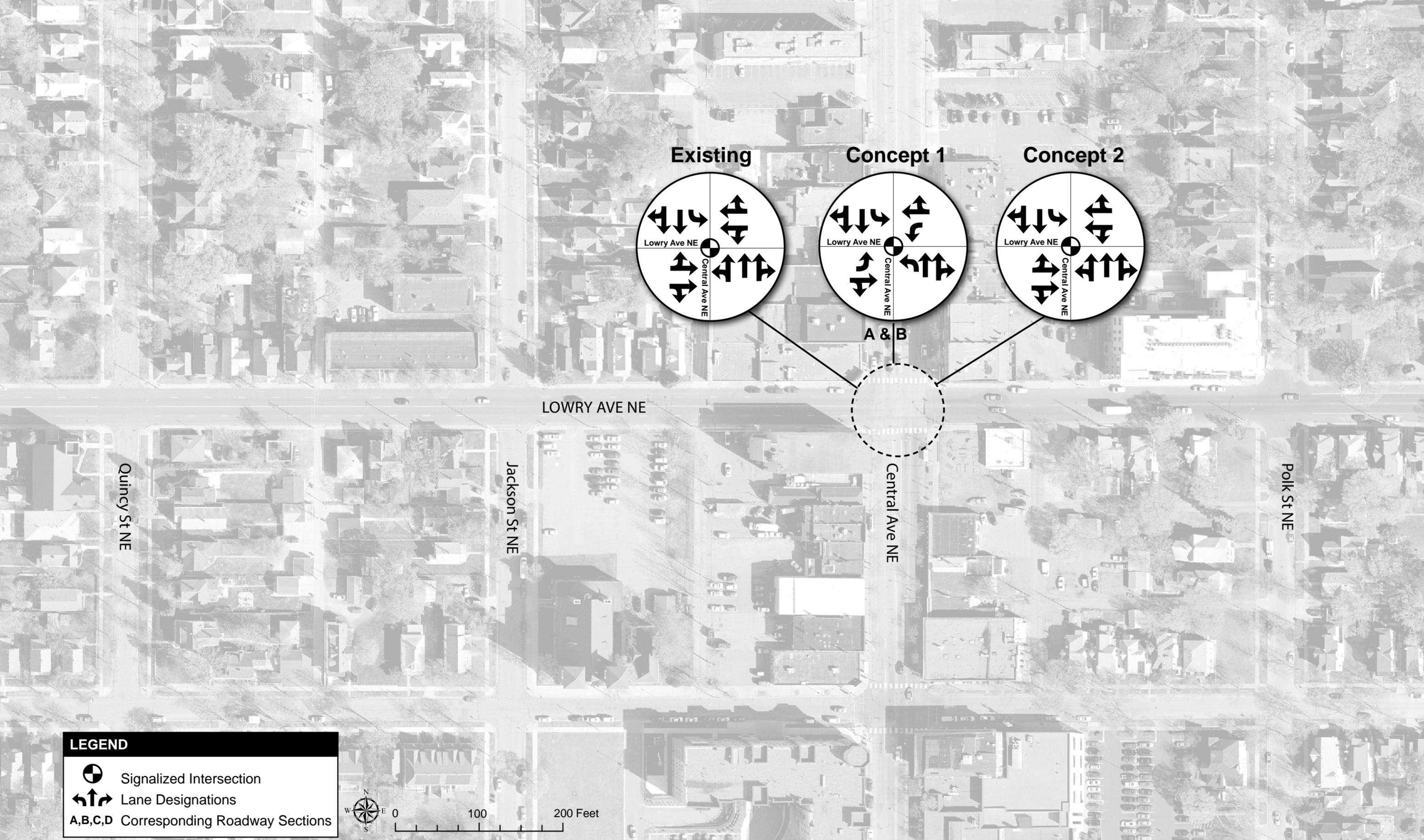
Howard St NE

Monroe St NE

LEGEND

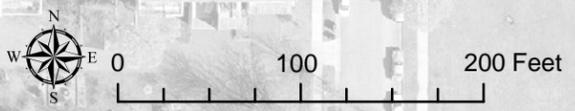
-  Signalized Intersection
-  Lane Designations
- A, B, C, D Corresponding Roadway Sections

