

APPENDIX I: Half-Mile Area Recommendation Details & Detailed Improvement Mapping

Figures 1A-3 through **8C-4** on the following pages of this appendix identify existing conditions and recommended improvements for the half-mile areas around each station in Dallas. The first figure in each set indicates existing conditions and the second figure indicates the recommended improvements. Additional figures are provided for some stations to zoom into areas with dense concentrations of improvements for greater clarity.

In each figure, existing sidewalks are shown in light blue, as well as Regional Veloweb shared use paths (bright green) and local shared use paths (dark green). Existing shared use paths are shown with solid lines, while proposed shared use paths are shown in dashed lines.

The density of individual parcels' population plus employment totals are shown in a multi-color scale on the existing conditions figure. The population and employment density is shown in grayscale on the recommended improvements figure to allow the improvements to stand out more clearly.

Sidewalk and crosswalk gaps are shown in red on the existing conditions figures, and in multiple colors on the recommended improvements figures, according to the priority assigned to the gap: red for high-priority, orange for medium-priority, and light pink for low-priority. Gaps to remain are shown in dark pink. For more details on these gap categories, refer to **Appendix F**.

Each high- medium- and low-priority improvement, along with all gaps to remain, are indicated by the boxed number labels near each improvement location. The lower right corner of each recommended improvements figure includes a legend that describes the abbreviations in the improvement ID codes, which can be used to cross-reference the improvement matrices that appear in **Appendix J**.

For solid red, orange, or light pink lines, the recommended improvement for a sidewalk gap is either a new or repaired 5-foot wide sidewalk along the length shown. Repairs are noted in the matrix notes for each improvement in **Appendix J**, and assume full removal of damaged, existing sidewalk prior to replacement.

Note that in some places dashed green lines for planned shared use paths appear on top of other colored lines. Where dashed green lines appear on top of light blue lines, this indicates that a sidewalk of adequate width exists for basic pedestrian connectivity, and that a wider shared use path is also planned in the future. Such "sidewalk widening" improvements were not considered essential to provide multi-modal connectivity to transit for the purposes of this project, and as such were not listed as numbered improvements or included in any cost estimation of high-priority improvements. They are shown on the map figures for informational purposes only.

Other dashed green lines in the existing conditions and recommended improvements figures appear on top of red, orange, or light pink lines. On the existing conditions figures, dashed green over red indicates a gap where no current sidewalk or shared use path exists but a future local or regional shared use path is planned. On the recommended improvements figures, dashed green over red, orange, or light pink also indicates a gap (of the priority indicated by the non-green color) where no current sidewalk or shared use path exists but a future local or regional shared use path is planned. In these cases, 10'-wide shared use paths were considered essential as high-priority

improvements (dashed green over red) to provide multi-modal connectivity to transit, and as such were listed as numbered improvements and included in the cost estimates that follow.

For crosswalk gaps, the type of improvement recommended is shown with numbered dark blue circles located near each crosswalk. The numbers in the blue circles correspond to the legend of possible pedestrian safety countermeasures appearing at the upper right of the figure. The first nine items in this legend correspond to the standard nine items in Table 1 of FHWA's publication, "Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations," referenced earlier in Section 2.6, Appendix C, and Appendix D. Treatments recommended somewhere on a particular figure have a red box around them in the legend for easier reference.

The right-hand side of each existing and recommended improvements figure includes a legend for "Primary Routes." These are street segments identified by NCTCOG as candidates for further evaluation during preliminary analyses that preceded the subject project by the consultant team. Primary Routes are denoted with a darkened black street centerline and a letter designation matching a street name indicated in the legend. Comparing the primary routes with high priority gaps on the recommended improvements figures illustrates differences between the results of this preliminary methodology with the final methodology.

The "Half Mile Area Improvements Matrices" appearing in **Appendix J** for each station list for each improvement the owner, improvement type, location, length, notes, priority score, and (in the case of high priority improvements not built by others) the opinion of probable construction cost. A matrix for sidewalks and shared use paths appears first, followed by a second matrix for crosswalks sorted separately. Each of the matrices is sorted by ownership and then by ID number.

The notes discuss any observations from the field visits deemed relevant, as well as challenging conditions the City and other agencies may want to consider when advancing recommended projects to design and/or construction. This type of information captured in the notes was a primary component of developing the quantities that form the basis for the opinions of probable construction cost. Also included in the notes (where provided) is feedback received from the City about upcoming projects or development that may construct the improvement. The absence of a note indicates that the sidewalk improvement appears to be relatively straightforward without obvious challenges.

In some cases, ownership of or responsibility for improvements was assumed to be shared among agencies, such as for a crosswalk from DART property across an adjacent City street. Such mixed ownership cases appear at the end of each listing with separate OPCC subtotals. In these cases, the OPCC for individual improvements or groups of improvements was split equally among each agency in the summary tables that follow in the main body of the report.



Parker Road Station

Figure 1A-3 illustrates the existing conditions in the half-mile area around the Parker Road Station. Central Expy (U.S. 75), Parker Rd, Park Blvd, and K Ave are all arterials that provide barriers to multi-modal travel to and from the station. Due to a lack of collector streets east of the station, multi-modal travel to and from that direction is significantly more circuitous, though planned shared use paths will improve the situation.

Figure 1A-4 shows the recommended improvements in the half-mile area around the Parker Road Station. Note that a portion of the half-mile circle for Parker Road Station to the south overlaps with the half-mile circle for the Downtown Plano Station. Improvements for the overlapping area were considered together with the Downtown Plano Station area, as discussed in the following section.

As discussed in Section 3.2.1, a basic challenge for pedestrian and bicycle access to this station is the lack of direct connections to and from property to the east. Pedestrians are routinely observed jumping the low fence to reach the station platform from the bowling alley parking lot to the east.

A new Regional Veloweb shared use path had earlier been anticipated to connect to the east of the station on the north side of the Plano Super Bowl bowling alley, across K Ave at a pedestrian hybrid beacon, and along a creek greenway to the existing Santa Fe Trail, whose western terminus is about 2/3 mile east of the station platform. However, City of Plano staff indicated that the right-of-way easements for this shared use path had proven too difficult to obtain, and so it had been removed from the City's 2018 update to the Bicycle Transportation Plan.

Consequently, the consultant team replaced this earlier alignment with a new local shared use path (1A-PR-VW-V5 in Figure 1A-4) extending east from the south end of the station platform along the north side of property owned by the City of Plano. At its intersection with K Ave, a pedestrian hybrid beacon (1A-PR-CW-26) would facilitate crossing six lanes of high-speed traffic. While a dedicated sidewalk alignment would not continue farther east for direct access to the apartments east of Dobie Dr due to existing businesses between K Ave and Dobie Dr here, many apartment residents would still likely be able to traverse the business parking areas on foot.

Other more direct connections to areas northeast and southeast of the station would also be provided by constructing the north-south Regional Veloweb shared use path on the west side of the station platform, parallel to the tracks, shown as improvements 1A-PR-VW-V2 and 1A-PR-VW-V3 in Figure 1A-4.

A pedestrian hybrid beacon would serve multi-modal users crossing Parker Rd to the north of the station, while a traffic signal would accomplish the same purpose for crossing Park Blvd to the south. The pedestrian hybrid beacon (PHB, also known as a HAWK beacon) has the advantage of stopping traffic only for the duration necessary for pedestrians to clear a driver's travel lane, rather than requiring a stop for the whole duration of the walk and flashing don't walk intervals.

A traditional traffic signal was selected for the shared use path crosswalk across Park Blvd because drivers may confuse the flashing "wig-wag" sequence of the stop indication for the PHB with the stop indication for the light rail gate crossing. In any case, the pedestrian traffic signal or PHB at both crossings will require additional evaluation and coordination by the City of Plano, and should be coordinated with the train control system for the DART crossing to ensure minimized disruption to traffic.

Sidewalk improvements along U.S. 75 will allow more comfortable pedestrian access to and from the station for retail employees and customers who may not have access to a private vehicle.

Additional details about other improvements recommended in Figure 1A-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Parker Road Station that can be found in **Appendix J**.

Downtown Plano Station

Figure 1B-3 illustrates the existing conditions in the half-mile area around the Downtown Plano Station. Downtown Plano is pedestrian friendly, with on-street parking and lower speeds along 15th St south of the station promoting easier crossings. Still, some improvements can be made along 15th St, including new or improved crosswalks. The one-way pair of K Ave and Municipal Ave also carries a higher speed and volume of traffic that presents somewhat of a barrier to multi-modal travel, as does 14th St two blocks south of the station, where transit-oriented development is occurring, with more expected in the future.

Figure 1B-4 shows the recommended improvements in the half-mile area around the Downtown Plano Station. Recommended improvements include new or improved crosswalks across 15th St at I Ave, at the proposed Regional Veloweb shared use path parallel to the DART tracks, and mid-block between J Ave and K Ave. Similarly, crossings across K Ave at 16th St, 15th Place and south of 15th St can provide improved safety.

A common need at many of these locations is advance "Yield Here to Pedestrians" signing and yield line striping (Item #3 in the "Possible Pedestrian Safety Countermeasures" legend). Located 20-50 feet in advance of a crosswalk (depending on approach speeds), the yield line and associated signs help mitigate the risk of the dual threat situation for pedestrians on multi-lane crosswalk approaches by providing adequate sight distance between the pedestrian and approaching traffic when a vehicle yielding too close to the crosswalk might otherwise obscure drivers' lines of sight.

City of Plano CIP project 6993 will construct improvement 1B-DP-CW-59 immediately south of the station where pedestrian ramps and a median cut-through are missing for a significant demand of bike and pedestrian travel between the station and apartments immediately to the southwest.

Sidewalk and crosswalk improvements 62 through 64 crossing and adjacent to the Plano Municipal Center would connect apartment complexes and single-family residential neighborhoods to the northeast more visibly and directly to the station.

The City of Plano indicated one location, a planned Regional Veloweb shared use path on the west side of the DART tracks between 15th St and 12th St, where there is not sufficient width for the shared use path shown on the City's Bicycle Master Plan. Rather than showing this link (1B-DP-VW-V02 and V03) as a gap to remain, the City directed it be retained in the project mapping as a placeholder for future planning efforts to find a feasible alignment. While the improvement was rated medium- to high-priority, no opinion of probable construction cost was provided owing to the actual infeasibility of the current alignment.



FTA DART Stations Last Mile Connections Parker Rd Station

November 2020

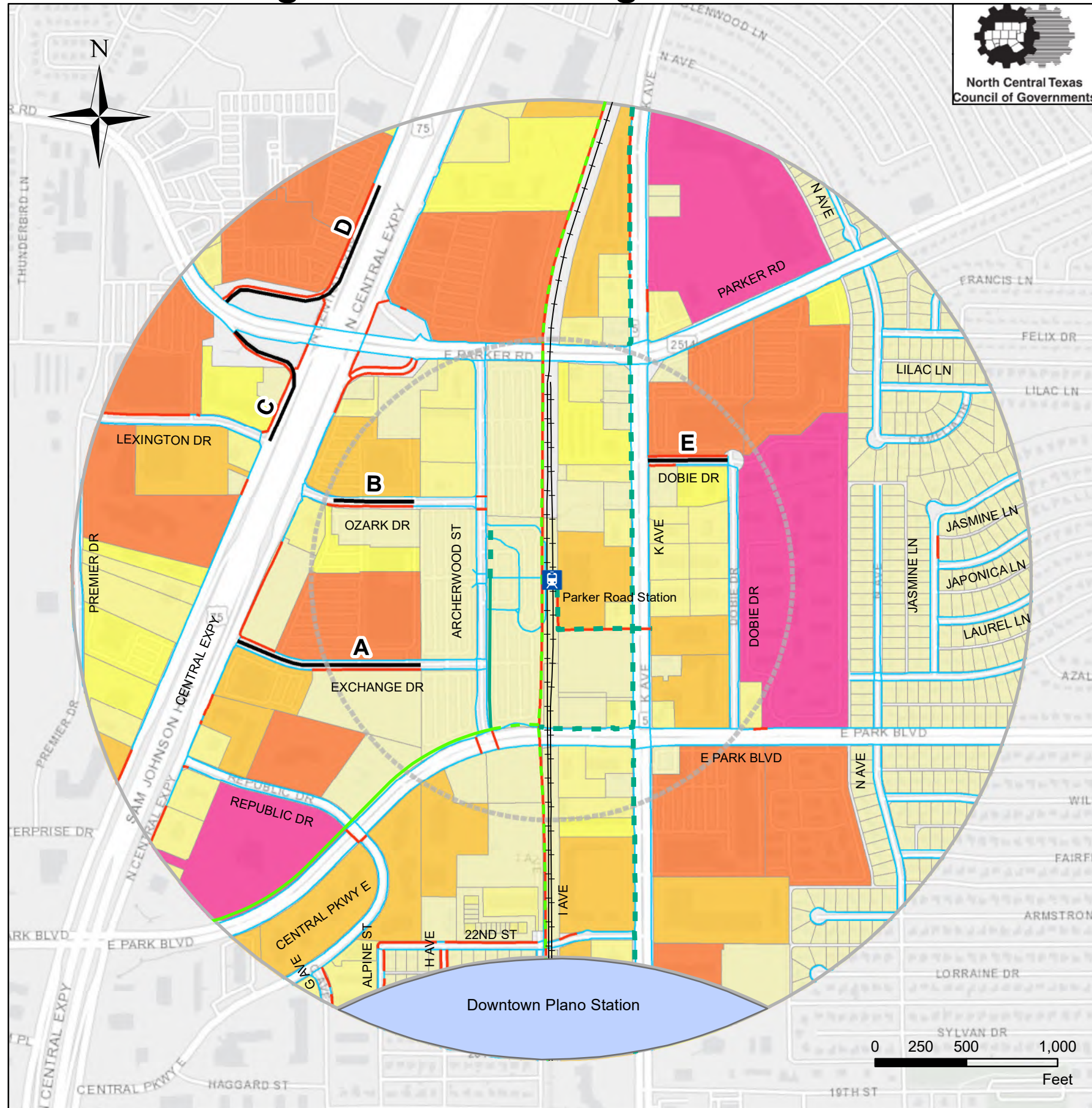


Figure 1A-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Exchange Dr
B	Ozark Dr
C	Central Expy
D	Central Expy
E	Dobie Drive

FTA DART Stations Last Mile Connections Parker Rd Station

November 2020



Figure 1A-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

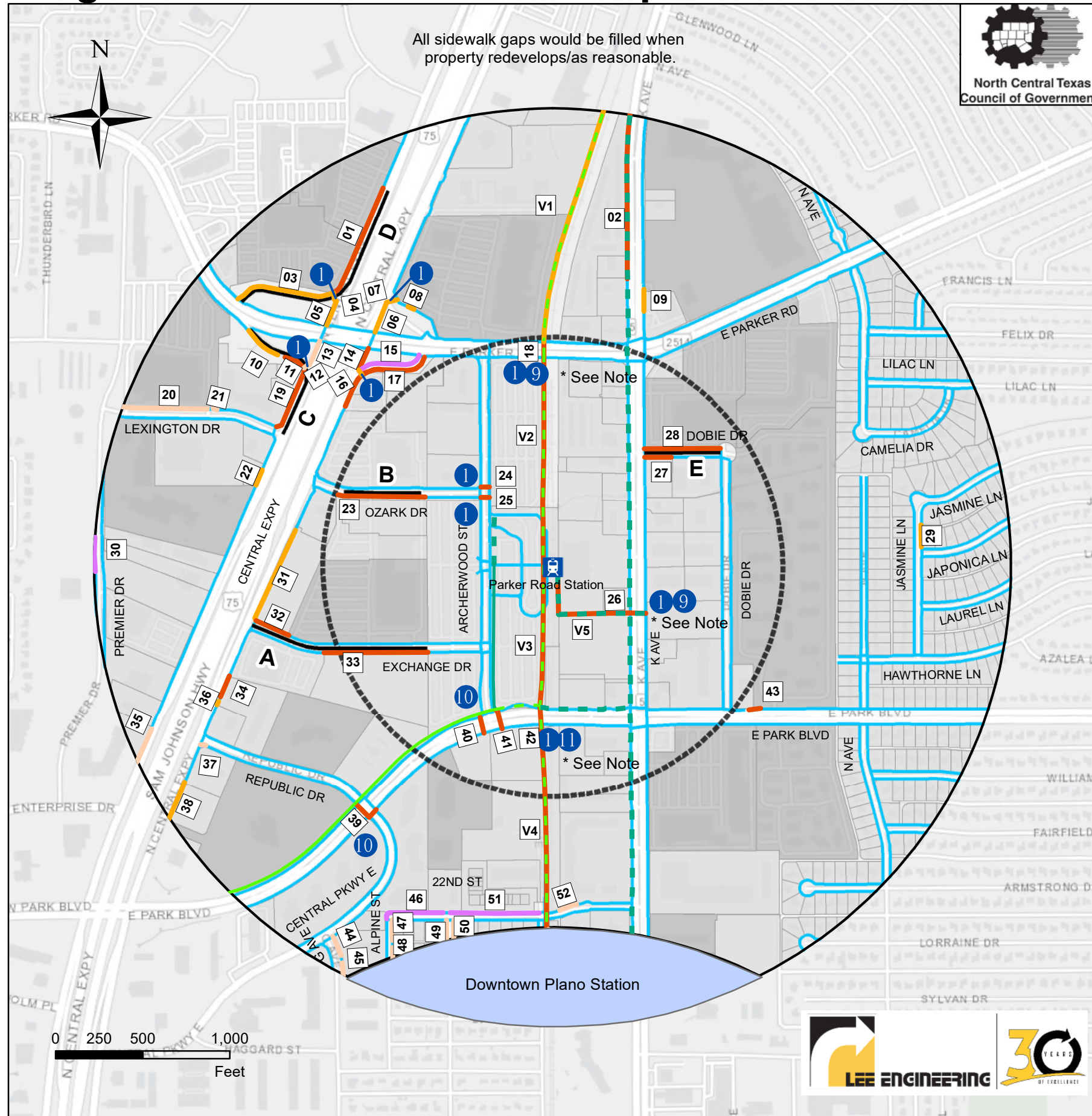
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Exchange Dr
B	Ozark Dr
C	Central Expy
D	Central Expy
E	Dobie Drive

Improvement Code Legend (See Matrix)

- 1A-PR-SW-01
- 1A ← Station Number
- PR ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)

*Note: Need Contingent on Shared Use Path Construction





Downtown Plano Station

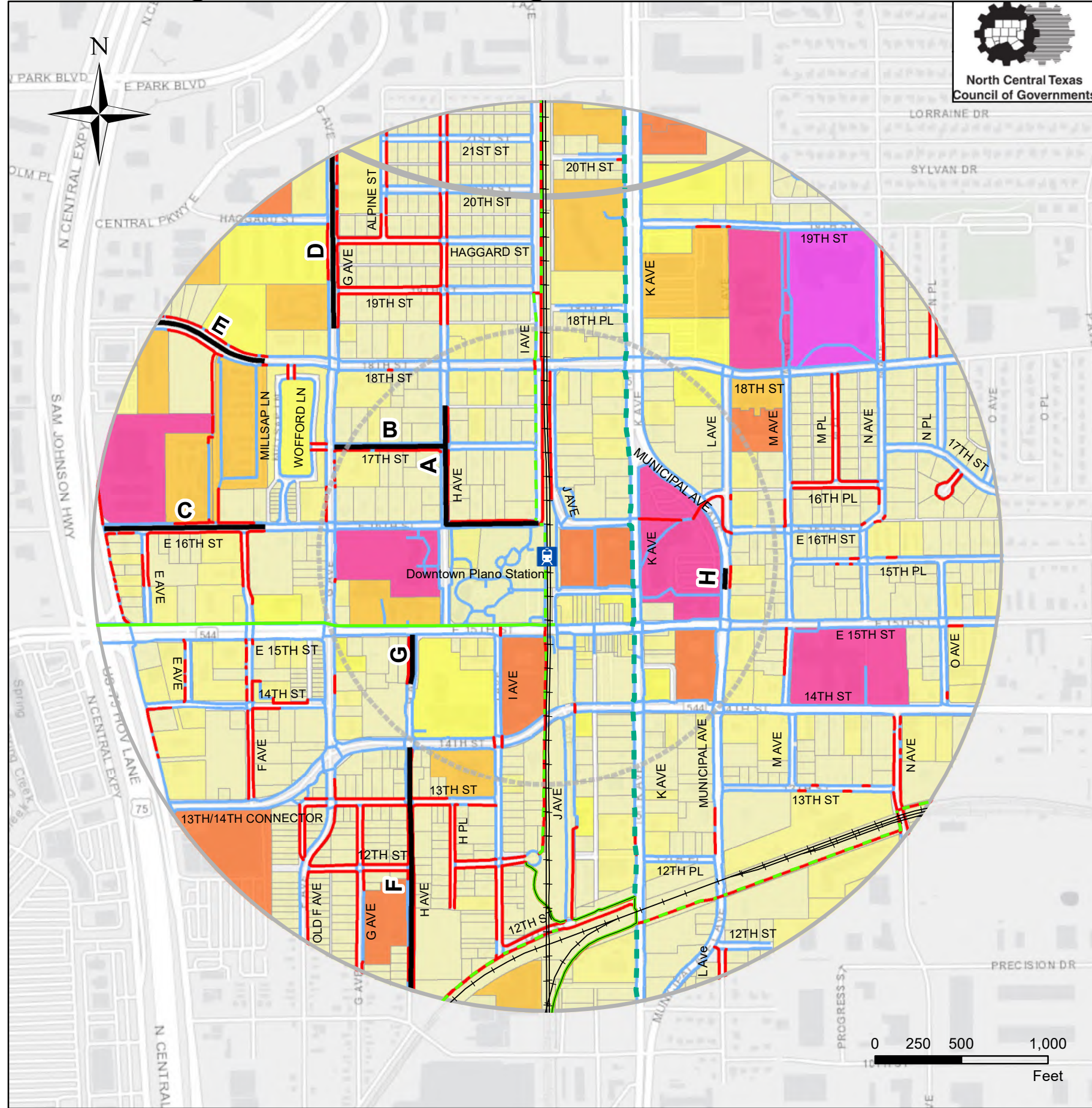
November 2020



Figure 1B-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	E 16th St & H Ave
B	17th St
C	E 16th St
D	G Ave
E	18th St
F	H Ave
G	H Ave
H	Municipal Ave

**FTA DART Stations
Last Mile Connections
Downtown
Plano Station
November 2020**

Figure 1B-4 Recommended Improvements



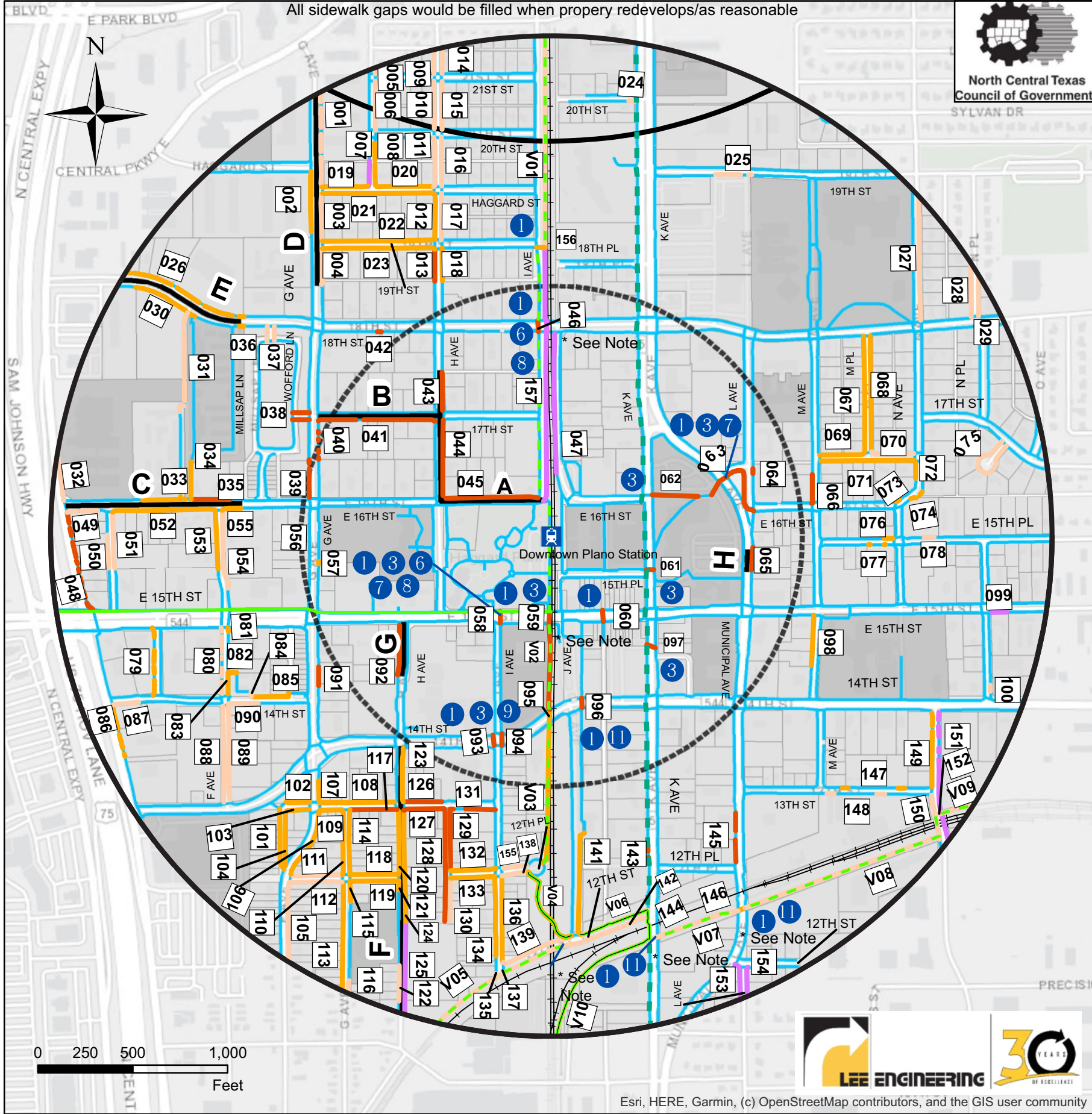
Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339

*Note: Need Contingent on Veloweb Construction



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	E 16th St & H Ave
B	17th St
C	E 16th St
D	G Ave
E	18th St
F	H Ave
G	H Ave
H	Municipal Ave

Improvement Code Legend (See Matrix)

1B-DP-SW-01

1B ← Station Number
DP ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)



Crosswalks across 14th St at I Ave, at the future Regional Veloweb alignment described in the previous paragraph, and/or at J Ave are also recommended for better multi-modal access. A PHB is recommended at I Ave (#93 and #94), while a pedestrian traffic signal is recommended at the Veloweb crossing in close proximity to J Ave (#95 and #96).

In the southern part of the study area, the existing rail tracks parallel to 12th St will be the location of the future 12th Street Station on DART's Silver Line Project. The Silver Line will begin at DFW Airport on the west and stop at 10 stations, including CityLine Bush and 12th St before reaching a terminus at the future Shiloh Road Station one stop east of 12th St. Future service is anticipated to begin in 2022.

Many of the sidewalk and shared use path connections in and around the future 12th Street Station platform will be built or reconstructed in the near future as part of the Silver Line project. The future changes are currently under design, so they may not be reflected completely in Figure 1B-4. Consequently, several of the improvements are noted in the project matrices in **Appendix J** as being built by others. While these improvements would rightly be considered high-priority improvements in the context of walking and biking trips to the future 12th Street Station, the new station is not part of the funding grant for this project. Therefore, their relatively greater distance from the Downtown Plano Station results in their being scored primarily as low- and medium-priority improvements in Figure 1B-4.

Additional details about other improvements recommended in Figure 1B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Downtown Plano Station that can be found in **Appendix J**.

CityLine Bush Station

Figure 1C-3 illustrates the existing conditions in the half-mile area around the CityLine Bush Station. Central Expy (U.S. 75), the President George Bush Tpk (SH 190) and K Ave/N Plano Rd all pose boundaries to multi-modal access to the station. While the station is located just south of the Richardson City line formed by the PGBT, new transit-oriented residential development has occurred north of the PGBT in Plano, with other undeveloped parcels expected to bring more such development. The current configuration of the Park & Ride lots located below the PGBT bridge structures is oriented primarily to serve DART riders driving to the station, with fewer accommodations for pedestrian and bicycle trips through the large parking lots.

Figure 1C-4 shows the recommended improvements in the half-mile area around the CityLine Bush Station. Several sidewalks and connecting crosswalks should be built through and around the Park & Ride lots below the PGBT bridges. The high posted speed limits along the PGBT frontage roads create the need for high-visibility crosswalks. Therefore, pedestrian hybrid beacons are recommended at the Crawford Rd/Topridge Dr crossings of the PGBT frontage roads (1C-CB-CW-42, 43, and 59). Also, a pedestrian traffic signal is recommended for the crossings of the PGBT westbound frontage road just east and west of the DART tracks (1C-CB-CW-44 and 45). The existing crosswalk across the WBFR west of the tracks will be removed as part of the Silver Line Construction, which is still under design but will reconfigure other existing sidewalks and crosswalks in and around the station.

Three existing signalized intersections should receive pedestrian access improvements. Marked crosswalks and countdown, accessible pedestrian signals should be added at the intersections of Plano Pkwy with F Ave/Executive Dr and with K Ave. Though pedestrian indications are already

present at the K Ave/N Plano Rd intersection with the PGBT frontage roads, sidewalks need to be added so that pedestrian travel through these intersections can occur during all weather and for DART riders of different abilities.

Most of the recommended improvements south of the station in Richardson are anticipated for construction by others, either as part of the Silver Line project or the ongoing construction of the CityLine mixed-use development.

A shared use path as part of the Regional Veloweb is funded as part of the construction of the Silver Line Project. The shared use path will parallel the track alignment, on the east side of the tracks north of the station and curving to the west south of the station to cross under Central Expy (U.S. 75). Connecting trails will need to be provided to link the shared use path to other shared use paths planned by the City of Richardson and TxDOT along the U.S. 75 frontage roads. From CityLine Dr to Renner Rd, the local shared use path on the east side of U.S. 75 is funded.

Other shared use paths are planned by the City of Richardson along the south side of the PGBT eastbound frontage road and along the west side of N Plano Rd. In some places the shared use path would widen existing sidewalk, while in other places it would fill a gap where no existing sidewalk is present.

Additional details about other improvements recommended in Figure 1C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for CityLine Bush Station that can be found in **Appendix J**.

Galatyn Park Station

Figure 2A-3 illustrates the existing conditions in the half-mile area around the Galatyn Park Station. Central Expy (U.S. 75) currently blocks all bicycle and pedestrian travel to and from the west since the only bridge that crosses it within the half-mile area, on Galatyn Pkwy, does not include sidewalk. A DART shuttle (Route 824) connects the station to areas west of U.S. 75 at 15- to 20-minute intervals during weekday peak hours. This route previously included more expanded hours of operation, but service has been scaled back due to COVID-19 travel demand changes.

The Central Trail, part of the Regional Veloweb shared use path network, runs along the east side of the DART right-of-way along its entire length within the half-mile area. On-street bike lanes are present along N Collins Blvd throughout the half-mile area. Local shared use paths exist or are planned farther west on either side of Prairie Creek. To the northeast of the station, a local shared use path that is partially complete along the north side of Glenville Dr is planned by the City of Richardson to extend to the intersection with Lookout Dr, where it will continue along the north side of Lookout Dr to points eastward.

Figure 2A-4 shows the recommended improvements in the half-mile area around the Galatyn Park Station. The City of Richardson should consider improved bicycle and pedestrian access across U.S. 75. Many pedestrians and cyclists would likely prefer the increased convenience of a sidewalk connection over the 15- to 20-minute intervals provided by DART Bus Route 824, even after the return of mid-day bus service. A sidewalk connection would also be available at night or on weekends.



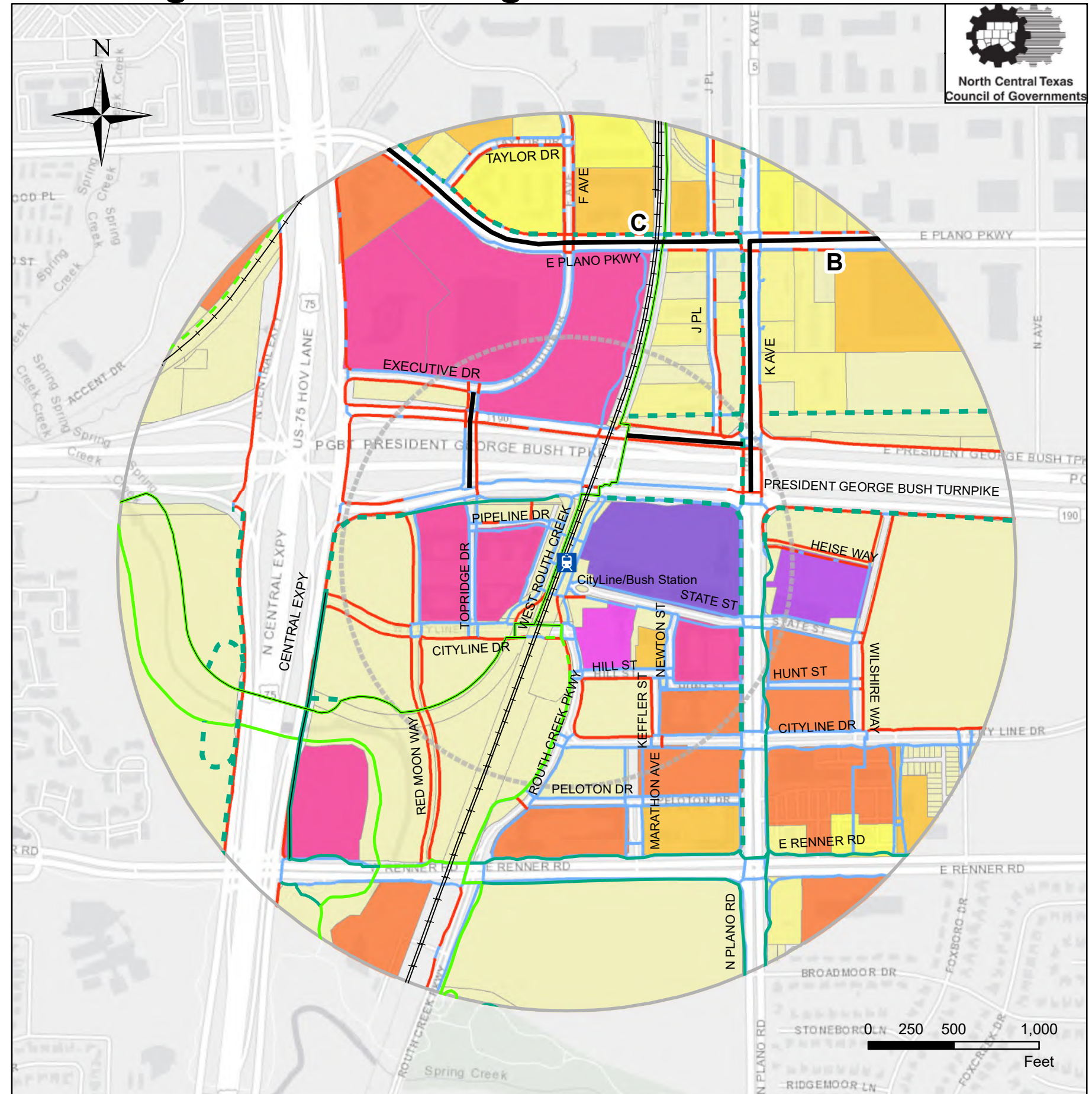
FTA DART Stations Last Mile Connections Cityline Bush Station November 2020



Figure 1C-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Topridge Drive
B	Plano Pkwy / K Ave
C	Plano Pkwy
D	N President George Bush Turnpike

FTA DART Stations Last Mile Connections City Line Bush Station November 2020



Figure 1C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
 - High
 - Medium
 - Low
 - Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

Buffers

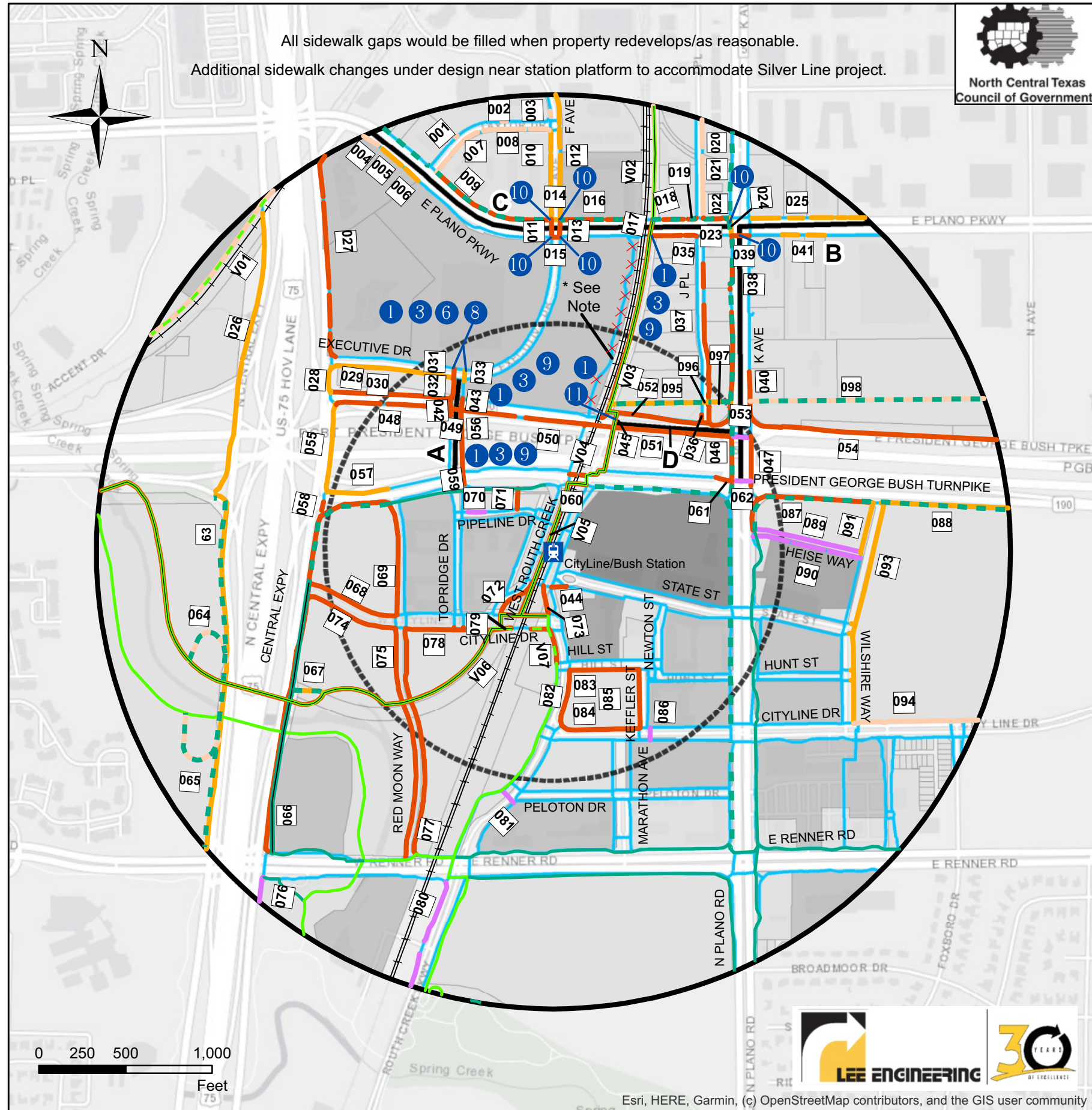
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339

*Note: Sidewalk to be removed to make way for DART Silver Line tracks.



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Topridge Drive
B	Plano Pkwy / K Ave
C	Plano Pkwy
D	N President George Bush Turnpike

Improvement Code Legend (See Matrix)

1C-CB-SW-01

- 1C ← Station Number
- CB ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)

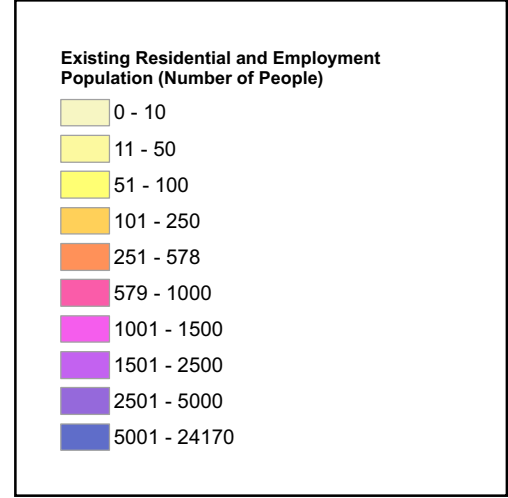


FTA DART Stations Last Mile Connections Galatyn Park Station November 2020



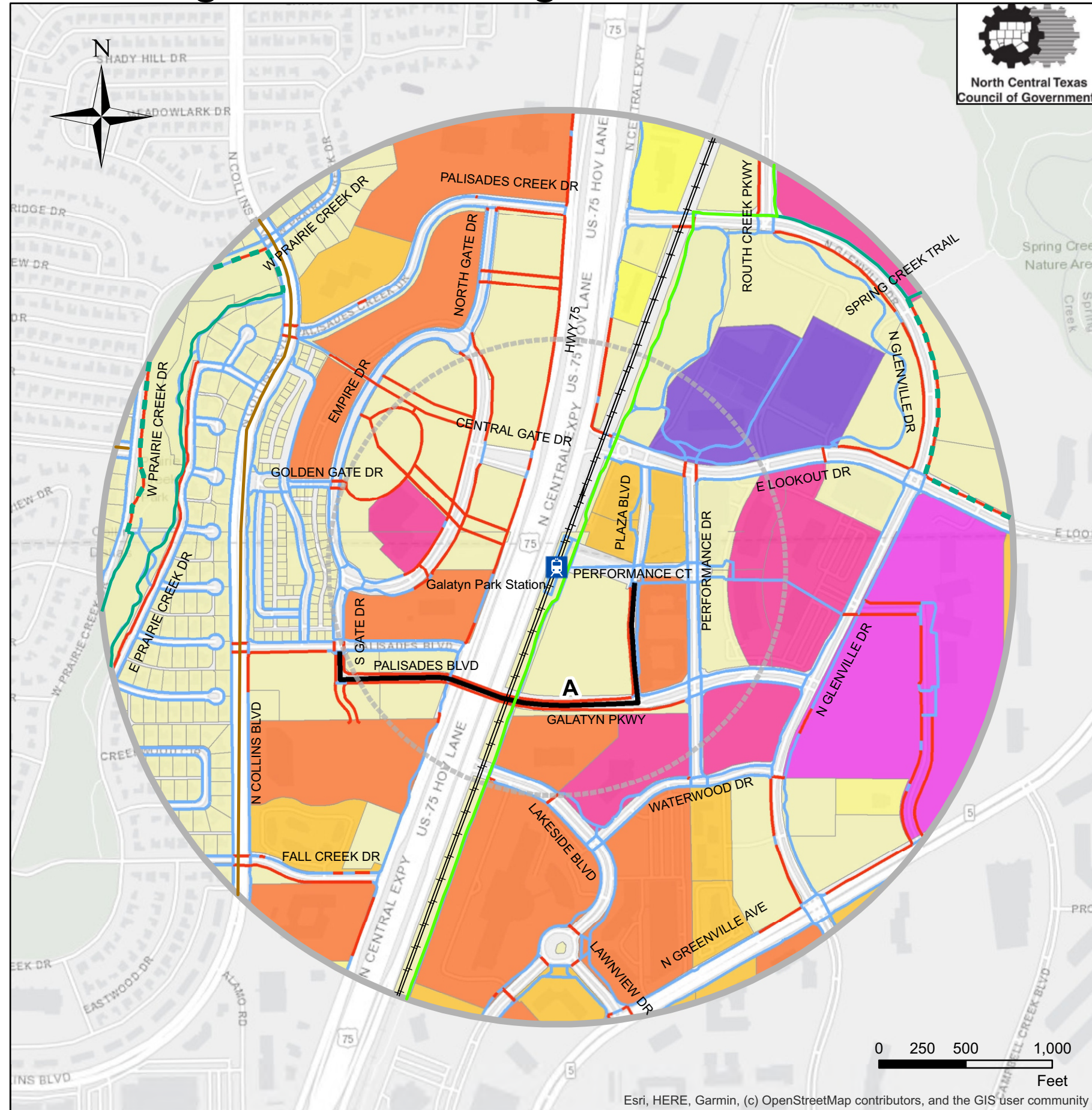
- Legend**
- DART Rail Station
 - Railroad Track
 - Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
 - Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
 - Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
 - Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
 - DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 2A-3 Existing Conditions



Primary Routes

Route	Street
A	Plaza Blvd/Galatyn Pkwy



Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

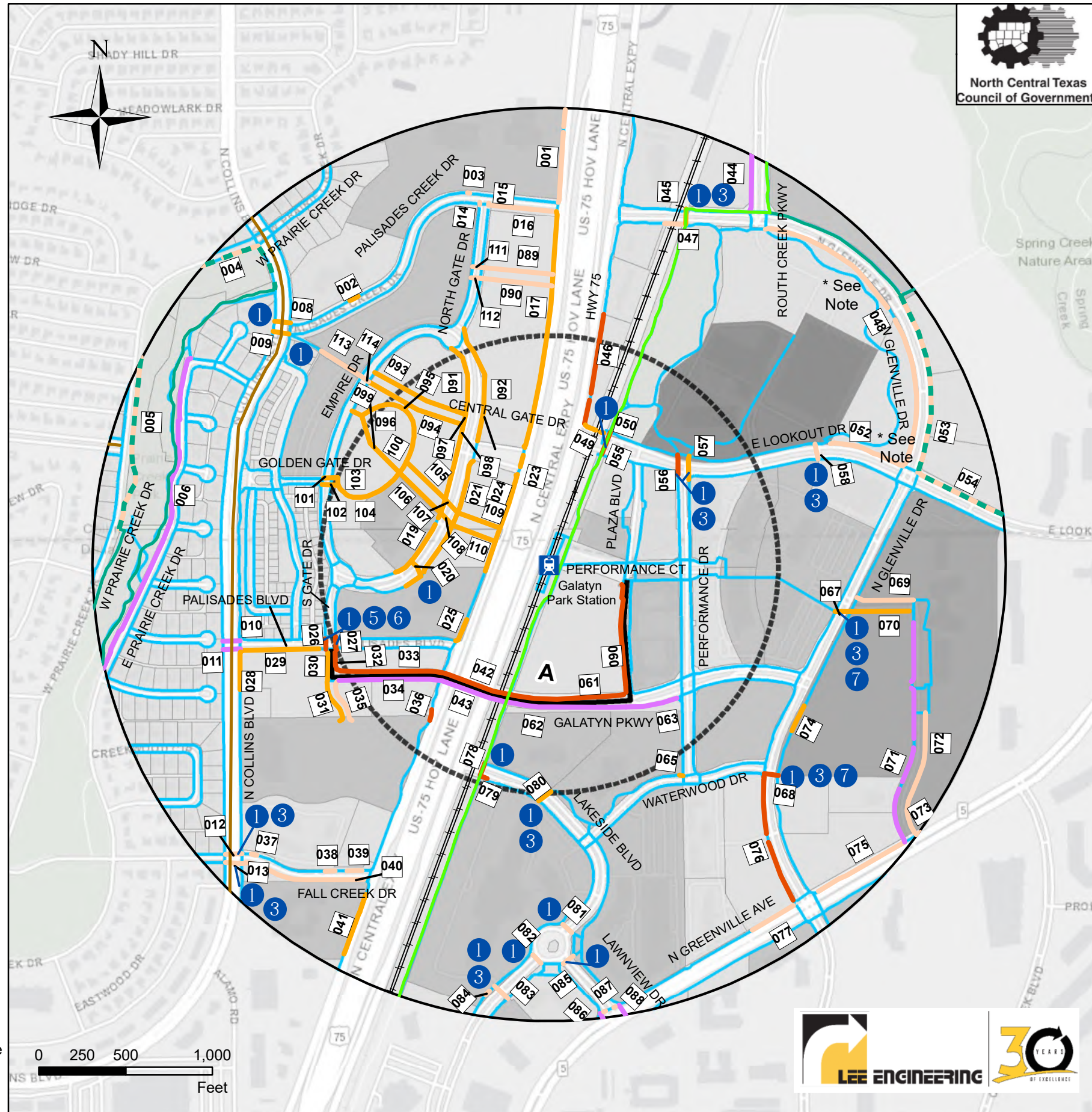
FTA DART Stations Last Mile Connections Galatyn Park Station November 2020



Figure 2A-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- Existing Residential and Employment Population (Number of People)**
- Ppl**
- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Plaza Blvd/Galatyn Pkwy

Improvement Code Legend (See Matrix)

- 2A-GP-SW-01
- 2A ← Station Number
 - GP ← Station Abbreviation
 - SW ← Sidewalk (or CW for Crosswalk)
 - 01 ← Improvement Number (Matches 1 on Map)

*Note: Existing path is a well-graded but soft-surface walking trail. If adjacent development does not upgrade it to a concrete sidewalk, consider upgrading and/or building new sidewalk closer to the Glenville Dr curbline.