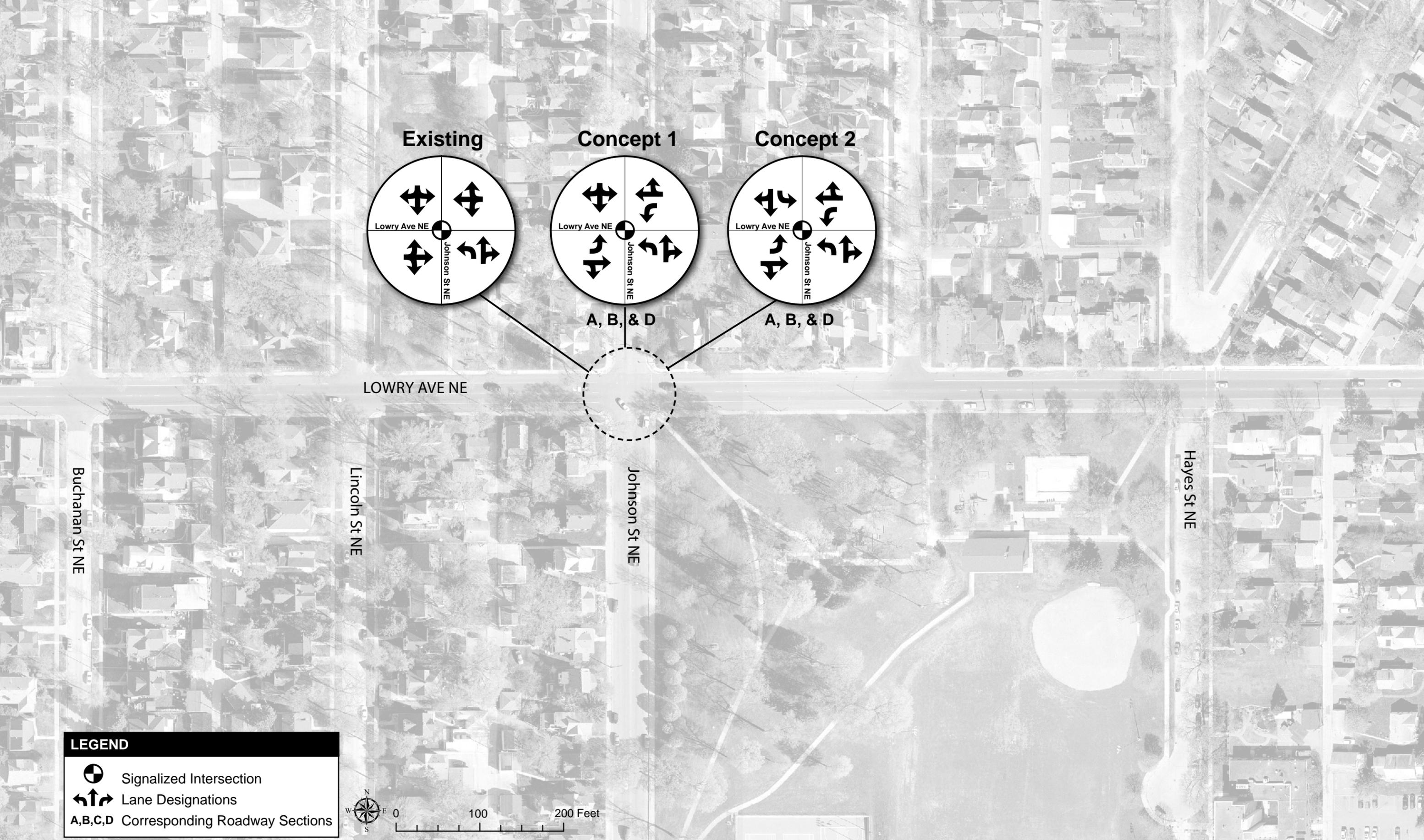




LEGEND

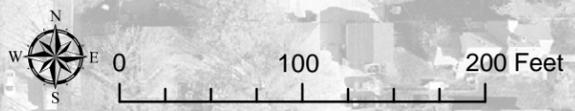
-  Signalized Intersection
-  Lane Designations
- A,B,C,D Corresponding Roadway Sections





LEGEND

- Signalized Intersection
- Lane Designations
- A,B,C,D Corresponding Roadway Sections



Lowry Avenue – Truck Turning Movements at Key Intersections: Preliminary Intersection Concepts

Truck Turning Movements – Preliminary Intersection Concepts:

Attached, are pdfs of the truck turning movements at the following key intersections along Lowry Avenue assuming the preliminary recommended improvements:

- Marshall Avenue
- University Avenue
- Central Avenue

As was the case in the review of the existing truck turning movement at key intersections along Lowry Avenue, the WB-50 design vehicle was used as a baseline for each intersection (based on the City of Minneapolis current practice along their MSA routes). The WB-62 and WB-67 design vehicle was then used for specific turning movements (eastbound to northbound left turn, and southbound to westbound right turn) at the University Avenue intersection since the NHS truck route designation follows University to the north of Lowry Avenue and Lowry Avenue west of University Avenue.