The Galatyn Pkwy bridge over U.S. 75 is currently posted with a "No Pedestrians" prohibition. The bridge would either need to be widened to provide sidewalk, or a road diet would need to be implemented. Between the ramp signals, about 44 feet is allocated to four travel lanes. Narrowing lanes from 11 feet wide to 10 feet wide could provide space for a minimal 4-ft wide sidewalk on one side of the bridge only.

A better alternative for a road diet may be to reconsider the lane geometry of the tight-diamond interchange. Northbound and southbound vehicular through movements from the ramps are unnecessary and can be eliminated because the frontage roads provide through movements underneath the Galatyn Pkwy Bridge that does not require crossing Galatyn Pkwy at-grade via the ramps. With elimination of the through movements, the interchange could potentially be converted to a diverging diamond interchange (DDI) configuration with a single lane in each of the eastbound and westbound directions.

This configuration would require a median, but sidewalk could then be provided either along one side of the bridge or (as is relatively common in the DDI configuration) in the median between opposing lanes, each traveling in a counterflow direction. Geometric studies would be needed to see if such a configuration, including required signal displays, could fit on the existing bridge structure, while capacity analysis would be needed to evaluate the strategy's operational effectiveness relative to existing and projected future conditions with build-out of adjacent developments. However, despite the expectation of increased development and auto traffic in the area, the concept holds potential, since DDI's frequently outperform traditional tight diamond interchanges like the existing configuration by a large margin and/or with fewer lanes.

Drainage would need to be modified on the west bridge approach to add sidewalk, since grate inlets are present along the curb. On the east bridge approach, narrowing lanes from 11 feet wide to 10 feet wide (along with narrowing and realigning of the roadway median) could provide some of the space needed for new sidewalk, with additional space coming from the potential changes to lane configurations and phasing at the signalized interchange of Galatyn Pkwy with the U.S. 75 ramps.

In addition to new sidewalk in some locations to fill network gaps, other recommended improvements include:

- New crosswalks with rectangular rapid-flashing beacons (RRFB's) for crossing Glenville Dr at two locations (improvement 2A-GP-CW-67 and 68) across a long stretch where the street has no other controlled crossings. The northern location would connect existing sidewalk from the station to the Infosys corporate campus, but would require coordination with the private property owner to extend sidewalk to the building front doors.
- Marked crosswalks and pedestrian ramps to cross N Collins Blvd at Palisades Creek Dr, a wide crossing of an all-way stop-controlled intersection (improvements 2A-GP-CW-08 and 09).
- New signed, marked and lit crosswalks at the intersection of N Collins Blvd and Fall Creek Dr (improvements 2A-GP-CW-12 and 13). Add yield lines and "Yield Here to Pedestrians" signing in each direction approaching crosswalk to mitigate risk of dual threat situation for pedestrians. Consider additional improvements if a study of pedestrian volumes warrants them, given the long distance to stop-controlled crossing locations in either direction.

- Marked, signed, and lit crosswalks across Palisades Blvd at South Gate Dr (improvements 2A-GP-CW-26 and 27). Consider curb extensions or a median refuge island in the wide 34-ft roadway. Care should be taken to provide advance warning signs in the eastbound direction due to the crest vertical curve in the roadway to the west. Or, the potential also exists for revising traffic signage to make the north-south route primary. In addition, the Palisades master plan does include the possibility of Palisades Blvd abandonment east of Empire Dr.
- Pedestrian or bicycle/pedestrian warning signs and white crosswalk lines parallel to the existing crosswalks for the Central Trail crossings of N Glenville Dr, E Lookout Dr, and Lakeside Blvd and at the intersection of E Lookout Dr and Performance Dr (improvements 2A-GP-CW-45, 55-57, and 78). The existing crosswalks have a faded, non-conforming brick pattern and dark outlines. White edge lines as traffic control devices are required to make crosswalks legally enforceable. Add yield lines and "Yield Here to Pedestrians" signing in each direction approaching the crosswalks across N Glenville Dr and at the intersection of E Lookout Dr and Performance Dr to mitigate the risk of a dual threat situation for pedestrians.
- A marked crosswalk at the existing signed pedestrian crossing across E Lookout Dr midway between Performance Dr and N Glenville Dr (improvements 2A-GP-CW-58). Add yield lines and "Yield Here to Pedestrians" signing in each direction approaching the crosswalk to mitigate the risk of a dual threat situation for pedestrians.
- Marked crosswalks at the existing signed pedestrian crossing across Lakeside Blvd between Central Trail and Waterwood Dr (improvement 2A-GP-CW-80). Add yield lines and "Yield Here to Pedestrians" signing in each direction approaching the crosswalks to mitigate the risk of a dual threat situation for pedestrians.
- White edge lines on the outside of brick crosswalks at the roundabout entries and exits where Lakeside Blvd intersects Lawnview Dr (improvements 2A-GP-CW-81, 82 and 85). White edge lines as traffic control devices are required to make crosswalks legally enforceable. Also, the only way to reach the roundabout crosswalks from adjacent sidewalks is via stairs to/from the sidewalks above. Explore alternatives for ADA-compliant access, and add pedestrian ramps at each crosswalk.
- A marked crosswalk at the existing signed pedestrian crossing across Lakeside Blvd mid-block between Lawnview Dr and the southern study boundary (improvement 2A-GP-CW-83). Add yield lines and "Yield Here to Pedestrians" signing in each direction approaching the crosswalk to mitigate risk of dual threat situation for pedestrians.

Many missing sidewalks will be constructed by the Palisades development as it is completed just west of Central Expy and the station. The developer will bear the cost for these improvements.

Additional details about other improvements recommended in Figure 2A-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Galatyn Park Station that can be found in **Appendix J**.



Arapaho Center Station

Figure 2B-3 illustrates the existing conditions in the half-mile area around the Arapaho Center Station. Central Expy (U.S. 75), Collins Blvd, and Arapaho Road are all arterials that provide barriers to multi-modal travel to and from the station. Due to a lack of street and intersection density in the areas east of the station, multi-modal travel to and from that direction is significantly more circuitous, and a large number of auto-oriented businesses and offices with large parking lots also impede connectivity.

The Central Trail provides multi-modal access along the east side of Greenville Ave north of the station, switching to the west side of Greenville Ave south of the station via the tunnel between the train platform and the park & ride lot/bus loop. A local shared use path is present along the west side of Alma Rd from Collins Blvd to Woodall Dr, while on-street bike lanes are provided along both Greenville Ave and Alma Rd for the length of the study area, as well as along Collins Blvd east of Alma Rd.

Figure 2B-4 shows the recommended improvements in the half-mile area around the Arapaho Center Station. Coordination between the City, DART, and adjacent private property owners would be required to construct a sidewalk connection southwest of the train platform to connect more directly to the U.S. 75 northbound frontage road and the businesses located there (improvement 2B-AC-SW-37). Also highly recommended is the construction of sidewalk fronting several of those businesses farther south (improvement 2B-AC-SW-37).

A shared use pathway as part of the Regional Veloweb network is planned along the Kansas City Southern rail line entering the north part of the study area and connecting to Collins Blvd west of U.S. 75 (improvement 2B-AC-VW-V01). A sidewalk connecting this improvement and the existing sidewalk along the west side of Collins Blvd to the sidewalk along the U.S. 75 southbound frontage road should be constructed as well (improvement 2B-AC-SW-03).

The City of Richardson is planning local shared use paths along the south side of Arapaho Rd west of Greenville Ave and along the Kansas City Southern freight rail line southeast from its crossing of Alma Rd. On-street bike lanes are planned for Collins Blvd west of Alma Rd and across the bridge over U.S. 75. The City of Richardson plans to implement a road diet on the Collins Blvd bridge that will allow for wider sidewalks and protected bike lanes. The project should include signed and marked crosswalks with pedestrian-actuated rectangular rapid-flashing beacons (RRFB's) for crossing each of the four ramps between Collins Blvd and the U.S. 75 frontage roads, since the geometry of these ramps is conducive to high vehicular speeds.

Two new crosswalks are recommended for crossing Richardson Dr. One is recommended south of Monte Blaine Ln (improvement 2B-AC-CW-53), where the existing sidewalk on the west side ends and the City's zoning code precludes removal of hedges from a narrow space to the south. The hedges provide necessary screening and would need to be removed to add sidewalk (improvement 2B-AC-CW-55), so the crosswalk will provide an alternate route via new and proposed sidewalk on the west side. The other crosswalk location (improvement 2B-AC-CW-53) aligns with an existing break in the hedges that aligns with the east end of Jolee St (which does not connect for car traffic to Richardson Dr).

Both crosswalks must be designed carefully to maximize sight distance around the hedges and the tree-lined horizontal curves in the roadway geometry. Both should include yield lines and "Yield

Here to Pedestrians" signing in each direction to mitigate risk of dual threat situation for pedestrians. Give strong consideration to installing pedestrian-actuated rectangular rapid flashing beacons (RRFB's), particularly due to the sight distance limitations. A road diet to introduce curb extensions and/or a median refuge island for pedestrians might also be considered to increase available pedestrian sight distance.

Additional details about other improvements recommended in Figure 2B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Arapaho Center Station that can be found in **Appendix J**.





Arapaho Center Station

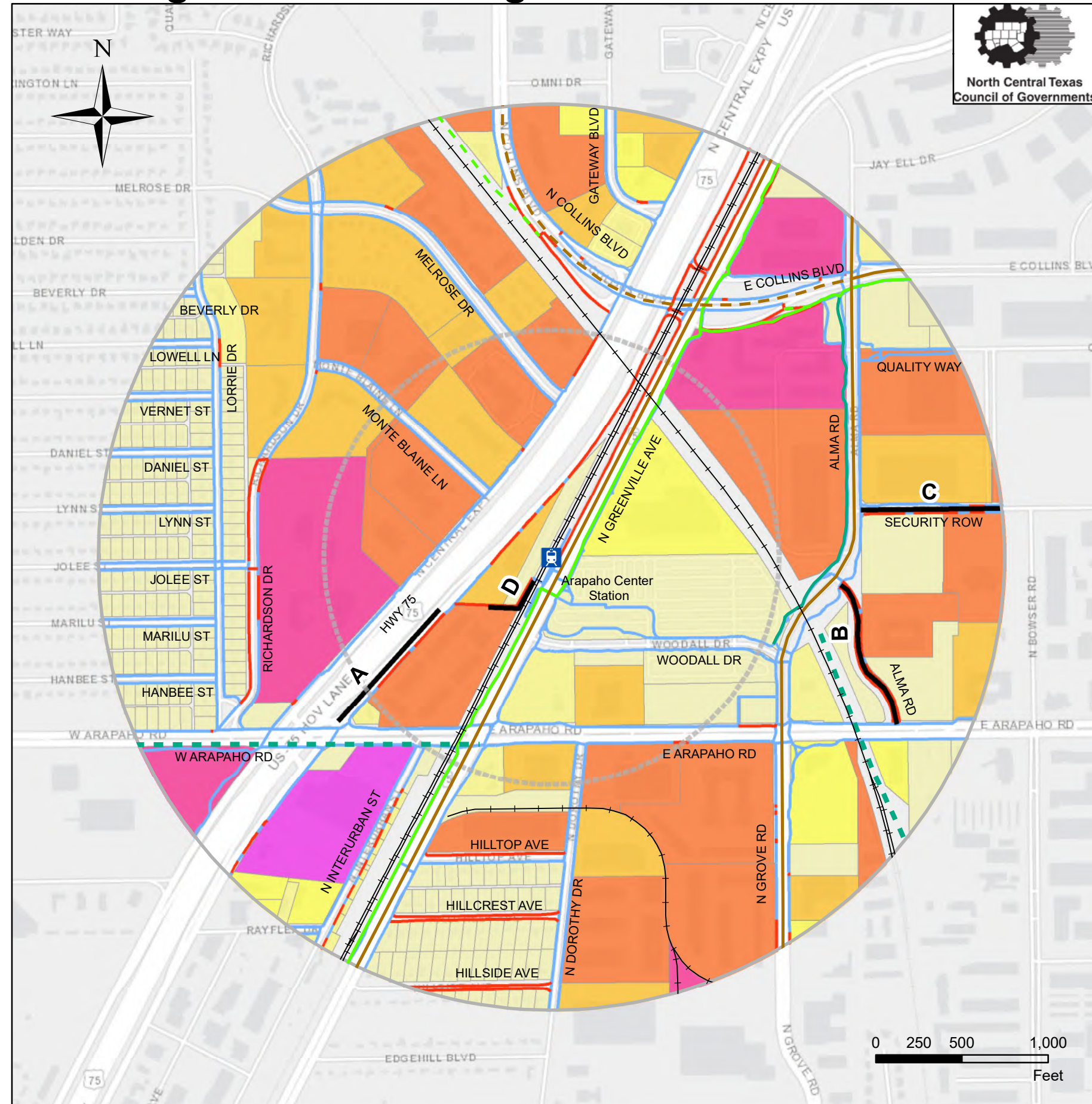
November 2020

Figure 2B-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Central Expwy
B	Alma Rd
C	Security Row
D	DART/Private ROW



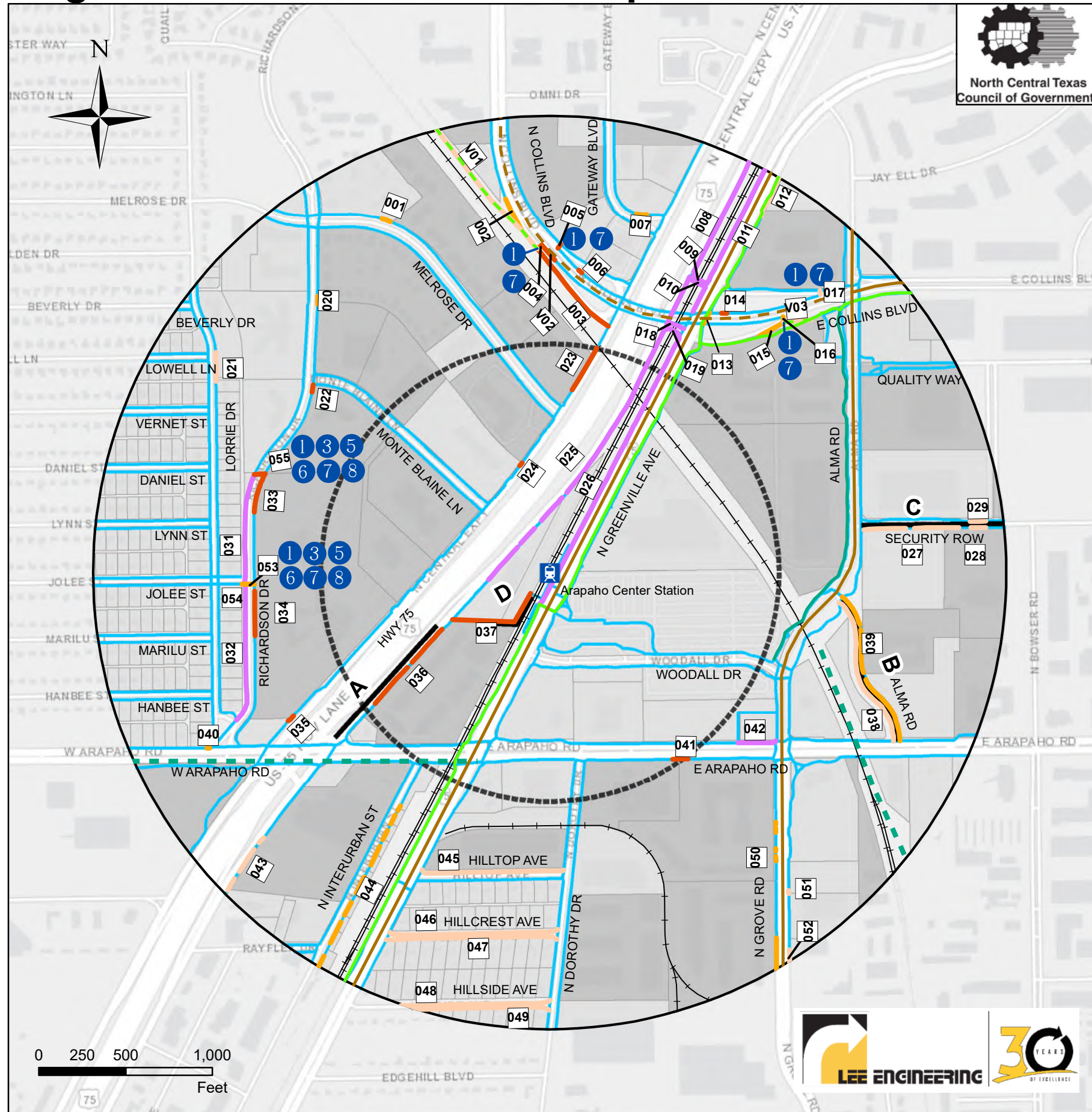
FTA DART Stations Last Mile Connections Arapaho Center Station November 2020



Figure 2B-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- Existing Residential and Employment Population (Number of People)**
- Ppl**
- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Central Expy
B	Alma Rd
C	Security Row
D	DART/Private ROW

Improvement Code Legend (See Matrix)
2B-AC-SW-01
2B ← Station Number
AC ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)



Spring Valley Station

Figure 2C-3 illustrates the existing conditions in the half-mile area around the Spring Valley Station. U.S. 75, Spring Valley Rd, and Centennial Blvd are major arterials that pose barriers to bicycle and pedestrian travel, though signalized crossings generally provide good access opportunities. Access to the transit-oriented development east of the station is good with new sidewalk, though somewhat indirect. The area west of U.S. 75 is only accessible to the station by traveling south along the southbound frontage road to the intersection with Spring Valley Ln, slightly outside the study half-mile area. Several gaps in the sidewalk are present along the U.S. 75 frontage roads and along the neighborhood streets east of Greenville Ave.

The Central Trail runs parallel to the DART track on the east side to the north of the station and crosses under the DART overpass just south of Spring Valley Rd to an alignment west of the tracks south of the station to Buckingham Dr.

Figure 2C-4 shows the recommended improvements in the half-mile area around the Spring Valley Station. In addition to building sidewalk to fill gaps in the network, the recommended improvements include:

- At the west end of McKamy Springs Ct, consider providing short break in the existing fence to provide a sidewalk connection to the Central Trail. This would require removal of a short section of fence and part of a short retaining wall, as well as a few medium-sized trees, but would provide a shorter walking distance to the station for many apartment and townhome residents to the east. The City of Richardson indicates they will need to work with the property owner on whether they have a desire for this improvement.
- New or improved crosswalks across Lingco Dr between the station platform and park & ride lot, across Sherman St at Lingco Dr, and across Greenville Ave at Pittman St (improvements 2C-SV-CW-16, 17 and 38). Yield lines, "Yield Here to Pedestrians" signing, and a pedestrian refuge island are recommended at the Lingco Dr and Greenville Ave crossings, while pedestrian-actuated RRFB's are recommended at Lingco Dr. The Lingco Dr crossing should be coordinated with DART, as discussed in Section 3.1.4.
- New yield lines and "Yield Here to Pedestrians" signing for the two lanes in each direction approaching the existing signed and marked crosswalk across Greenville Ave at E Phillips St, near the northeast half-mile area boundary (improvements 2C-SV-CW-30 and 31). Consider adding a pedestrian hybrid beacon if warranted by a study of pedestrian volumes during arrival and dismissal times for the First Baptist Church of Hamilton Park and the Richardson ISD Math Science Technology magnet school, both located nearby to the east.
- White crosswalk lines parallel to the existing patterned concrete crosswalk across Buckingham Rd at the Central Trail crossing (improvement 2C-SV-CW-27), which already has lighting, pedestrian ramps and a median refuge. White edge lines as traffic control devices are required to make crosswalks legally enforceable. Add pedestrian warning signs at the crosswalk and advance pedestrian warning signs for the eastbound direction (currently installed only for westbound). Add yield lines and "Yield Here to Pedestrians" signing for both directions to mitigate the risk of a dual threat situation for pedestrians. Consider a traffic signal to facilitate crossings, particularly in conjunction with the future extension of the Central Trail south of Buckingham Rd at this location. A full traffic signal should be considered

instead of a RRFB or pedestrian hybrid beacon due to the adjacency to the existing DART railroad crossing gates and potential driver confusion with alternative meanings of flashing red lights.

As discussed in Section 3.1.4, some pedestrians were observed crossing Spring Valley Rd, a busy six-lane arterial, directly below the rail overpass instead of at the adjacent signalized crosswalks at Lingco Dr 200 feet to the west or Spring Valley Rd 200 feet to the east. The alignment of the Central Trail, which intersects the Spring Valley Rd sidewalks here without a direct crosswalk, likely contributes to this behavior. A crosswalk improvement for more direct pedestrian travel along the trail would pose an undue constraint on vehicular signal coordination given the short distance to the signalized crosswalks. The City of Richardson should coordinate with DART to consider adjusting the location of bus stops and installing aesthetic anti-climb median fencing (improvement 2C-SV-GR-25) along the median of Spring Valley Rd in front of the DART station to ensure pedestrians cross at the crosswalks.

The City of Richardson is planning to widen the sidewalk on the north side of Spring Valley Rd west of the station to become a shared use path on the Regional Veloweb network. East of the station, the sidewalk on the north side would also be widened for a local shared use path that continues to Greenville Ave and along the west side of Greenville Ave north of Spring Valley Rd. The Central Trail is planned to be extended south of Buckingham Dr parallel to the DART tracks on the east side.

Additional details about other improvements recommended in Figure 2C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Spring Valley Station that can be found in **Appendix J**.



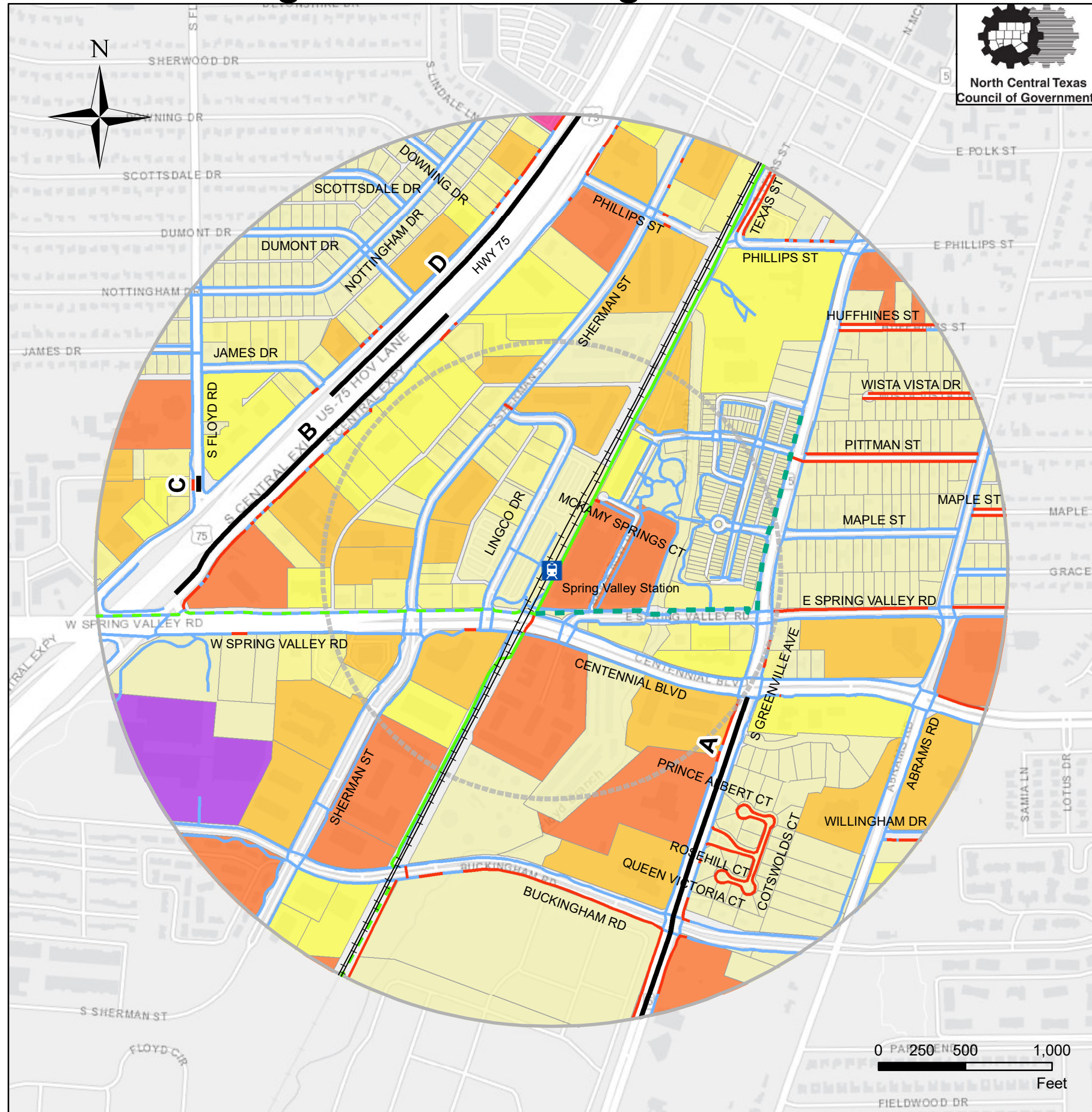
FTA DART Stations Last Mile Connections Spring Valley Station December 2020



Figure 2C-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	S Greenville Ave
B	S Central Expy
C	S Floyd Rd
D	S Central Expy

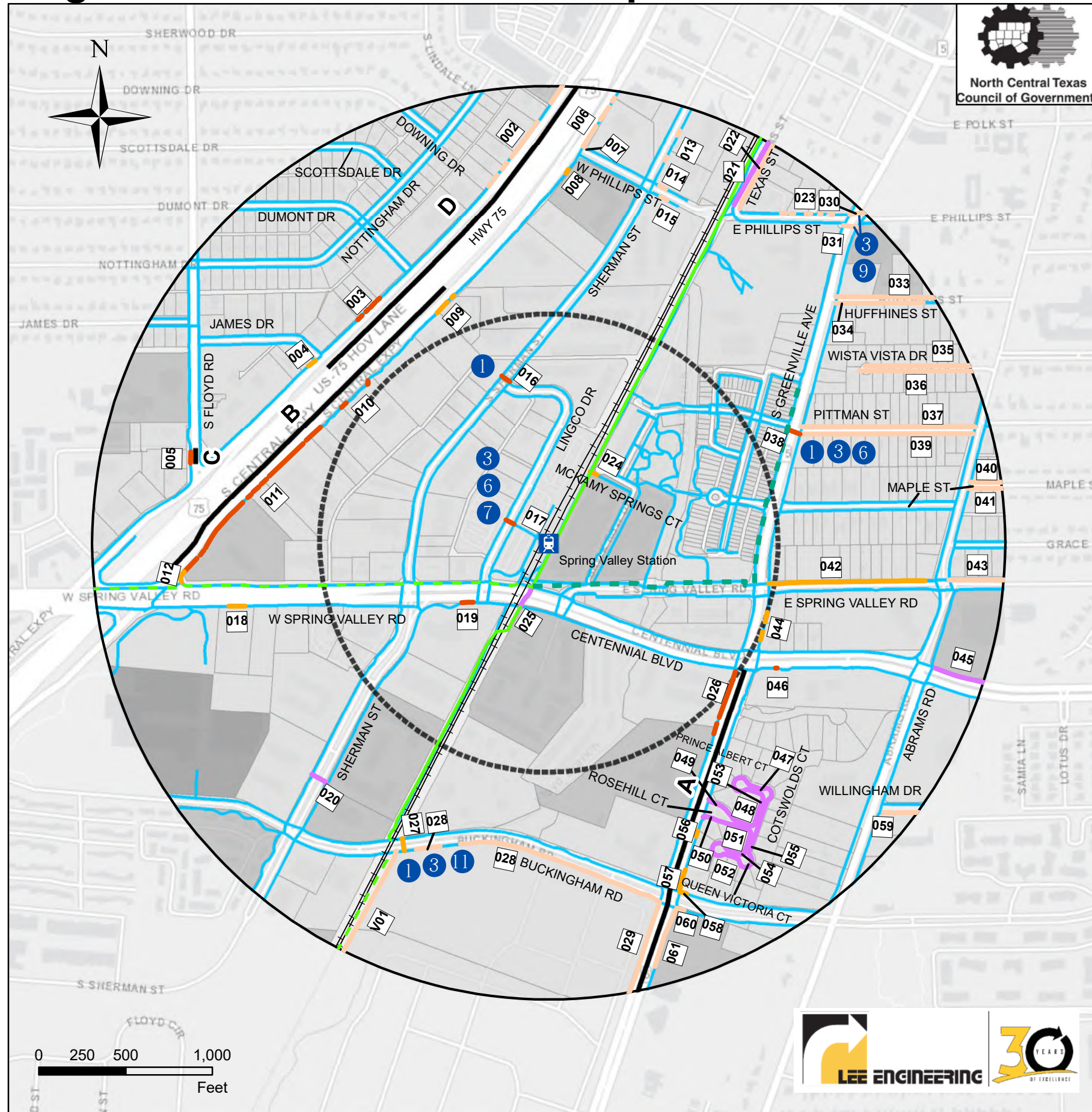
FTA DART Stations Last Mile Connections Spring Valley Station November 2020



Figure 2C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)
 - Ppl
 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	S Greenville Ave
B	S Central Expy
C	S Floyd Rd
D	S Central Expy

Improvement Code Legend (See Matrix)

2C-SV-SW-01

2C ← Station Number
SV ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)



Downtown Garland Station

Figure 3A-3 illustrates the existing conditions in the half-mile area around the Downtown Garland Station. The lack of sidewalk along significant portions of Walnut St, N 1st St, and W Ave B pose significant barriers to multi-modal travel along those arterials. Many industrial and downtown streets such as N 5th St and Main St also lack sidewalk. While the current land uses along many of these streets (industrial, auto repair shops, etc.) do not typically correlate to large numbers of walking and biking trips, the lack of sidewalk may be a barrier to employment for some and also hinders redevelopment opportunities.

On-street bike lanes are present along Main St from 7th St toward the west, as well as along Glenbrook Dr south of Main St.

Figure 3A-4.1 shows the recommended improvements in the half-mile area around the Downtown Garland Station. **Figure 3A-4.2** provides a zoomed-in view of a portion of the station area with a dense concentration of improvements. The improvements highlighted in yellow along Walnut St, 1st St, 5th St, Main St, and Walnut Cir were selected by NCTCOG for 15% sidewalk design by the consultant team.

In addition to building sidewalk where absent, recommended improvements include:

- For crossing 5th St just south of the DART tracks (improvement 3A-DG-CW-216), the City should install white crosswalk lines parallel to existing brick crosswalk that already has pedestrian-actuated rectangular rapid flashing beacons (RRFB's) installed. White edge lines as traffic control devices are required to make crosswalks legally enforceable. Add yield line and "Yield Here to Pedestrians" signing for southbound direction where the street is merging from two lanes to one near the crosswalk to mitigate risk of dual threat situation for pedestrians.
- For crossing 6th St just south of the DART tracks (improvement 3A-DG-CW-215), the City should add a new marked crosswalk with warning signs and lighting. This will be a direct route between the station and Heritage Crossing multi-family development about to occur to the west.
- The City should provide high-visibility signed and marked crosswalks along 7th St at its crossings with Austin St, State St, and Main St (improvements 3A-DG-CW-217 to 222).
- For crossing W Ave A at 6th St, (improvements 3A-DG-CW-223 and 224), add advance yield lines and "Yield Here to Pedestrians" signing in advance of existing signed and marked crosswalk in front of Garland Senior Activity Center. Consider pedestrian-actuated rectangular rapid flashing beacons (RRFB's) and/or a road diet to implement curb extensions or a median refuge.
- Across the east leg of the signalized intersection of 1st St, Main St, Lavon Dr and Bankhead St (improvement 3A-DG-CW-154), the former crosswalk was removed in recent years due to the long crossing and complicated vehicular signal phasing for the congested intersection. The City should consider construction of refuge islands and/or other geometric and phasing changes to enable re-introduction of the crosswalk.

- Consider adding pedestrian-actuated rectangular rapid flashing beacons (RRFB's) to the existing signed and marked north leg crosswalk near the new mid-rise apartments south of W Ave A between Glenbrook Dr and 7th St (improvement 3A-DG-CW-225).

The City of Garland is planning on-street bikeways along Walnut St, Austin St, and 5th St. An additional on-street bikeway is funded along Glenbrook Dr north of Main St.

The City of Garland should coordinate with DART to improve the safety of crossings between the rail station and the bus station/park and ride lot on opposite sides of Walnut St. Many DART riders were observed crossing mid-block between 4th St and 5th St despite the presence of signalized crosswalks at both intersections. As recommended in Section 3.1.1, anti-climb median fencing mounted on top of concrete traffic barrier should be considered for this location.

Additional details about other improvements recommended in Figure 3A-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Downtown Garland Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Downtown Garland

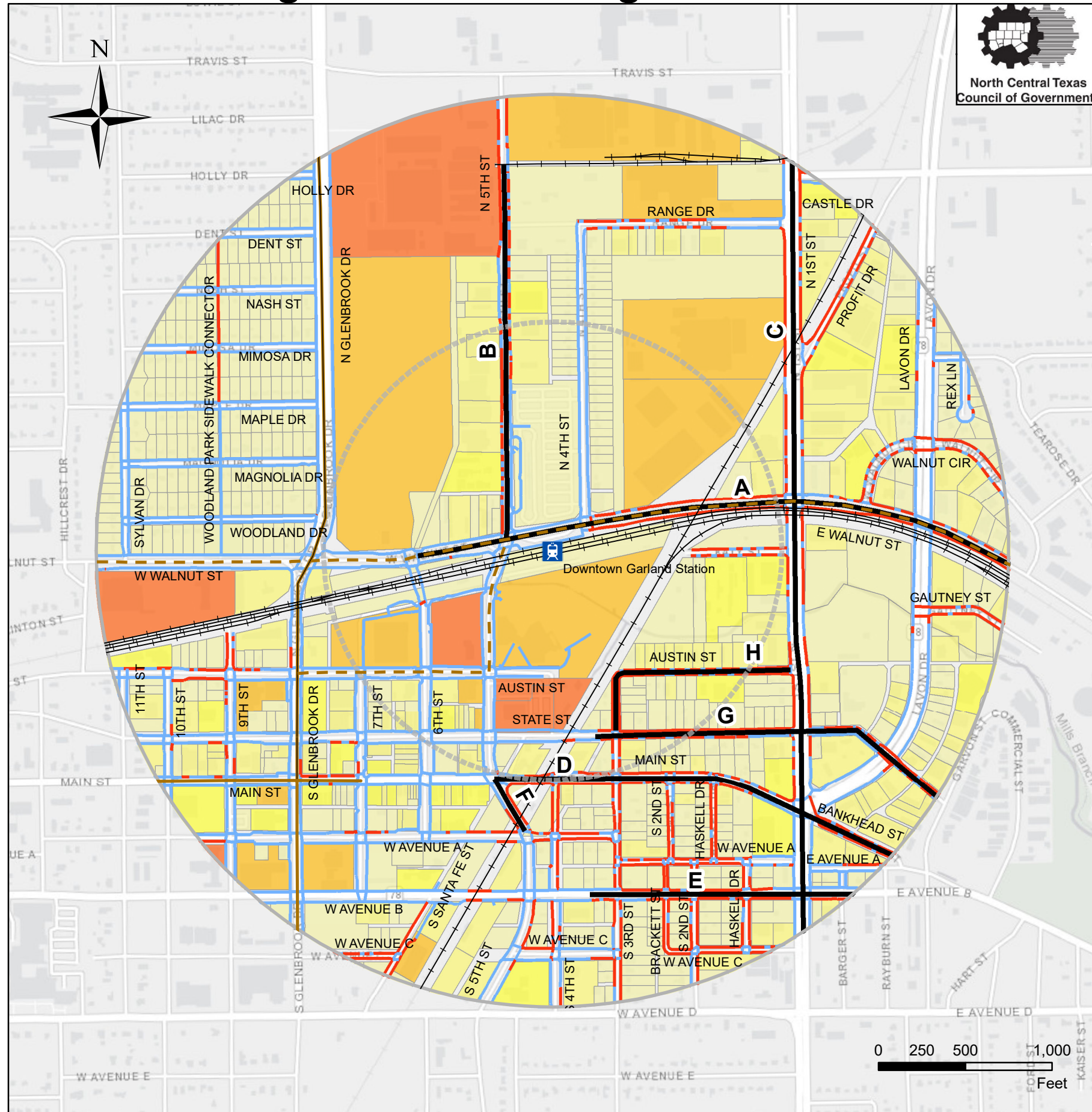
Station
December 2020



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 3A-3 Existing Conditions



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Walnut St
B	N 5th St
C	1st St
D	Main St/Bankhead St
E	W Avenue B
F	S 5th St
G	State St
H	Austin St

FTA DART Stations Last Mile Connections Downtown Garland Station November 2020

Figure 3A-4.2 Recommended Improvements Inset Detail

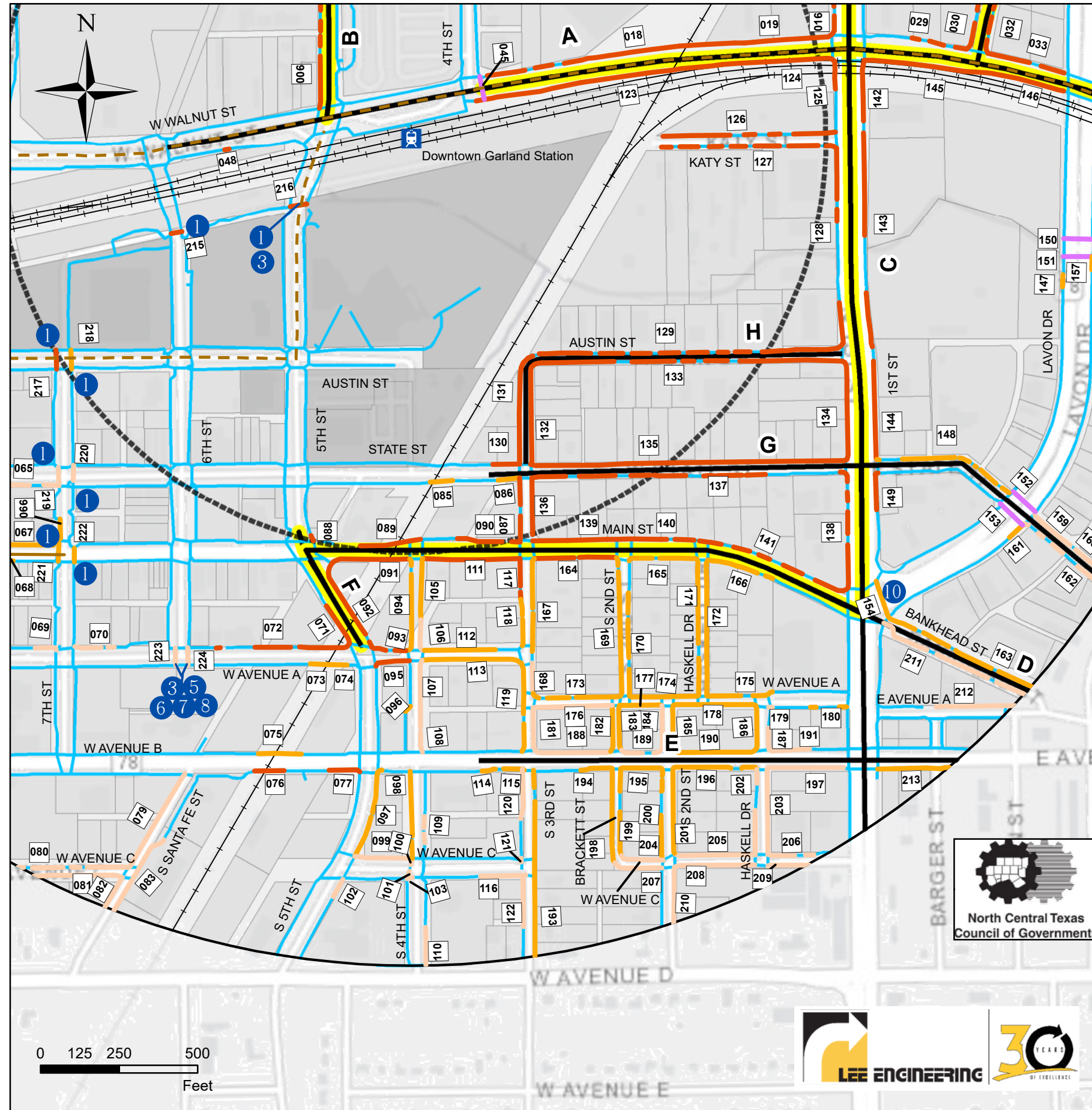


Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority 1**
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- 15% Design Corridors

Existing Residential and Employment Population (Number of People)

- Ppl
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- Traffic Signal

Primary Routes

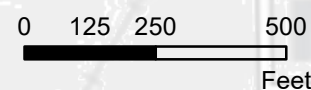
15% Design Corridors

Route	Street
A	Walnut St
B	N 5th St
C	1st St
D	Bankhead St
E	W Avenue B
F	S 5th St
G	State St
H	Austin St
K	Walnut Cir

Improvement Code Legend (See Matrix)

3A-DG-SW-01

- 3A ← Station Number
- DG ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



Forest Jupiter Station

Figure 3B-3 illustrates the existing conditions in the half-mile area around the Forest Jupiter Station. Except for the residential neighborhood west of Jupiter Rd and north of Forest Ln, this station serves an area that is mostly industrial in nature. A lower density of streets and intersections, combined with the barrier of the DART rail line itself, requires long walks or bike rides to reach the station from many of the adjacent industrial employment centers. Sidewalk is present and in good condition along Forest Ln, but Jupiter Rd, International Rd, and Miller Park Dr all have lengthy sidewalk gaps.

Figure 3B-4 shows the recommended improvements in the half-mile area around the Forest Jupiter Station. The improvements highlighted in yellow along Jupiter Rd, Kirby St, and the DART tracks were selected by NCTCOG for 15% sidewalk/shared use path design by the consultant team.

The City of Garland is beginning construction on a sidewalk project that will fill sidewalk gaps and make other improvements to existing sidewalk along Barnes Dr north of the station. The improvements will continue east along Edgewood Dr from its intersection with Barnes Dr to points beyond the half-mile station area. Improvement locations 3B-FJ-SW-009 through 011 are thus designated to be "built by others" as part of this project.

The City is also planning a local shared use path along the north side of the DART tracks west of the station (improvement 3B-FJ-SP-033), which will cross Jupiter Rd (at improvement 3B-FJ-CW-034). At this location, the City should add crosswalk markings, signing, and lighting. The City may wish to construct a full pedestrian traffic signal instead of an RRFB or pedestrian hybrid beacon due to the adjacency to railroad crossing gates and potential confusion with alternative meanings of flashing red lights. (Note that while the DART line bridges over roadway, parallel railroad tracks cross at grade). The need for this improvement is contingent on construction of both the local shared use-path to the west and the shared use path to the east which will connect to the station platform (improvement 3B-FJ-SP-038). Refer to Section 3.1.2 for more details about the eastern segment.

In addition to building sidewalk where absent, other recommended improvements include:

- For the existing signed and marked crosswalk across Jupiter Rd at Edgewood Dr (improvement 3B-FJ-CW-007), the City should consider replacing the existing rapid rectangular flashing beacon (RRFB) system with a pedestrian hybrid beacon. The procedure outlined in the Federal Highway Administration's (FHWA) recent publication, "Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations" (July 2018) indicates that RRFB's may not be sufficiently visible to drivers on six-lane, high-speed, high-volume streets such as Jupiter Rd.
- Add signed and marked crosswalks across each leg of the Miller Park Dr roundabout (improvements 3B-FJ-CW-047 through 052). Crosswalks should either be placed where existing streetlighting is present, or new streetlighting should be installed. Include sidewalk segments for crossing the wide splitter islands.

The City of Garland is also planning on-street bikeways along Barnes Dr and International Rd.

Additional details about other improvements recommended in Figure 3B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Forest Jupiter Station that can be found in **Appendix J**.