A review of the attached truck turning movement figures revealed the following:

- 1) Lowry Ave/Marshall St Intersection: As a point of reference, the preliminary recommended improvements at the Lowry Avenue intersection with Marshall Street include the reconfiguration of the east leg to provide one lane of traffic in each direction on Lowry Avenue as well as a westbound left-turn lane. The proposed lane configuration on the Marshall Street approaches to the Lowry Avenue intersection and the westbound Lowry Avenue approach will remain unchanged.

As was the case in the existing conditions, trucks can easily maneuver the NW and SW corners of the intersection, due to the revised curb radii and roadway geometrics along Lowry Avenue west of the intersection as a result of the Lowry Avenue Bridge project (see Figure 1). As shown in Figures 1 through 3, with the exception of the northbound to eastbound right-turn maneuver, trucks turning between Marshall and Lowry Avenue east of the intersection can make their movements with minimal encroachment into oncoming lanes; however, similar to the existing conditions trucks will not likely be able to stay in their respective lane when turning. Figure 1 shows that northbound to eastbound right-turning trucks will need to turn from the center lane and encroach completely into the westbound left-turn lane in order to complete this maneuver. While this is not a desirable situation, the north- to eastbound right-turn is not considered to be a heavy truck movement at the intersection. Potential improvement options to eliminate this encroachment were considered, but they resulted in the increase of the corner radius, the taking of the existing business in the southeast quadrant of the intersection, and an increase in the pedestrian crossing distance at the intersection.

- 2) Lowry Ave/University Ave Intersection: The preliminary recommended improvements at the Lowry Avenue intersection with University Avenue include the following:
- The alignment of Lowry Avenue NE is shifted to the south in order to better facilitate the large trucks making the south- to westbound right-turns
 - The Lowry Avenue NE approaches to the intersection are reconfigured to provide one lane of traffic in each direction as well as west- and eastbound left-turn lanes at the University Avenue NE intersection
 - Parking bays will be provided in all four quadrants of the intersection with near side bus pull-outs provided on the Lowry Avenue NE approaches to the intersection
 - The corner radii at the intersection, particularly in the northwest quadrant of the intersection, will also be increased in order to better facilitate truck turning movements at the intersection

The proposed lane configuration on the University Avenue NE approaches to the Lowry Avenue NE intersection will remain unchanged.

As shown in Figure 4 through 6, with the proposed intersection improvements, trucks turning between University and Lowry Avenue can make their movements with minimal encroachment into oncoming lanes; however, similar to the existing conditions trucks will not likely be able to stay in their respective lane when turning.

- 3) Lowry Ave/Central Ave Intersection: The preliminary recommended improvements at the Lowry Avenue intersection with Central Avenue include the following:
- The alignment of Lowry Avenue is shifted slightly to the north on the west side of Central Avenue and slightly to the south on the east side of the intersection
 - The Lowry Avenue approaches to the intersection are reconfigured to provide one lane of traffic in each direction as well as west- and eastbound left-turn lanes at the Central Avenue intersection
 - A parking bay will be provided in the southeast quadrant of the intersection, and far side bus pull-outs will be provided for the west- and eastbound busses
 - The corner radii at the intersection, in three of the four quadrants of the intersection, will also be increased in order to better facilitate truck turning movements at the intersection

The proposed lane configuration on the Central Avenue approaches to the Lowry Avenue NE intersection will remain unchanged.

As shown in Figures 7 through 9, trucks have minimal difficulty maneuvering the Lowry Ave/Central Ave with the proposed intersection improvements.



8/27/2014



LOWRY AVENUE AT MARSHALL STREET - INTERSECTION ALTERNATIVE A - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 1



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LOWRY AVENUE AT MARSHALL STREET - INTERSECTION ALTERNATIVE A - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 2



8/27/2014



LOWRY AVENUE AT MARSHALL STREET - INTERSECTION ALTERNATIVE A - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 3



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LOWRY AVENUE AT UNIVERSITY AVENUE - INTERSECTION ALTERNATIVE B - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 4



8/27/2014



LOWRY AVENUE AT UNIVERSITY AVENUE - INTERSECTION ALTERNATIVE B - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 5



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LOWRY AVENUE AT UNIVERSITY AVENUE - INTERSECTION ALTERNATIVE B - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 6



9/8/2014



LOWRY AVENUE AT CENTRAL AVENUE - INTERSECTION ALTERNATIVE D OPTION 1 - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 7



9/8/2014



LOWRY AVENUE AT CENTRAL AVENUE - INTERSECTION ALTERNATIVE D OPTION 1 - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 8



9/8/2014



LOWRY AVENUE AT CENTRAL AVENUE - INTERSECTION ALTERNATIVE D OPTION 1 - AUTOTURN MOVEMENTS

HENNEPIN COUNTY
LOWRY AVENUE NE CORRIDOR STUDY

FIGURE 9