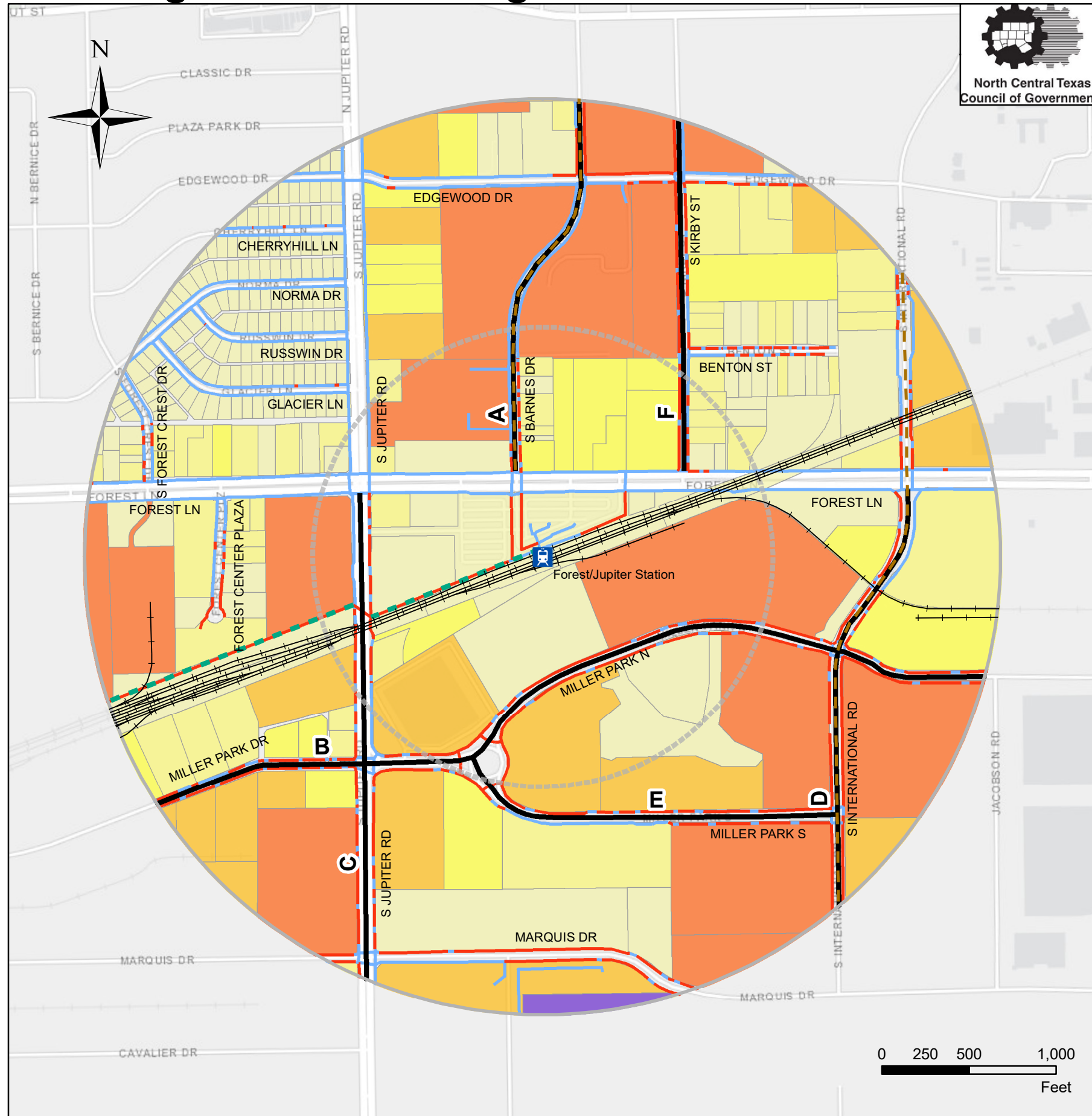
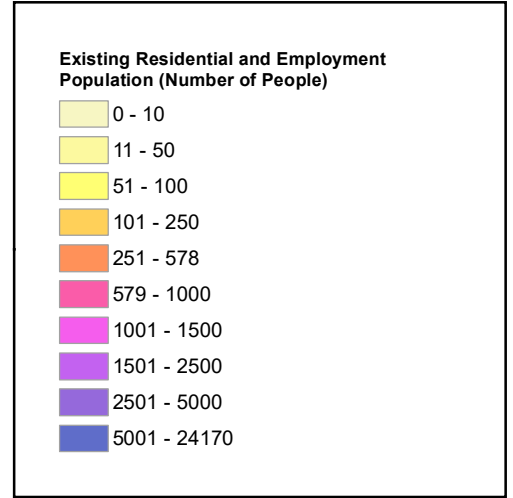


FTA DART Stations Last Mile Connections Forest Jupiter Station December 2020



- Legend**
- DART Rail Station
 - Railroad Track
 - Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
 - Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
 - Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
 - Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
 - DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 3B-3 Existing Conditions



Primary Routes

Route	Street
A	S Barnes Dr
B	Miller Park N
C	S Jupiter Rd
D	S International Rd
E	Miller Park S
F	N Kirby St
G	DART Shared Use Path

FTA DART Stations Last Mile Connections Forest Jupiter Station November 2020



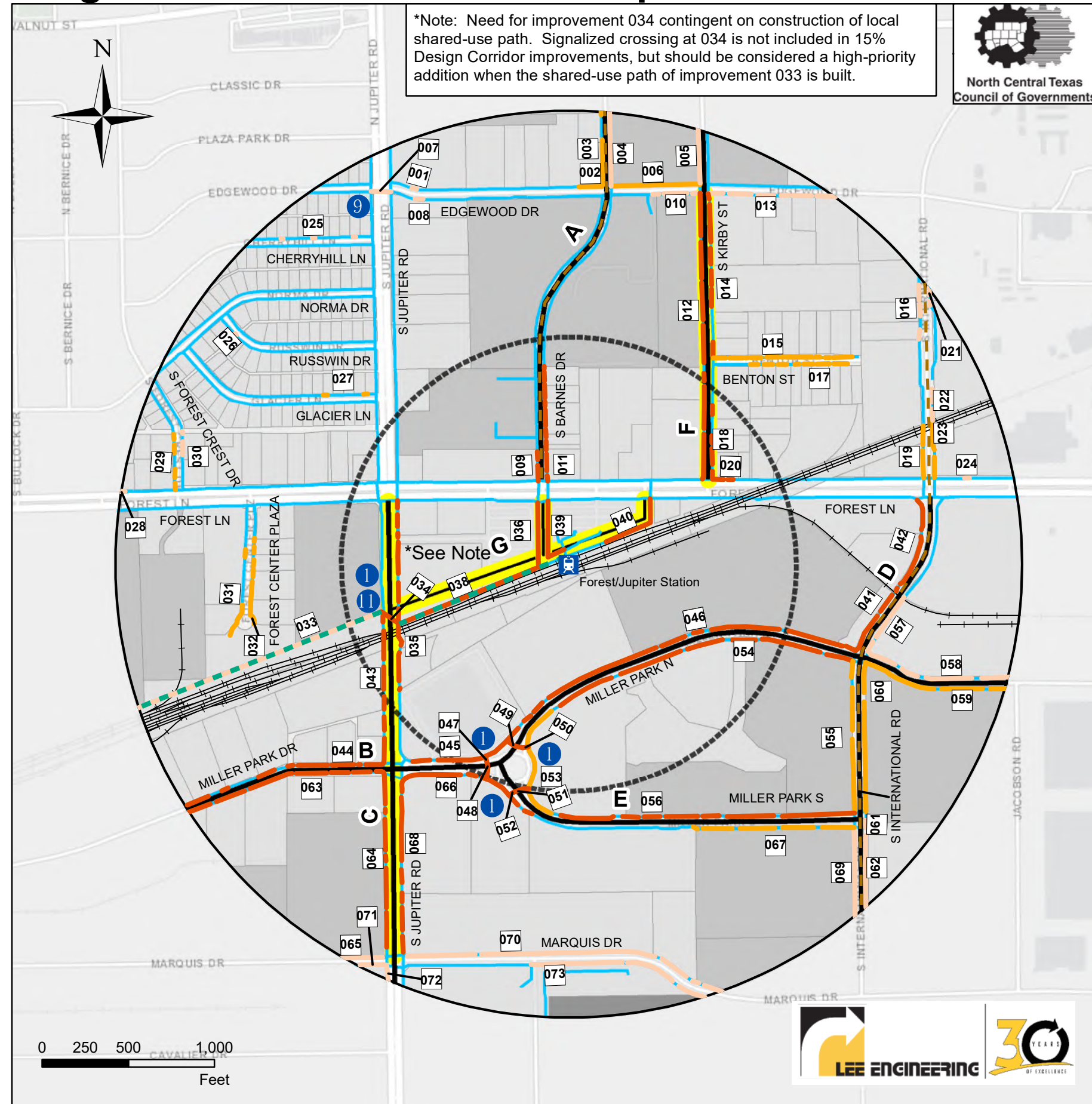
Figure 3B-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority 1**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
 - 15% Design Corridors
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- Traffic Signal

Primary Routes	
15% Design Corridors	
Route	Street
A	S Barnes Dr
B	Miller Park N
C	S Jupiter Rd
D	S International Rd
E	Miller Park S
F	N Kirby St
G	DART Shared Use Path

Improvement Code Legend (See Matrix)

3B-FJ-SW-01

3B ← Station Number
FJ ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)



LBJ Central Station

Figure 3C-3 illustrates the existing conditions in the half-mile area around the LBJ Central Station. IH-635 forms a significant barrier to multi-modal travel to and from the north that is exacerbated by the lack of sidewalk along the west side of TI Blvd and narrow sidewalk along the east side. The station has good sidewalk access to one newer apartment complex directly to its east and to the Texas Instruments campus to the south. However, connectivity to other apartment buildings along Markville Dr to the southeast and to the single family residential neighborhood to the west suffers due to sidewalk gaps. TI Blvd south of the station is also without bicycle or pedestrian facilities, but there are no developed land uses along this stretch that are not closer to Forest Lane Station.

Figure 3C-4 shows the recommended improvements in the half-mile area around the LBJ Central Station.

A new Regional Veloweb shared use path is proposed to widen the existing sidewalk under the IH-635 bridges on the east side of TI Blvd. South of the station, the Veloweb alignment would continue in DART right-of-way along the west side of the tracks (3C-LC-VW-V03 and 3C-LC-VW-V04 in Figure 3C-4). Separately, the City of Dallas intends to construct sidewalk along both sides of the meandering alignment of TI Blvd south of the station (3C-LC-SW-037 and 3C-LC-SW-040 in Figure 3C-4), though without access points to adjacent land uses such as the Texas Instruments campus on the other side of the Floyd Branch creek, it's unclear this sidewalk will receive significant use where it meanders more than the direct alignment of the parallel Veloweb shared use path.

A new crosswalk with a pedestrian refuge island (or at a minimum, advanced yield signing and striping) and rectangular rapid flashing beacons (RRFB's) is recommended to serve users of the Veloweb shared use path where it will cross TI Blvd southwest of the station. A road diet along this section of TI Blvd would further facilitate construction of the refuge island, as the traffic volumes along this 4-lane undivided segment of TI Blvd appear to be below the capacity of a two-lane roadway.

Similar enhanced crosswalks with advanced yield lines and signing as well as RRFB's are recommended for crossing Markville Dr immediately south of the station (where a median refuge is already present) and at Vantage Point Dr (where the median nose should be extended with a pedestrian cut-through to provide better refuge).

Sidewalk improvements along the south side of Markville Rd will allow more comfortable pedestrian access to and from the station for apartment residents.

Location 3C-LC-SW-055 on Figure 3C-4 is shown as a gap to remain, representing a locked gate at the east boundary of the station property that is accessible to residents of the adjacent apartment complex only. This location is considered a gap for other pedestrians with origins or destinations farther east that will need to remain. Walking and biking routes for these destinations will need to continue to loop to the south via Vantage Point Dr and Markville Dr or north along the IH-635 frontage road to reach the station.

Additional details about other improvements recommended in Figure 3C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for LBJ Central Station that can be found in **Appendix J**.

Forest Lane Station

Figure 3D-3 illustrates the existing conditions in the half-mile area around the Forest Lane Station. Multimodal access to this station is generally as good as the connectivity of the surrounding street network will support. The Cottonwood Creek Trail passes in close proximity west of the station, with future plans to widen existing sidewalk for a wider connection to the station platform. This trail connects south to the White Rock Creek Trail and several other existing and planned multi-use trails also converge south of the station's half-mile area.

Figure 3D-4 shows the recommended improvements in the half-mile area around the Forest Lane Station. Recommended improvements include construction of a new Regional Veloweb shared use path in DART right-of-way along the west side of the tracks (3D-FL-VW-V01 and 3D-FL-VW-V02 in Figure 3D-4). The shared use path will intersect Forest Ln over 600 feet from the nearest signalized crosswalk in either direction, and many pedestrians and cyclists are likely to avoid this extra travel distance. Therefore, strong consideration should be given to an enhanced crosswalk with a pedestrian hybrid beacon at this location. Pedestrian hybrid beacons should also be considered for mid-block crossings of the U.S. 75 frontage roads near the western limits of the half-mile area boundary.

Each of the crosswalk locations mentioned should have advance "Yield Here to Pedestrians" signing and yield line striping (Item #3 in the "Possible Pedestrian Safety Countermeasures" legend). Located 20-50 feet in advance of a crosswalk (depending on approach speeds), the yield line and associated signs help mitigate the risk of the dual threat situation for pedestrians on multi-lane crosswalk approaches by providing adequate sight distance between the pedestrian and approaching traffic when a vehicle yielding too close to the crosswalk might otherwise obscure drivers' lines of sight.

Other improvements include sidewalk along both sides of the Forest Central Dr business park roadway and both sides of TI Blvd, both north and south of Forest Ln. Marked crosswalks and countdown, accessible pedestrian signals should be provided at the intersection of Forest Ln and TI Blvd.

Additional details about other improvements recommended in Figure 3D-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Forest Lane Station that can be found in **Appendix J**.



**FTA DART Stations
Last Mile Connections
LBJ Central
Station
November 2020**

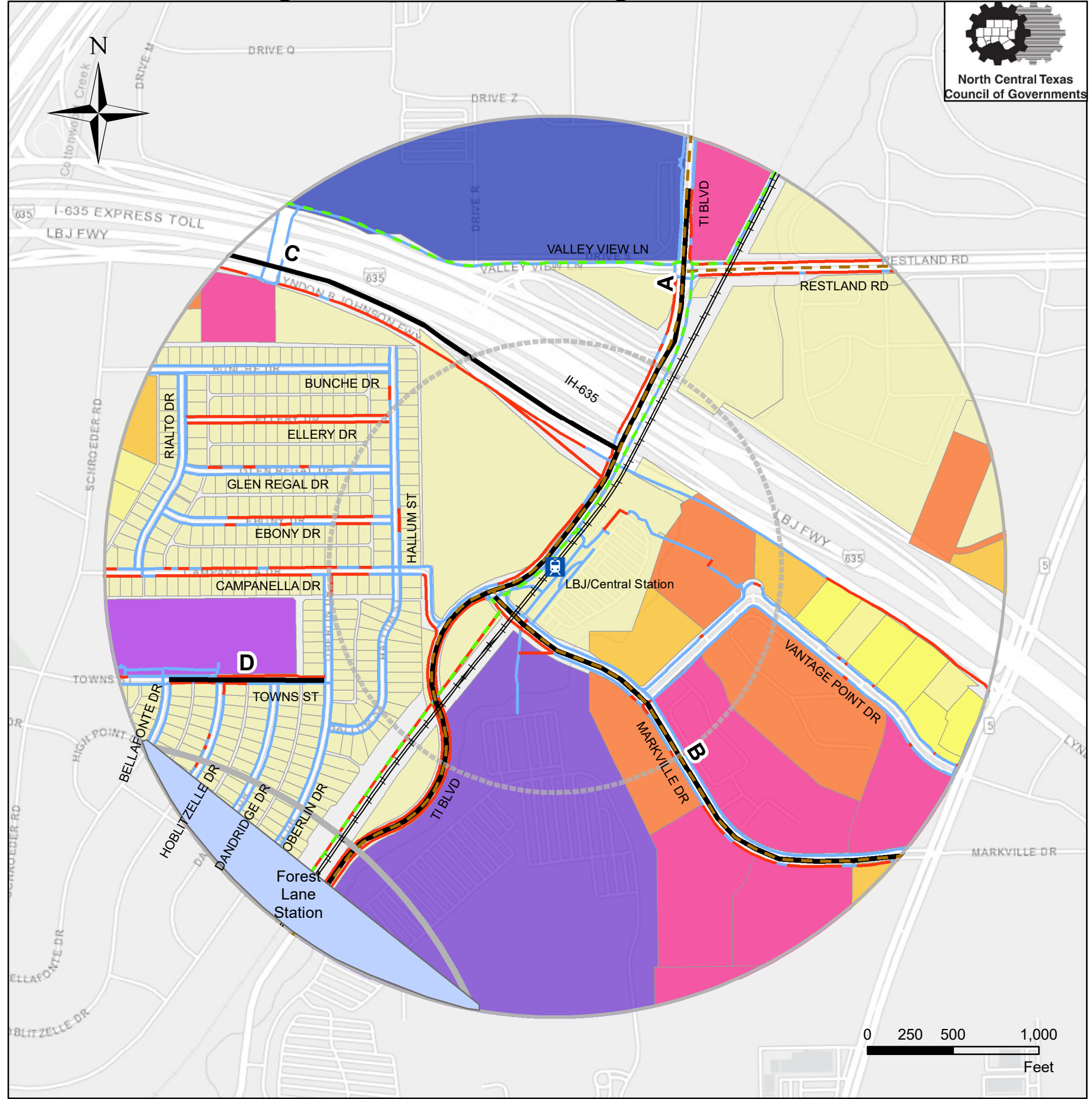


Figure 3C-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

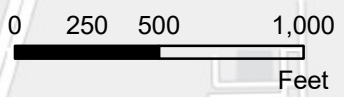


Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	TI Blvd
B	Markville Dr
C	IH-635 EB Service Rd
D	Towns St



FTA DART Stations Last Mile Connections LBJ Central Station November 2020



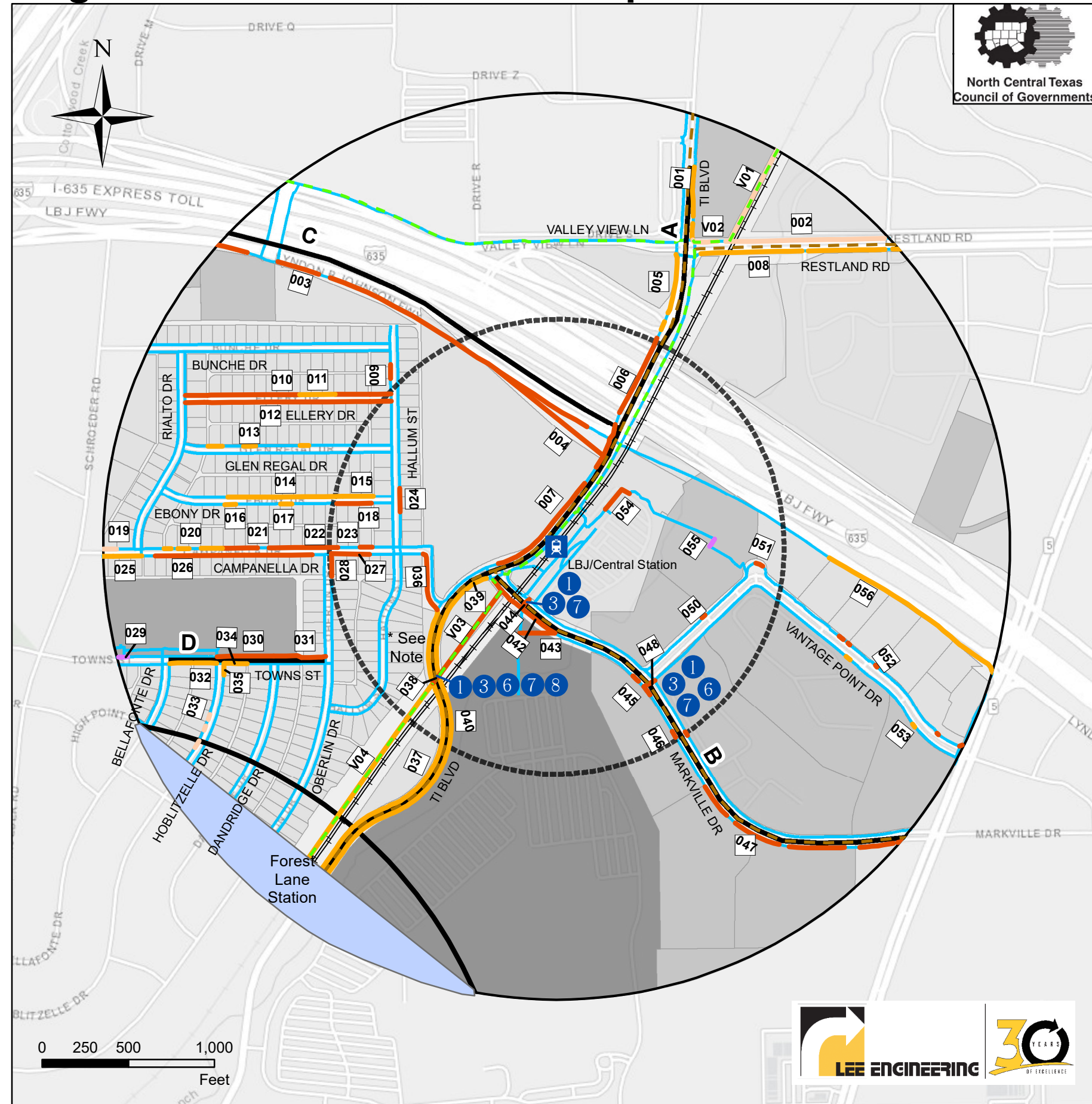
Figure 3C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority 1**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - Traffic Signal

Primary Routes

Route	Street
A	TI Blvd
B	Markville Dr
C	IH-635 EB Service Rd
D	Towns St

Improvement Code Legend (See Matrix)

3C-LC-SW-01

3C ← Station Number
LC ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)

*Crosswalk improvement contingent on construction of Regional Veloweb shared use path.



FTA DART Stations Last Mile Connections Forest Lane Station December 2020

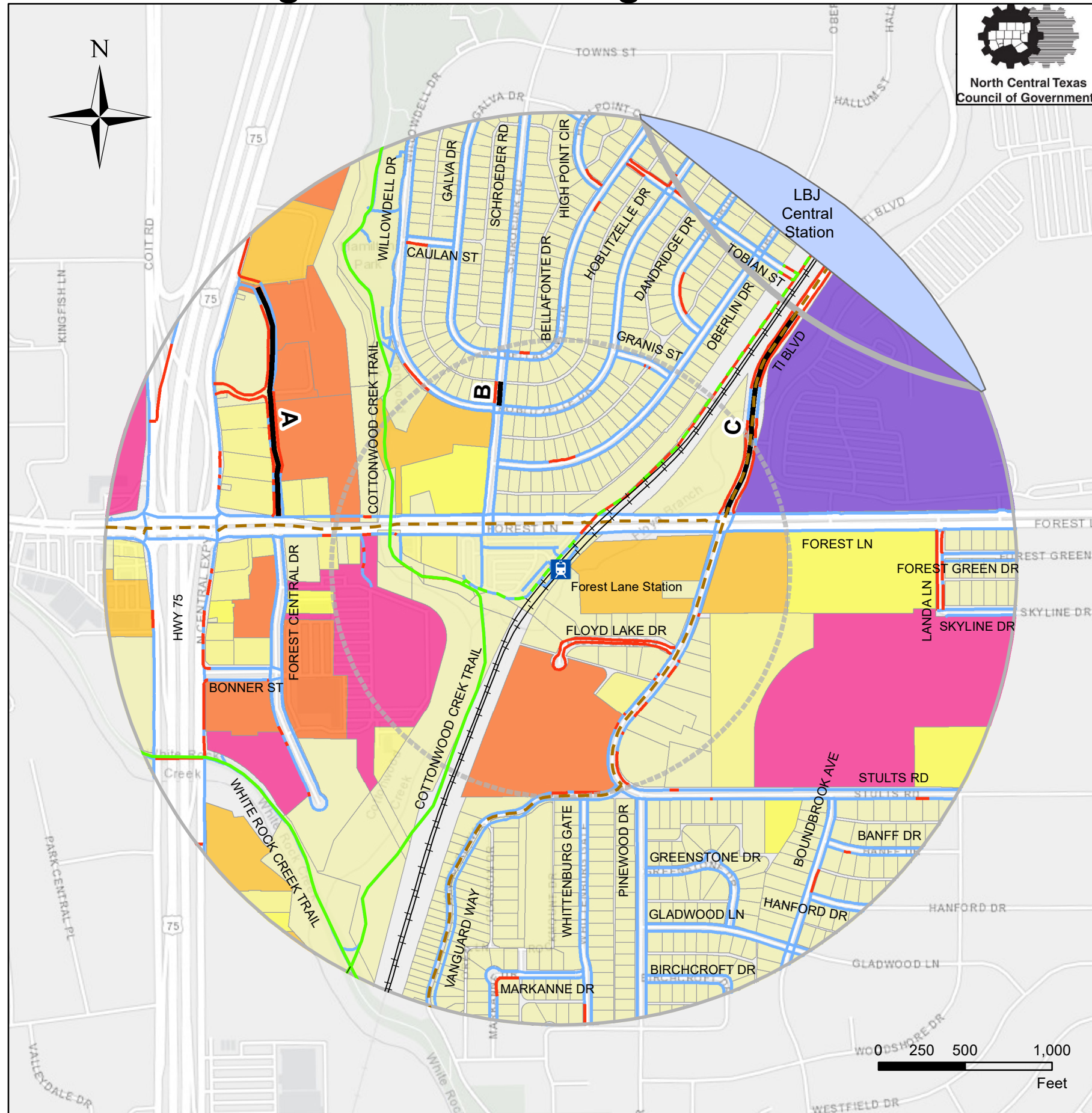


Figure 3D-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Forest Central Dr
B	Schroeder Rd
C	TI Blvd

**FTA DART Stations
Last Mile Connections
Forest Lane
Station
November 2020**



Figure 3D-4 Recommended Improvements

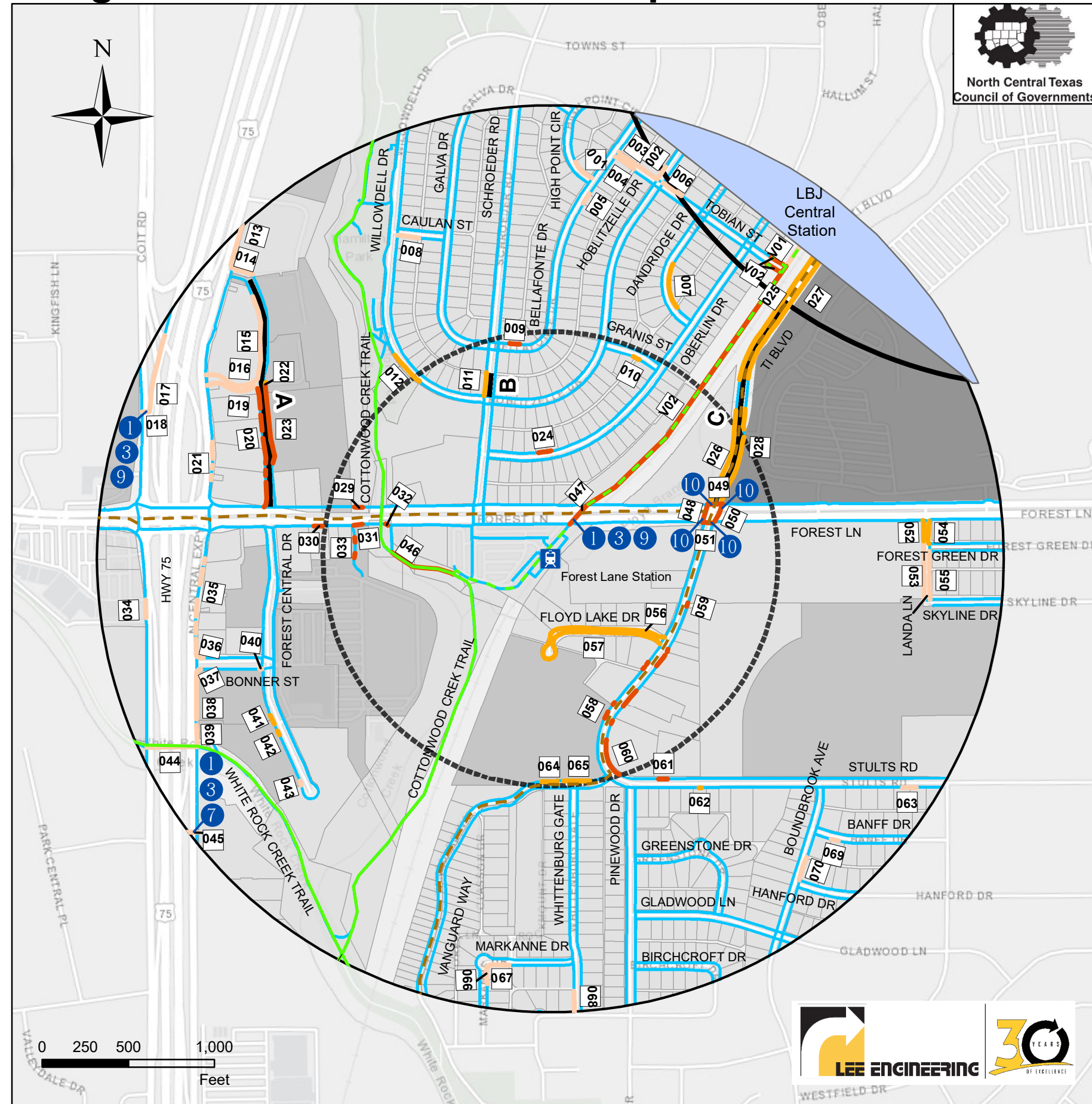
Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339

*Note: Need for improvement contingent on construction of local shared use-path.



Possible Pedestrian Safety Countermeasures

- Unsignalized Crosswalk Improvements**
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- Signalized Crosswalk Improvements**
- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - Traffic Signal

Primary Routes

Route	Street
A	Forest Central Dr
B	Schroeder Rd
C	TI Blvd

Improvement Code Legend (See Matrix)

3D-FL-SW-01

3D ← Station Number
 FL ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)



Walnut Hill Station

Figure 4A-3 illustrates the existing conditions in the half-mile area around the Walnut Hill Station. The station is relatively well connected to the surrounding area for pedestrians and bicyclists. However, notable sidewalk gaps exist along Walnut Hill Ln east of the station and within the campus of Texas Health Presbyterian Hospital Dallas to the south.

Figure 4A-4 shows the recommended improvements in the half-mile area around the Walnut Hill Station, which include new sidewalk to fill the gaps mentioned above. The City of Dallas will need to coordinate with Presbyterian Hospital Dallas to help facilitate sidewalk improvements on their property to the south of the station.

An spur of the Union Pacific Trail is programmed and funded by the City of Dallas as part of the Regional Veloweb along the west side of the DART tracks east of Manderville Ln to connect the station to points north. This is shown as improvement 4A-WH-VW-V01 and 4A-WH-VW-V02 on Figure 4A-4. The City has other shared use paths planned in the vicinity that will either widen existing sidewalk or fill sidewalk gaps along Walnut Hill Ln and Greenville Ave, with additional on-street bicycle facilities planned for Meadow Rd, Rambler Rd, Perot Ln, and Pineland Dr.

The City of Dallas will need to coordinate with DART on a recommendation to improve access to the station. The recommendation is for DART to provide gaps in the decorative fence posts between the sidewalk and stairways to the elevated station platform for more direct pedestrian and bicyclist access. However, since this may increase the number of pedestrians who would otherwise attempt to cross Walnut Hill Ln at-grade and mid-block under the elevated station platform, it is also recommended to provide anti-climb median fencing in the median. This will discourage pedestrian crossings except via the overhead station platform or at the signalized crosswalk at Glen Lakes Dr 350 feet to the east. The City will need to coordinate with DART for construction of the anti-climb median fencing. See Section 3.1.3 on page 8 and station area improvement 4A-WH-ST-10 on Figures 4A-1.1, 4A-1.3 and 4A-1.4 (pages 15, 17 & 18) for more details.

Other improvements of note include adding marked crosswalks, pedestrian ramps, and countdown accessible pedestrian signals at the intersection of Walnut Hill Ln and Rambler Rd at the signalized northern entrance to the hospital, and providing an RRFB for more conspicuous pedestrian crossings of Glen Lakes Dr at its intersection with Walnut Hill Ln, where the right “turn” from Walnut Hill Ln has the geometry of a through movement at potentially higher speeds.

Additional details about other improvements recommended in Figure 4A-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Walnut Hill Station that can be found in **Appendix J**.

Park Lane Station

Figure 4B-3 illustrates the existing conditions in the half-mile area around the Park Lane Station. The station is somewhat connected to the surrounding area for pedestrians and bicyclists. However, notable sidewalk gaps exist along Greenville Ave and Twin Hills Ave to the north and south, as well as within and around the private Caruth Plaza and North Park shopping centers and the Glen America business park to the west. Park Ln is itself a barrier to access for some multi-modal trips arriving to and from the south, since the overhead station platform bridges over the roadway but is only accessed from the north side.

Figure 4B-4 shows the recommended improvements in the half-mile area around the Park Lane Station. Two improvements straddling the station property and adjacent City of private right-of-way will need to be coordinated between the City, DART, and the Caruth Plaza property owner. One of these improvements would be a sidewalk connection from the station property west across the Caruth Plaza parking lot to the shopping center building. Other sidewalks on private property to connect through or around the Caruth Plaza shopping center, North Park Center shopping center and Glen America business park would also require cooperation by private property owners to complete.

The other improvement straddling DART property would be an enhanced crosswalk with pedestrian hybrid beacon across Park Ln beneath the overhead rail bridge. See Section 3.1.4 on page 20 for more details.

The City of Dallas is planning a shared use path along Greenville Ave north of the station and Park Ln east of the station. Also planned are on-street bike facilities along Park Ln west of the station and Fair Oaks Ave to the east.

Other improvements include filling sidewalk gaps along the roadways mentioned above (among others) and adding marked crosswalks and countdown, accessible pedestrian signals at the intersection of Greenville Ave and Blackwell St.

Additional details about other improvements recommended in Figure 4B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Park Lane Station that can be found in **Appendix J**.

Lovers Lane Station

Figure 4C-3 illustrates the existing conditions in the half-mile area around the Lovers Lane Station. Central Expy (U.S. 75) poses a boundary to multi-modal access to the station from the western low-density neighborhoods in Dallas and University Park. Otherwise, multi-modal access is fairly complete along the existing street grid, with a few sidewalk gaps on Greenville Ave, Northway Dr and one small gap on Milton St just east of the station being notable exceptions. The City of Dallas recently completed the Matilda Trail along the west side of Matilda St from Lovers Ln to Sandhurst Ln.

Figure 4C-4 shows the recommended improvements in the half-mile area around the Lovers Lane Station. The improvements highlighted in yellow along Milton St and Northway Dr were selected by NCTCOG for 15% sidewalk design by the consultant team. The aforementioned sidewalk gaps would be filled, and marked crosswalks with curb extensions would be built to shorten pedestrian crossing distances across Amesbury Dr at Milton St and Birchbrook Dr, as well as for crossing Matilda St at Milton St.

The City of Dallas is planning shared use paths along Lovers Ln from the north end of the Matilda Trail to Willard Dr west of U.S. 75. On-street bikeways are planned along Lovers Ln east of the Matilda Trail and along University Blvd east of U.S. 75.

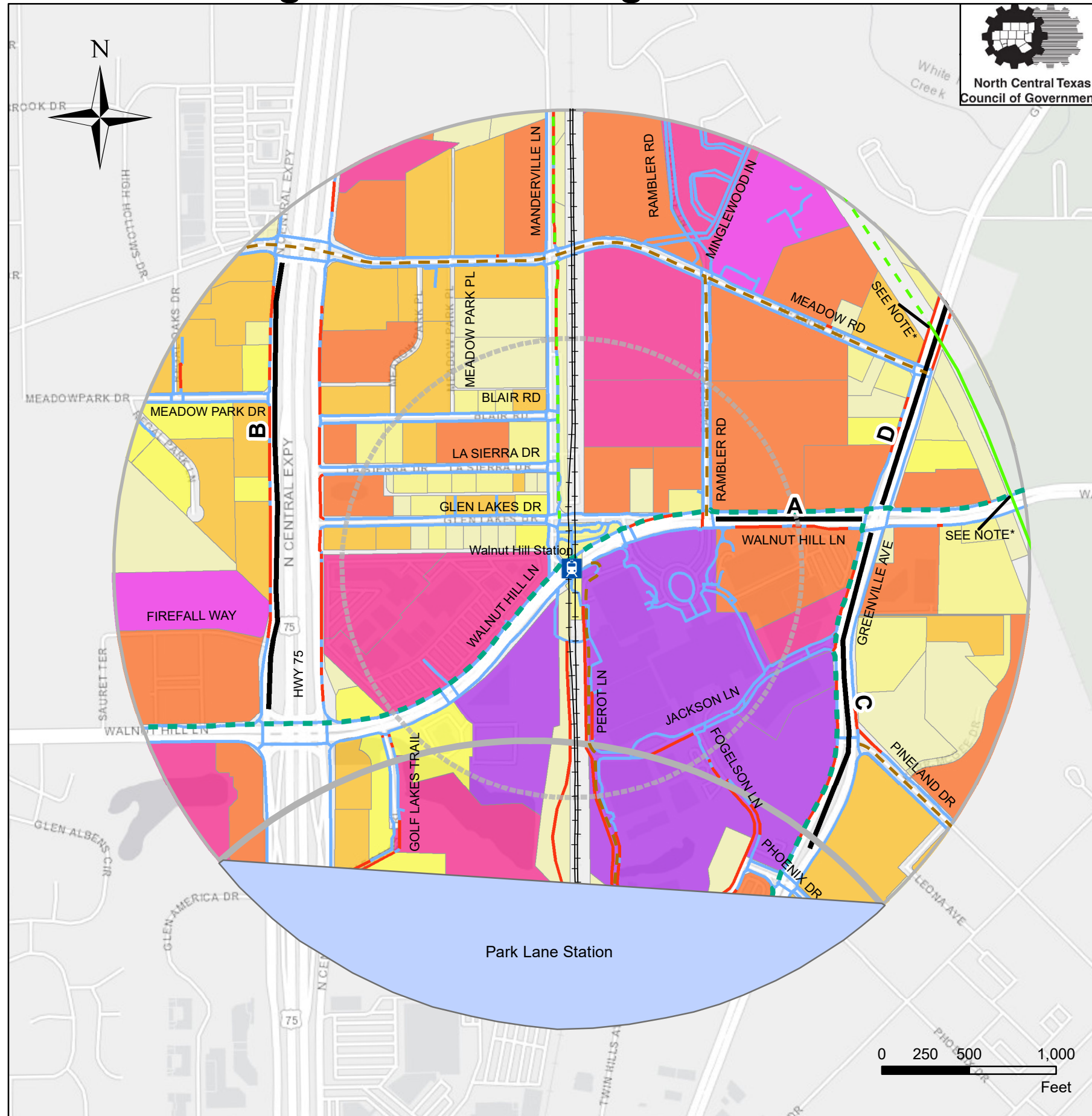
Additional details about other improvements recommended in Figure 4C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Lovers Lane Station that can be found in **Appendix J**.



**FTA DART Stations
Last Mile Connections
Walnut Hill
Station
November 2020**

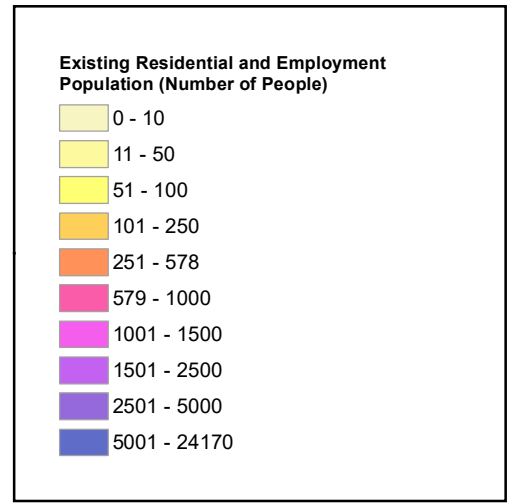


Figure 4A-3 Existing Conditions



- Legend**
- DART Rail Station
 - Railroad Track
 - Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap; Sidewalk Repair
 - Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
 - Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
 - Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
 - DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

NOTE: NO CONNECTION IS PROVIDED BETWEEN EXISTING VELOWEB TRAIL OVERPASS AND SIDEWALK ALONG STREET BELOW



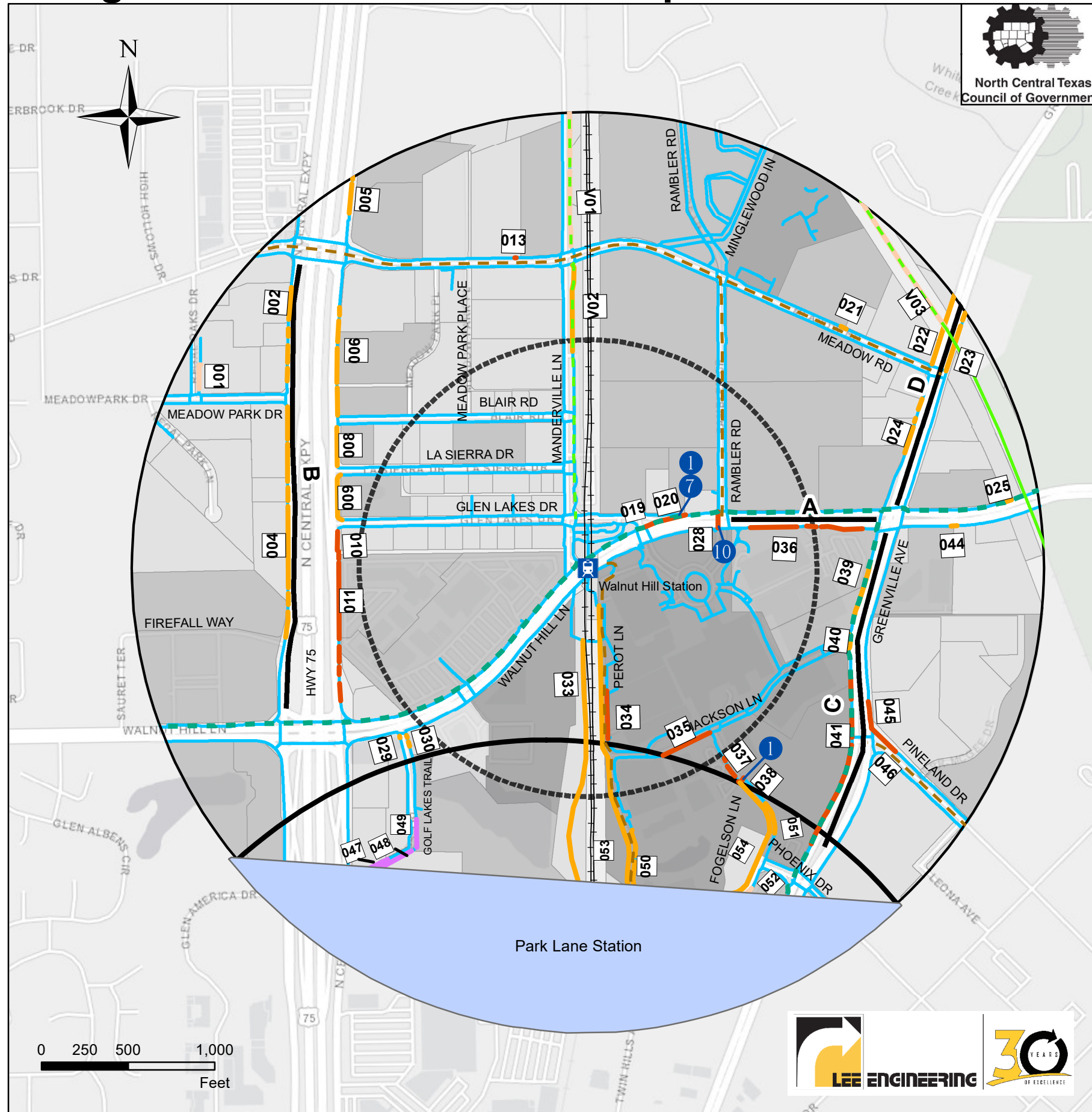
Primary Routes

Route	Street
A	Walnut Hill Ln
B	Cntrl Expwy Access
C	Greenville Ave
D	Greenville Ave

FTA DART Stations Last Mile Connections Walnut Hill Station November 2020



Figure 4A-4 Recommended Improvements



Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority 1**
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks, Pedestrian Ramps & Countdown, Accessible Pedestrian Signals
- Traffic Signal

Primary Routes

Route	Street
A	Walnut Hill Ln
B	Cntrl Expwy Access
C	Greenville Ave
D	Greenville Ave

Improvement Code Legend (See Matrix)

- 4A-WH-SW-01
- 4A ← Station Number
 - WH ← Station Abbreviation
 - SW ← Sidewalk (or CW for Crosswalk)
 - 01 ← Improvement Number (Matches 1 on Map)



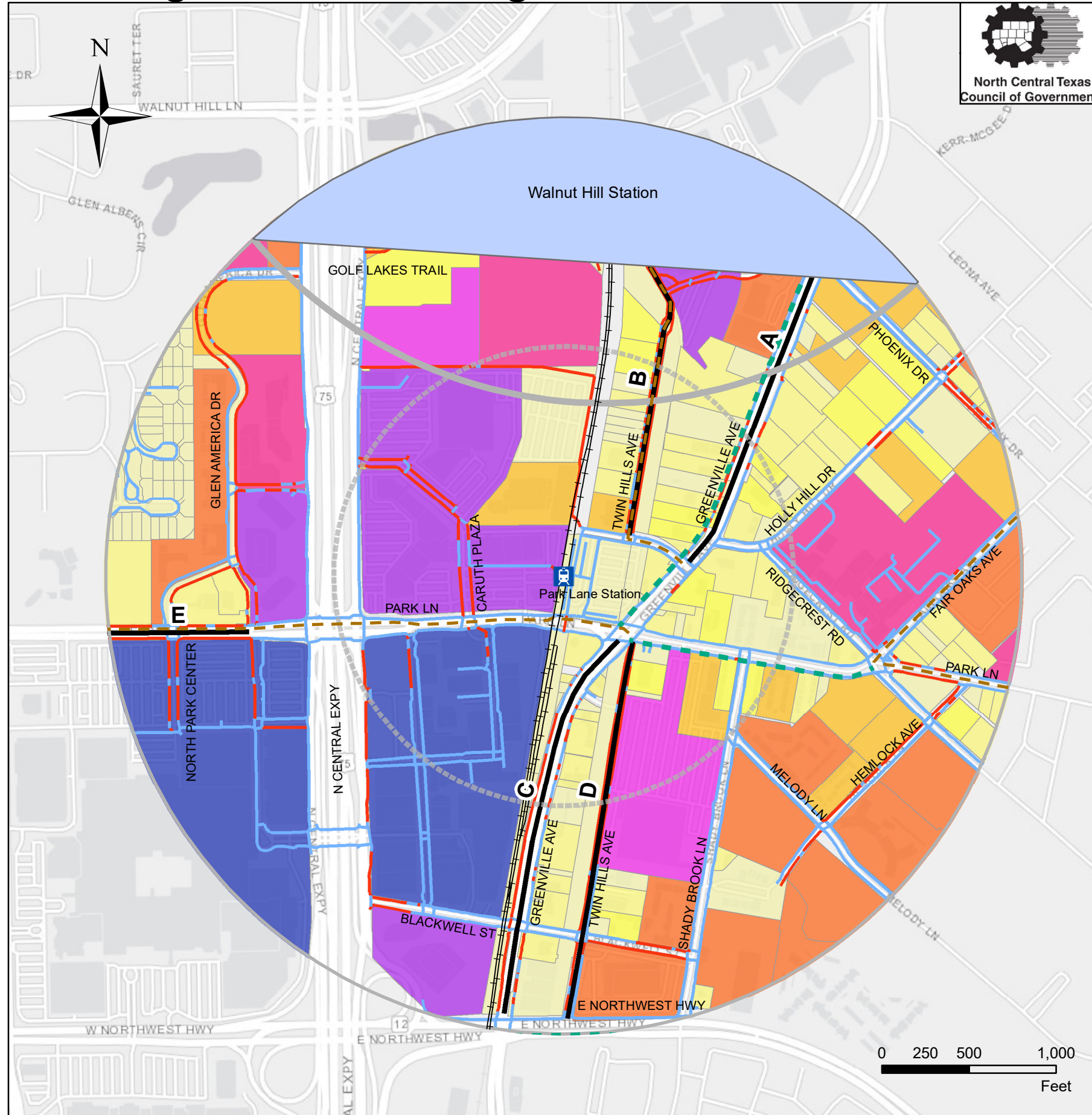
FTA DART Stations
Last Mile Connections
Park Lane
Station
December 2020



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 4B-3 Existing Conditions



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Greenville Ave
B	Twin Hills Ave
C	Greenville Ave
D	Twin Hills Ave
E	Park Ln

FTA DART Stations Last Mile Connections Park Lane Station November 2020

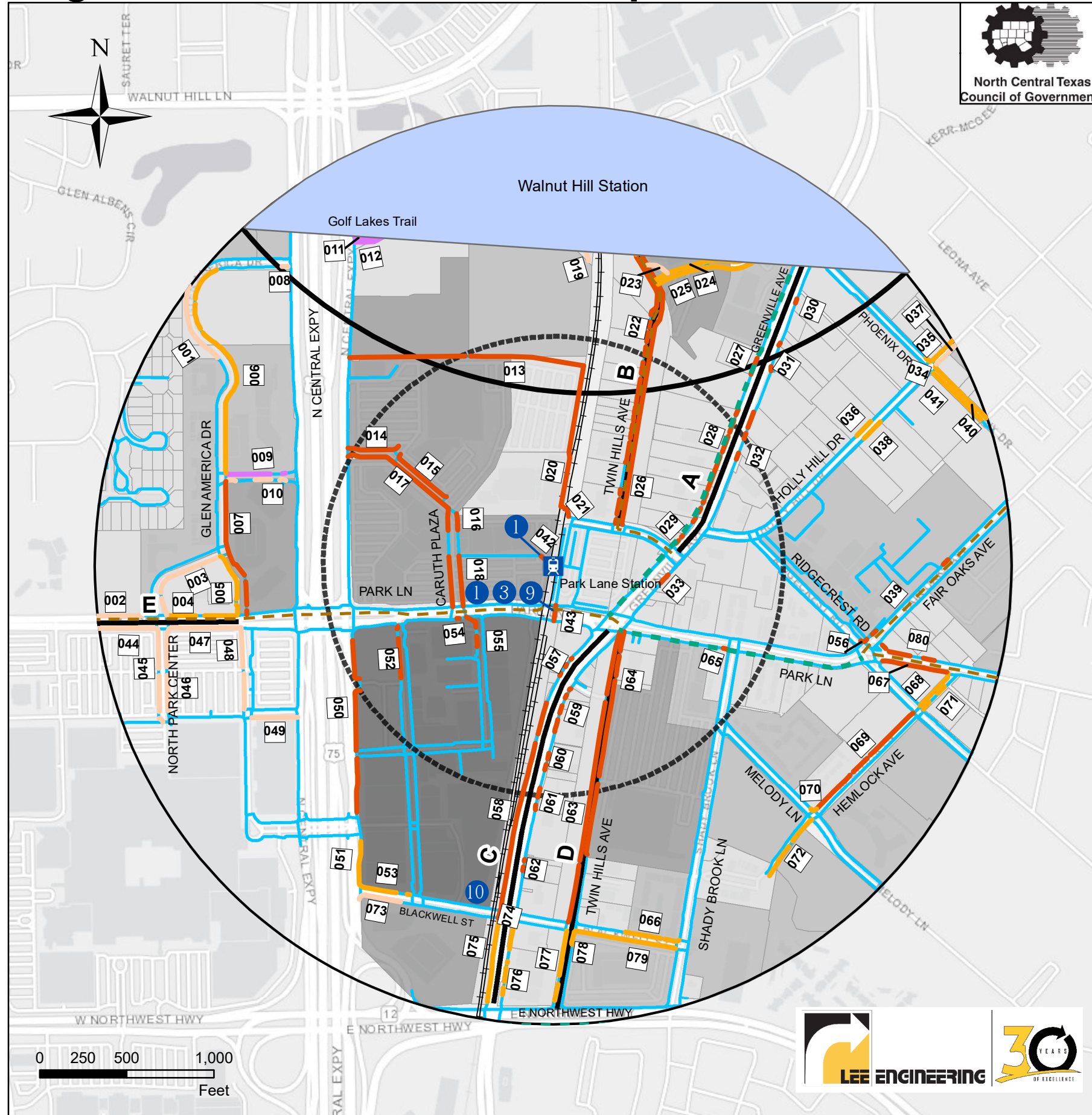


Figure 4B-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk
 - Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority **1**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)

Ppl	Range
0 - 234	Lightest Gray
235 - 1049	Light Gray
1050 - 2586	Medium Gray
2587 - 5364	Dark Gray
5365 - 10339	Darkest Gray



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Greenville Ave
B	Twin Hills Ave
C	Greenville Ave
D	Twin Hills Ave
E	Park Ln

Improvement Code Legend (See Matrix)

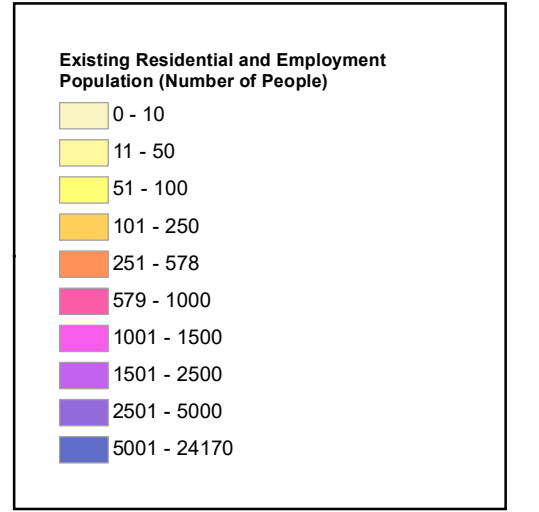
- 4B-PL-SW-01
- 4B ← Station Number
- PL ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches **1** on Map)



FTA DART Stations Last Mile Connections Lovers Lane Station December 2020

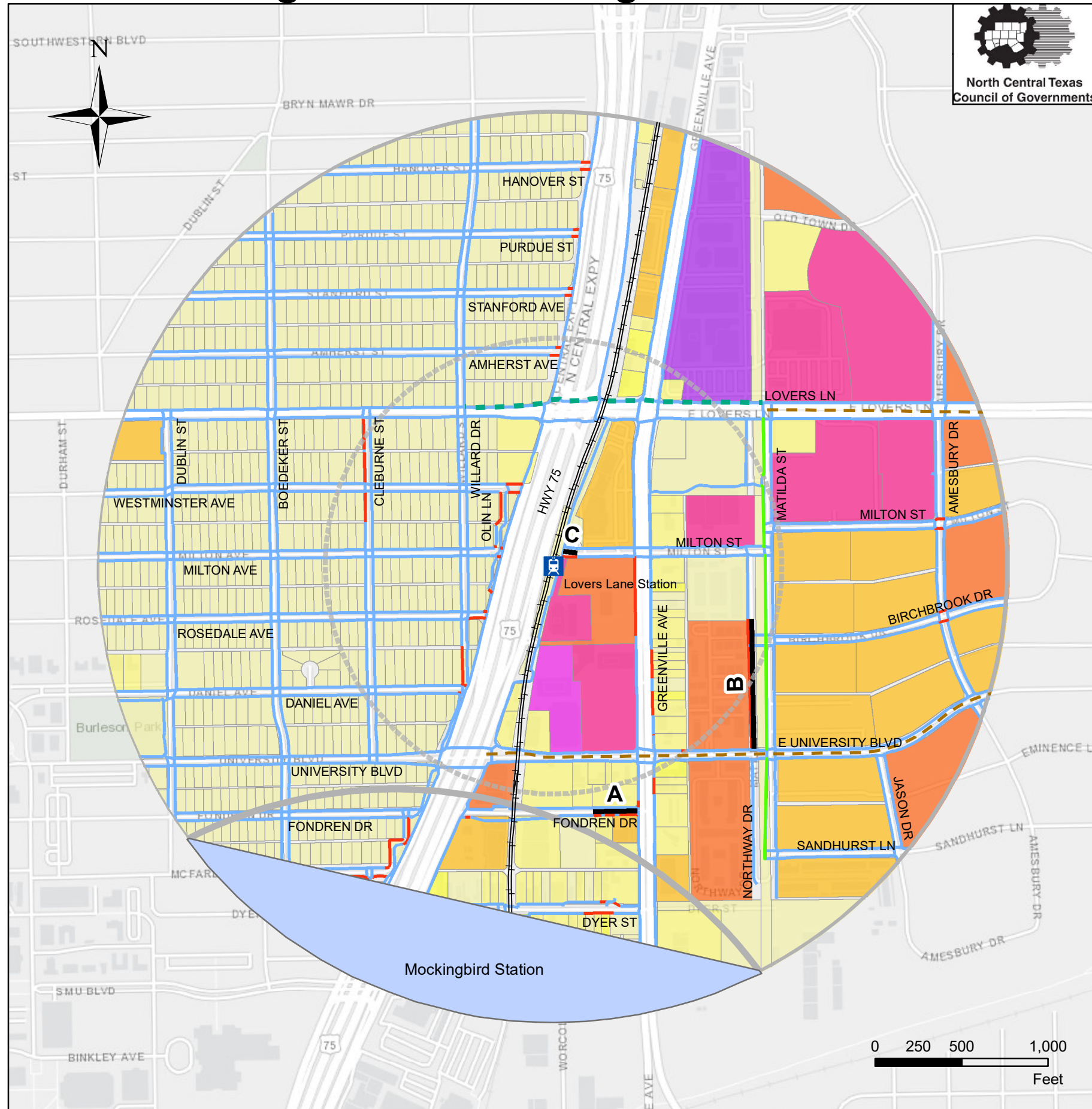


Figure 4C-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes



Primary Routes

Route	Street
A	Fondren Dr
B	Northway Dr
C	Milton St

FTA DART Stations Last Mile Connections Lovers Lane Station November 2020



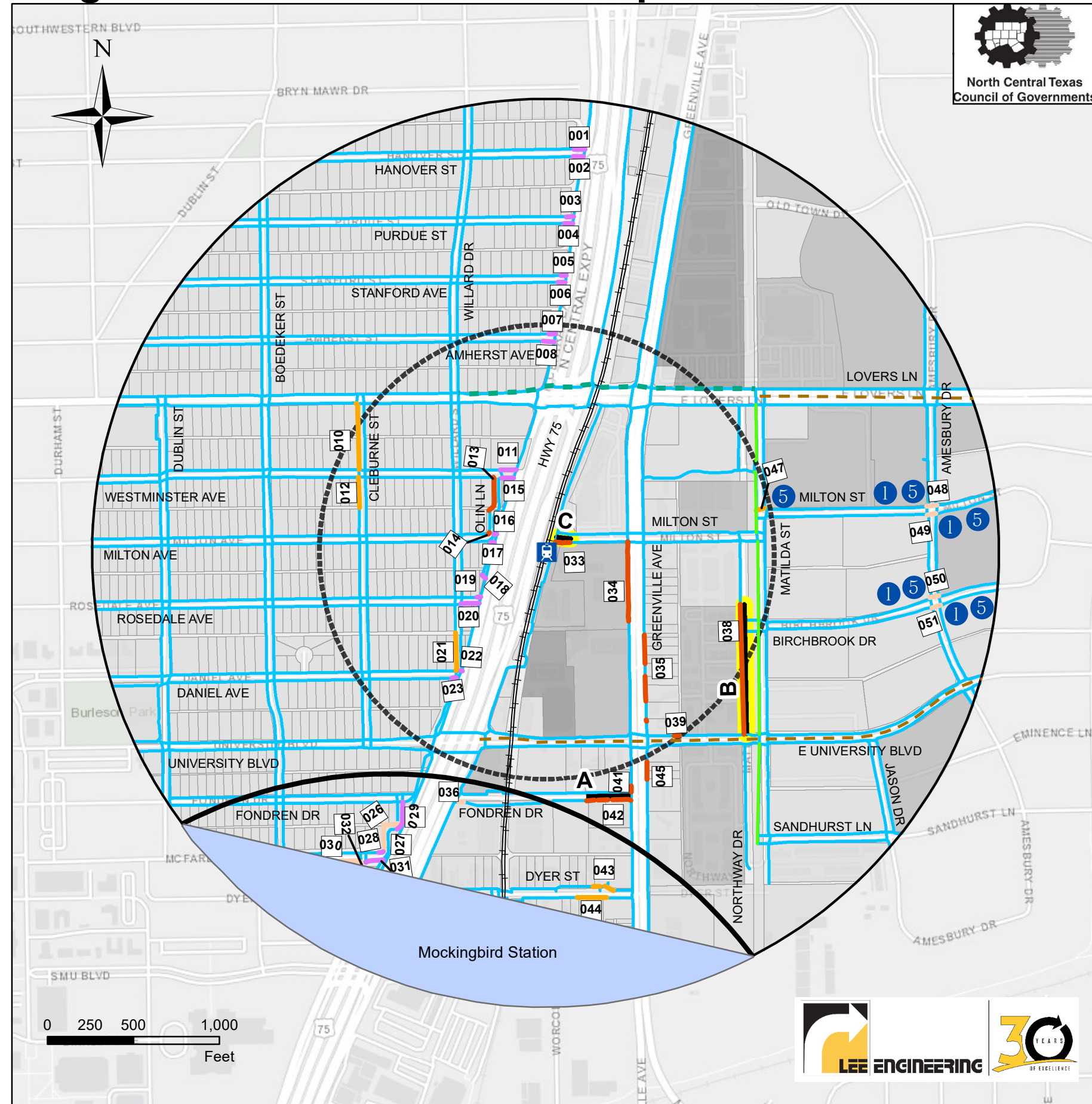
Figure 4C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority 1**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
 - 15% Design Corridors

Existing Residential and Employment Population (Number of People)

Ppl	Color
0 - 234	Lightest Gray
235 - 1049	Light Gray
1050 - 2586	Medium Gray
2587 - 5364	Dark Gray
5365 - 10339	Darkest Gray



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes	
15% Design Corridors	
Route	Street
A	Fondren Dr
B	Northway Dr
C	Milton St

Improvement Code Legend (See Matrix)	
4C-LL-SW-01	
4C	← Station Number
LL	← Station Abbreviation
SW	← Sidewalk (or CW for Crosswalk)
01	← Improvement Number (Matches 1 on Map)



Mockingbird Station

Figure 4D-3 illustrates the existing conditions in the half-mile area around the Mockingbird Station. Multi-modal access is good in this area, particularly along pedestrian desire lines to the highest density residential and business land uses. Some sidewalk gaps exist, though typically only where sidewalk is available on the opposite side of the same street. U.S. 75 forms a boundary that makes trips to and from the Southern Methodist University campus more indirect.

The Ridgewood Trail was recently constructed to connect the station to the Katy Trail to the southwest and to the SoPac Trail and White Rock Lake to the east. SMU Blvd, Matilda St, and Ellsworth Ave have existing on-street bikeways, and more bike lanes are planned for Greenville Ave, McMillan Ave and Matilda Bridge.

Figure 4D-4 shows the recommended improvements in the half-mile area around the Mockingbird Station. Sidewalk should be constructed to fill gaps on the south side of Mockingbird Ln and the north side of Twin Sixties Dr. Advanced yield lines and "Yield Here to Pedestrians" signing should be added to the existing multi-lane crossings of SMU Blvd at Prentice St and Worcola St. Located 20-50 feet in advance of a crosswalk (depending on approach speeds), the yield line and associated signs help mitigate the risk of the dual threat situation for pedestrians on multi-lane crosswalk approaches by providing adequate sight distance between the pedestrian and approaching traffic when a vehicle yielding too close to the crosswalk might otherwise obscure drivers' lines of sight.

Additional details about other improvements recommended in Figure 4D-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Mockingbird Station that can be found in **Appendix J**.

LBJ Skillman Station

Figure 4E-3 illustrates the existing conditions in the half-mile area around the LBJ Skillman Station. The station is fairly poorly connected to the surrounding land uses, with continuous sidewalk being the exception rather than the rule along area streets.

Figure 4E-4 shows the recommended improvements in the half-mile area around the LBJ Skillman Station. Many sidewalks will be constructed by upcoming projects. In one project, the City of Dallas will reconstruct the intersection of Skillman St and Audelia Rd, with new sidewalk on both sides of each reconfigured approach street.

TxDOT will construct continuous sidewalk along the outside of the IH-635 frontage roads, which will offer many more opportunities for bicycle and pedestrian trips to the station. Note, however, that on the west side of IH-635, TxDOT's plan does not currently call for a connection between the sidewalk along the frontage road and the pedestrian bridge paralleling the DART rail bridge over IH-635. DART and the City of Dallas should work with TxDOT to add design and construction of a sidewalk ramp to connect the two facilities, as illustrated by improvement 4E-LS-SW-055 on Figure 4E-4.

The City of Dallas and DART should coordinate with the owners of adjacent apartment complexes to add short sidewalk connections to their properties (see improvements 4E-LS-SW-056 and 4E-LS-SW-059 on Figure 4E-4) to significantly reduce the walking distance to the station for apartment residents.

Worn paths in the grass were observed on the undeveloped DART property north of the station platform, indicating existing pedestrian demand to the apartments located along Adleta Blvd. DART has communicated that proposals have been made for development of the vacant portion of this property. As these proposals move into design, right-of-way or easements should be preserved. The sidewalk connections represented as improvements 4E-LS-SW-035 and 4E-LS-SW-037 should be built together with the development construction (if not sooner).

New sidewalk is also proposed along both sides of Miller Rd south of the station and in the industrial areas to the east accessed by Pagemill Rd, Dilworth Rd, Sandhill Rd, and Rockwall Rd to provide more access to employment. Improvement 4E-LS-SW-039, which would be built in the DART right-of-way north of the tracks to connect to Dilworth Rd, in particular would provide multi-modal access to employment centers that are otherwise "landlocked" by the adjacent rail lines.

The City of Dallas has planned a shared use path along the south side of Miller Rd and the north side of Skillman St through the study area for this station. On-street bikeways are also planned for Audelia Rd and Ferndale Rd.

A pedestrian traffic signal should be considered for crossing Audelia Rd to Valmarie Dr west of the existing sidewalk that parallels the north side of the DART tracks and connects to the bridge over IH-635 to the station platform. A pedestrian hybrid beacon should be considered at the existing crosswalk across Miller Rd at Markson Rd for better access to the industrial employment centers on the south side of the intersection.

Additional details about other improvements recommended in Figure 4E-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for LBJ Skillman Station that can be found in **Appendix J**.



FTA DART Stations
Last Mile Connections
Mockingbird Station
November 2020



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 4D-3 Existing Conditions

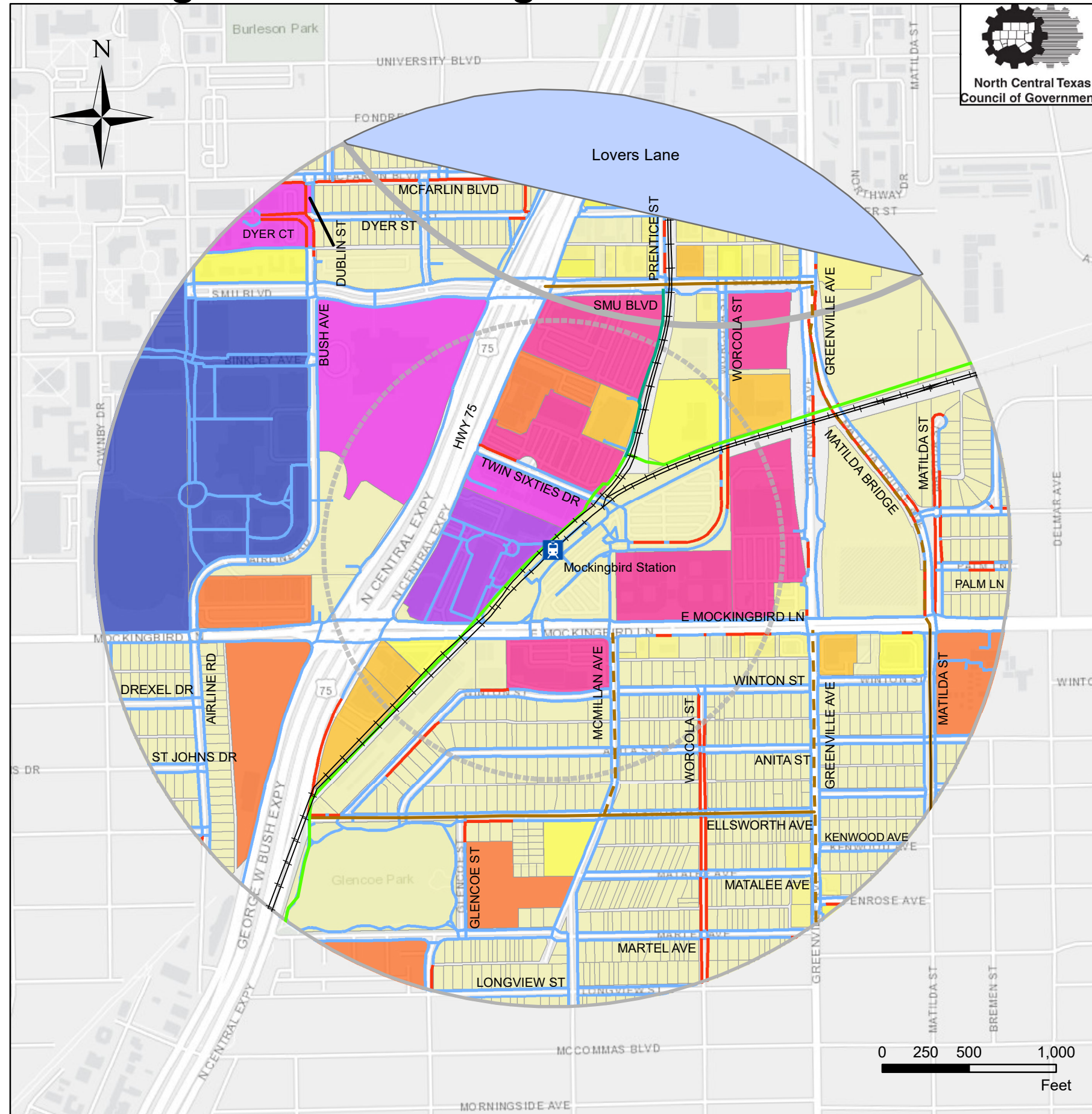


Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

None for this station area



FTA DART Stations Last Mile Connections Mockingbird Station November 2020



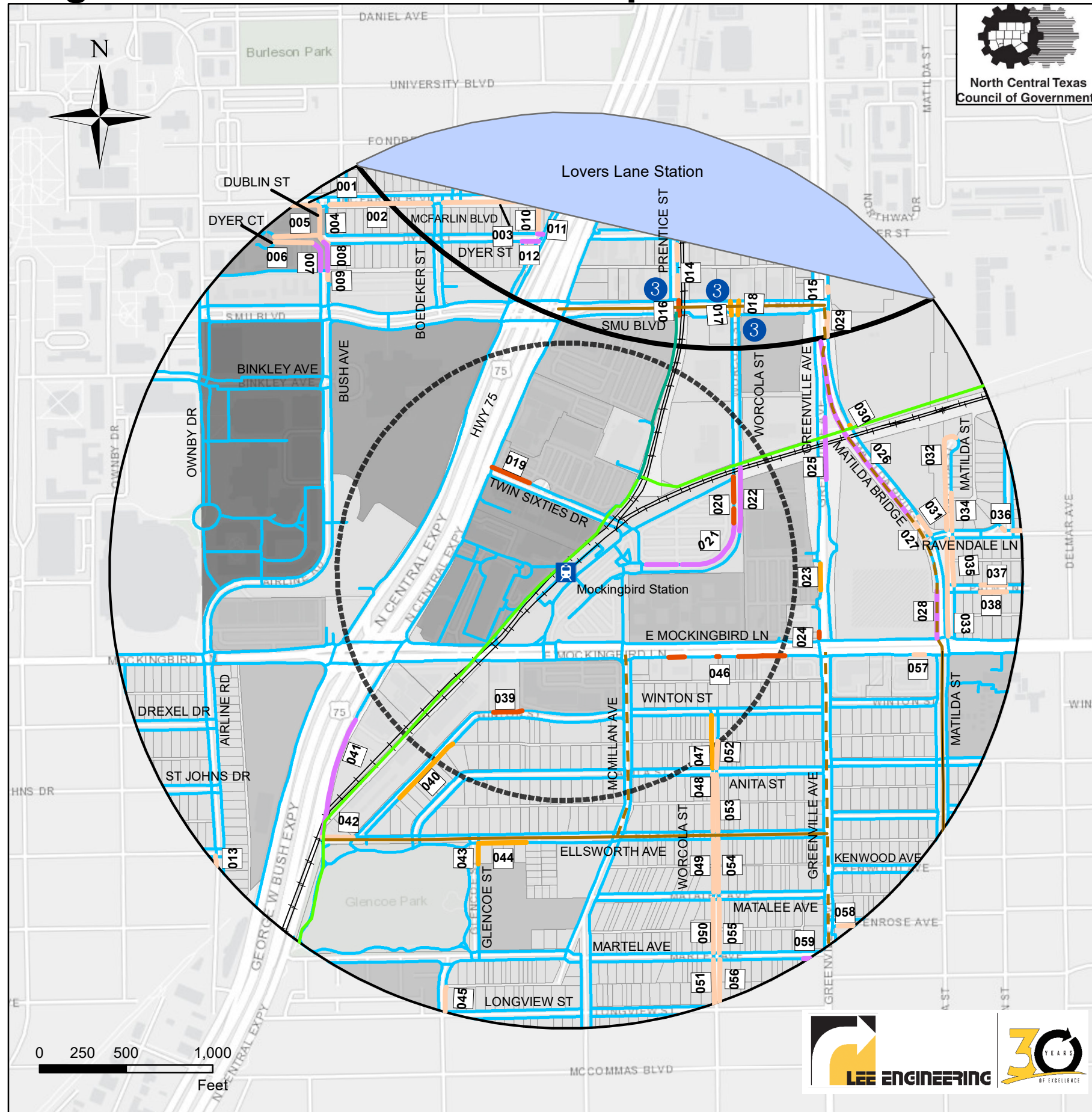
Figure 4D-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- Traffic Signal

Primary Routes

None for this station area

Improvement Code Legend (See Matrix)

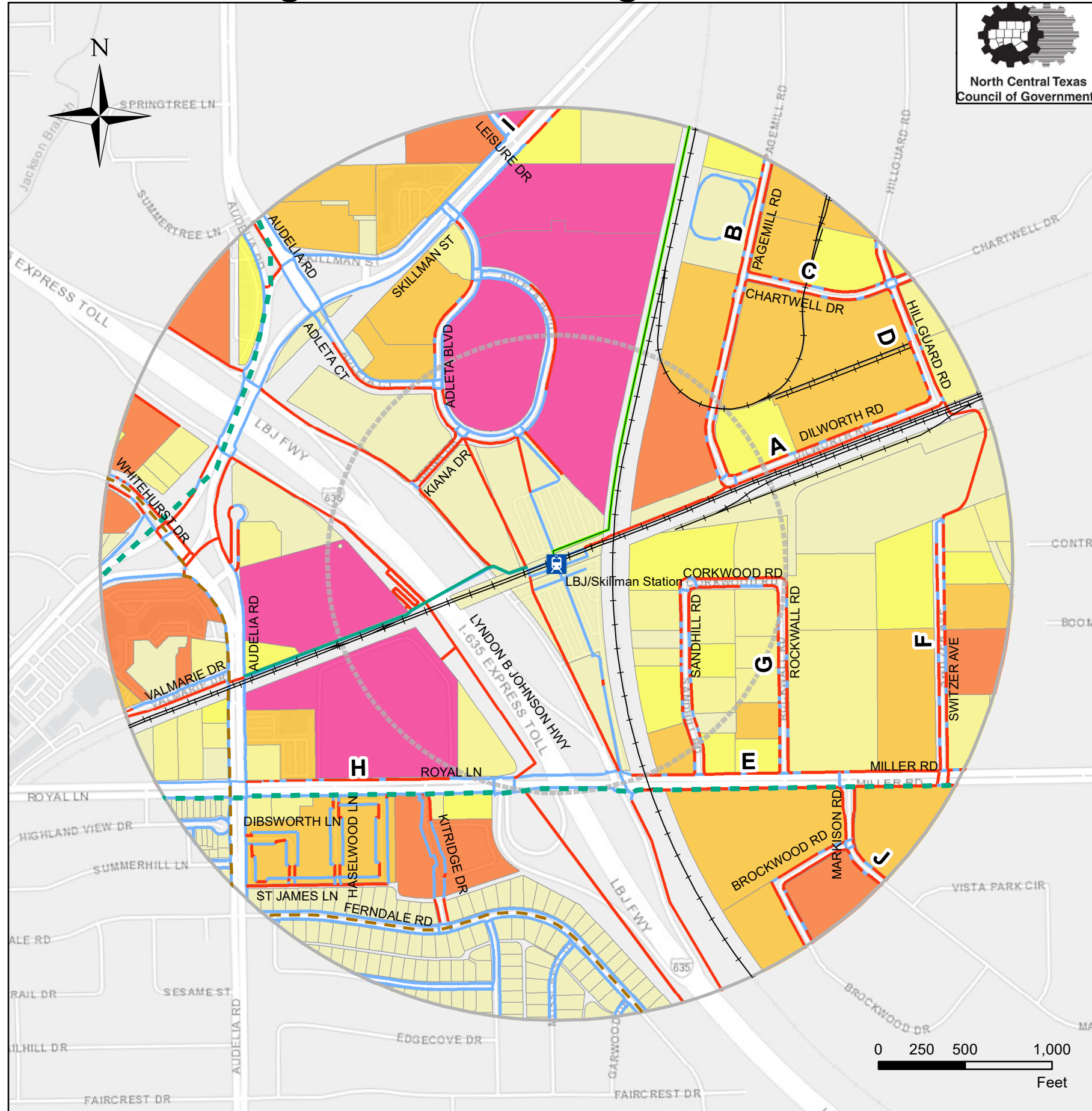
- 4D-MB-SW-01
- 4D ← Station Number
 - MB ← Station Abbreviation
 - SW ← Sidewalk (or CW for Crosswalk)
 - 01 ← Improvement Number (Matches 1 on Map)



FTA DART Stations Last Mile Connections LBJ Skillman Station November 2020



Figure 4E-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer

Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Dilworth Rd
B	Pagemill Rd
C	Chartwell Dr
D	Hillguard Rd
E	Miller Rd
F	Switzer Ave
G	Rockwall Corkwood Sandhill
H	Royal Rd
I	Skillman St
J	Markison Rd

FTA DART Stations Last Mile Connections LBJ/Skillman Station November 2020



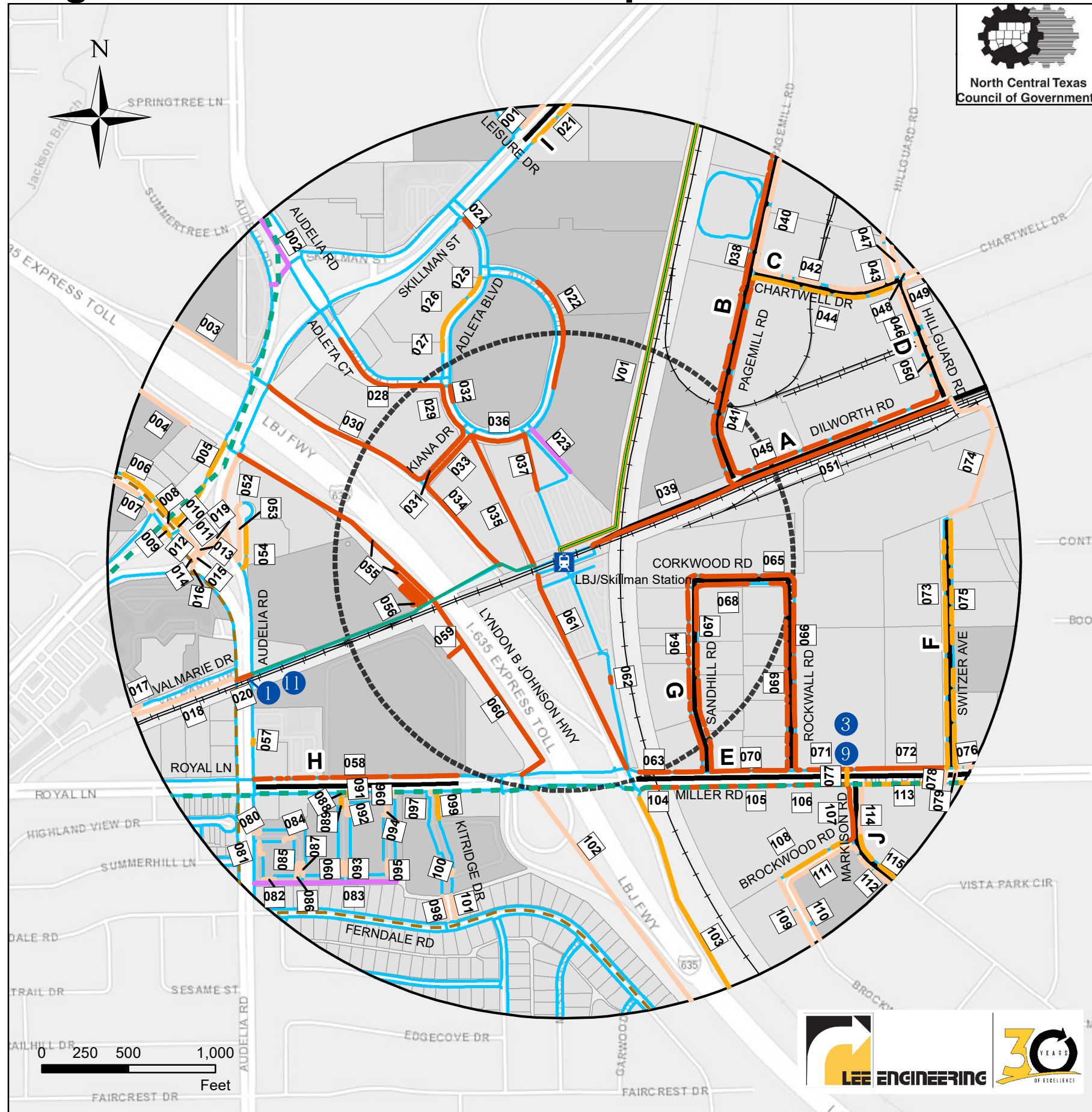
Figure 4E-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Dilworth Rd
B	Pagemill Rd
C	Chartwell Dr
D	Hillguard Rd
E	Miller Rd
F	Switzer Ave
G	Rockwall Corkwood Sandhill
H	Royal Rd
I	Skillman St
J	Markison Rd

Improvement Code Legend (See Matrix)

- 4E-LS-SW-01
- 4E ← Station Number
 - LS ← Station Abbreviation
 - SW ← Sidewalk (or CW for Crosswalk)
 - 01 ← Improvement Number (Matches 1 on Map)



White Rock Station

Figure 4F-3 illustrates the existing conditions in the half-mile area around the White Rock Station. Good multi-modal connections exist to apartments east and south of the station. The single-family home neighborhoods to the west and southwest lack sidewalk in many cases. The residents along Walling Ln and other parts of the neighborhood northwest of the station must exit their neighborhood and travel along Northwest Highway to reach the station, adding up to a half mile to their trip. Much of the area east of the station is in the flood plain for White Rock Creek, which does not support existing or future development. A shared use path exists on the north side of Northwest Highway, with connections to the White Rock Creek Trail and White Rock Lake Loop Trail providing access to points beyond the half-mile area.

Figure 4F-4 shows the recommended improvements in the half-mile area around the White Rock Station. Improvements 4F-WR-SW-41 through 4F-WR-SW-43 show the location of a recommended sidewalk connection to Walling Cir, Walling Ln, and the neighborhood west of the station where Walling Circle's sidewalk currently dead ends at the fence surrounding the DART property. The City of Dallas DART should consider working together with DART to provide a pedestrian break in the fencing to connect to new sidewalk recommended on DART property connecting to the station platform. The City may also decide to build sidewalk along the west side of Walling Cir (see improvement 4F-WR-SW-40). See Section 3.1.8 for more details.

While this recommended improvement would shorten the walking distance between the station and many homes, care should be taken not to incentivize park and ride patrons from parking along Walling Ln or Walling Cir, since this may be closer than available spaces in the station's rider parking lot. The City may therefore need to consider implementing a parking management program to restrict parking along some portions of Walling Ln unless a residential parking permit is displayed in the vehicle.

The City of Dallas is planning a shared use path along the south side of Northwest Highway from Walling Ln to the west. On-street bikeways are planned along Northwest Highway east of Walling Ln and along Mockingbird Ln.

Other improvements further distant from the station mainly include sidewalk on several neighborhood residential streets, as well as along the north side of Mockingbird Ln. Enhanced crosswalks should be provided at the intersection of Lawther Dr with the westbound ramps for Mockingbird Ln at their grade-separated interchange. Enhanced crosswalks with advance yield lines and a pedestrian hybrid beacon are recommended at this intersection due to vehicular traffic speeds and the likely significant volumes of foot and bike traffic crossing to access the White Rock Creek Trail that runs along the east side of Lawther Rd.

Additional details about other improvements recommended in Figure 4F-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for White Rock Station that can be found in **Appendix J**.

Eighth & Corinth Station

Figure 5A-3 illustrates the existing conditions in the half-mile area around the Eighth & Corinth Station. Existing sidewalk connectivity is good along primary streets in the vicinity of the station, with Clarendon Dr west of 10th St and 11th St east of Eighth St/Bonnie View Rd being two exceptions. Many neighborhood streets lack sidewalk or have heavily damaged sidewalk on one or both sides.

Much of the area northeast of the station is in the flood plain for the Trinity River, which does not support existing or future development but provides access to the station to and from points further afield via the Trinity Skyline and Santa Fe Trestle Trails.

Figure 5A-4.1 shows the recommended improvements in the half-mile area around the Eighth & Corinth Station. **Figure 5A-4.2** provides a zoomed-in view of a portion of the station area with a dense concentration of improvements. In addition to providing or replacing sidewalks along streets where necessary, the recommendations include a shared use path along the north side of the DART tracks from the station platform west to Moore St (improvement 5A-EC-VW-V01 and 5A-EC-VW-V02 on Figure 5A-4.1).

Where this shared use path crosses N Corinth Street Rd (improvement 5A-EC-CW-084), the need for an at-grade pedestrian crossing of S Corinth St Rd at this location is contingent on the construction of the Regional Veloweb shared use path on the north side of the DART tracks and the nature of the path's crossing over Cedar Creek immediately to the west. If the crossing of Cedar Creek can be built to a sufficient elevation to also span directly over S Corinth St Rd, this would be preferred. A ramp or stairs up to this bridge would shorten the walking distance to the station for some residents to the southwest.

If the bridge over Cedar Creek can only connect to the west side of S Corinth St Rd at street level, then aesthetic, non-climbable fencing should be built in the median of S Corinth St Rd to discourage mid-block pedestrian crossings and channelize them instead 300 feet to the north to the signalized crosswalk at the intersection with E Clarendon Dr. A worn path in the grass west of the station across Oncor property indicates existing pedestrian demand for more direct travel to areas south and west of the station. The estimated cost for this improvement assumes construction of median fencing in lieu of the pedestrian bridge.

Enhanced crosswalks should be provided at three locations:

1. Across Eighth St from the east end of the station platform to connect to the Santa Fe Trestle Trail (improvement 5A-EC-CW-136). Here, advance yield lines and "Yield Here to Pedestrians" signing should be added at the existing crosswalk and pedestrian warning signs should be relocated and added for compliance and improved driver awareness. The bus stop just upstream of the crosswalk should be relocated.

The City should consider pushbutton activated rectangular rapid flashing beacons (RRFB's) attached to the pedestrian warning sign assemblies. The City of Dallas should coordinate with DART on these improvements, since some may lie on station right-of-way. See Station Improvement 5A-EC-ST-08 and Section 3.1.9 for more details.

2. Across Eighth St at Denley Dr (improvement 5A-EC-CW-038), add lighting and additional signing to this existing marked school crosswalk. Add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines, and pedestrian warning signs at the crosswalk. The City of Dallas should consider a road diet so pedestrians only cross one lane of traffic in each direction and so a median refuge island can be constructed. Pedestrian-actuated rectangular rapid flashing beacons (RRFB's) could be added, especially in conjunction with a road diet and median refuge area. Or, a pedestrian hybrid beacon could also be considered, particularly if not implementing a road diet.



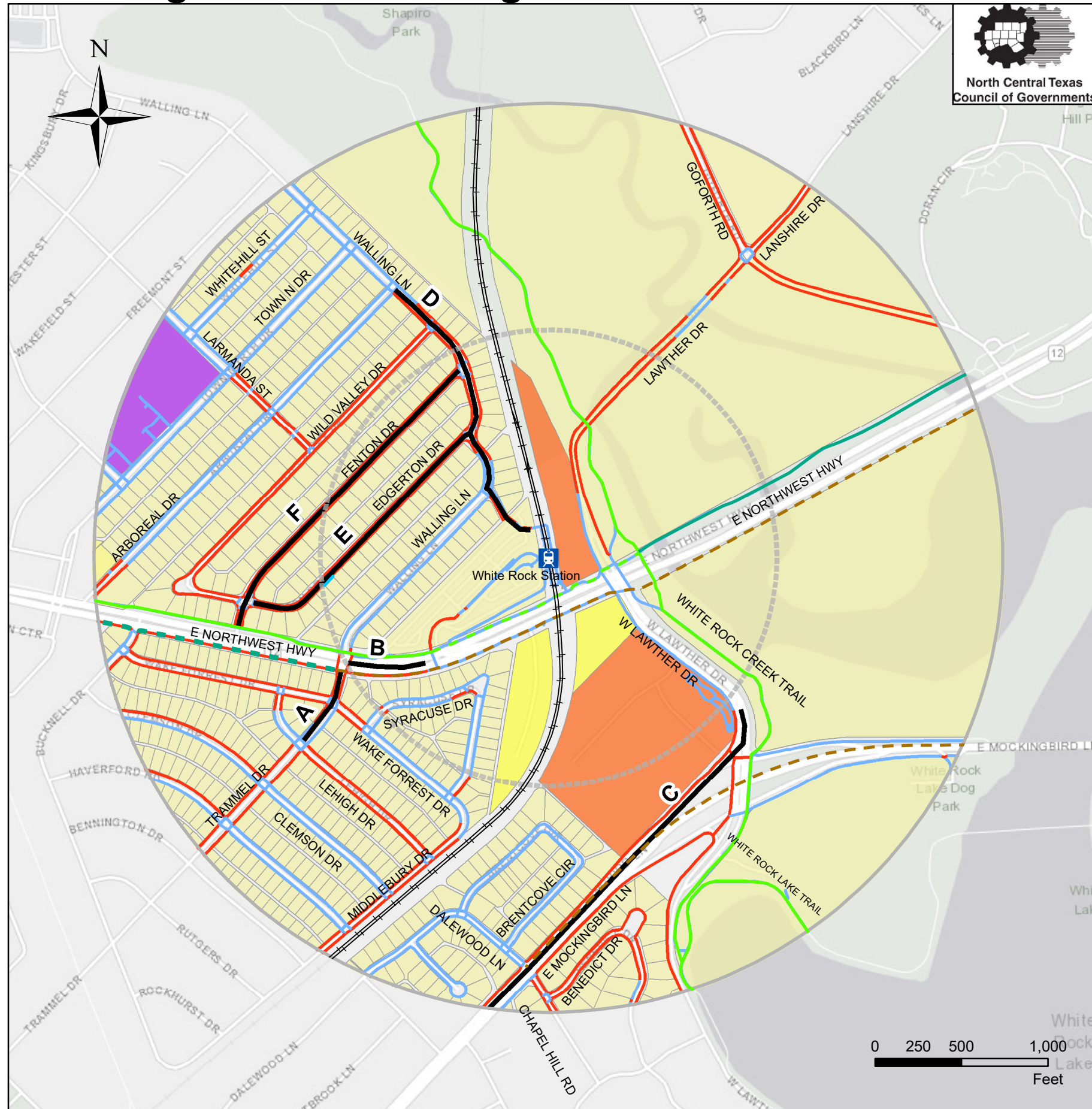
**FTA DART Stations
Last Mile Connections
White Rock
Station
November 2020**



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 4F-3 Existing Conditions



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Trammel Dr
B	E Northwest Hwy
C	E Mockingbird Ln
D	Walling Ln
E	Edgerton Der
F	Fenton Dr

FTA DART Stations Last Mile Connections White Rock Station November 2020



Figure 4F-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority 1

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

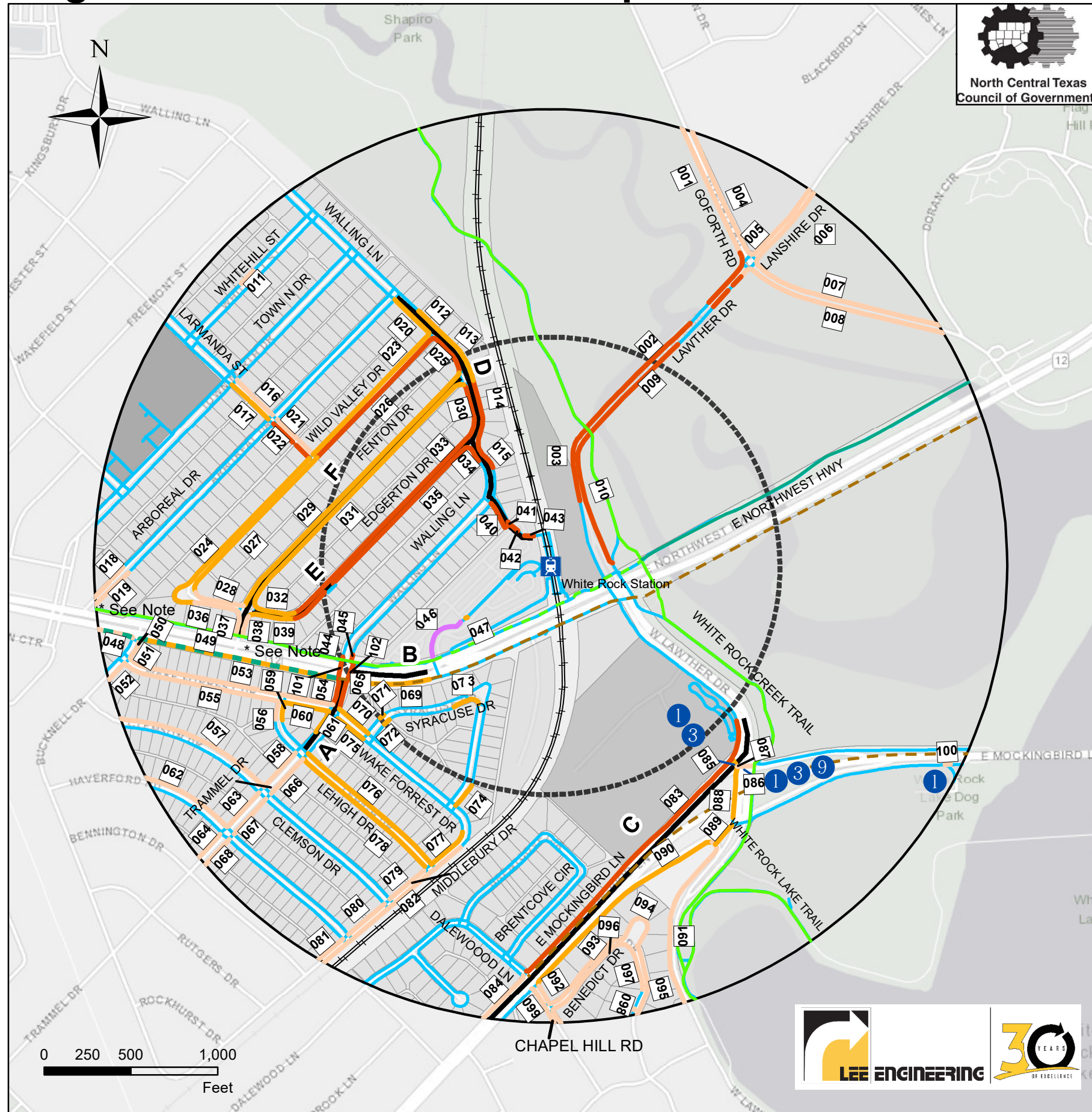
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- Traffic Signal

Primary Routes

Route	Street
A	Trammel Dr
B	E Northwest Hwy
C	E Mockingbird Ln
D	Walling Ln
E	Edgerton Dr
F	Fenton Dr

Improvement Code Legend (See Matrix)	
4F-WR-SW-01	
4F	← Station Number
WR	← Station Abbreviation
SW	← Sidewalk (or CW for Crosswalk)
01	← Improvement Number (Matches on Map)

* Relocate stop sign north of shared use path next to stop bar. Street name signs for Fenton Dr, Arboreal Dr, and Northwest Hwy should remain south of shared use path.

FTA DART Stations Last Mile Connections 8th and Corinth Station December 2020



Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap

Figure 5A-3 Existing Conditions

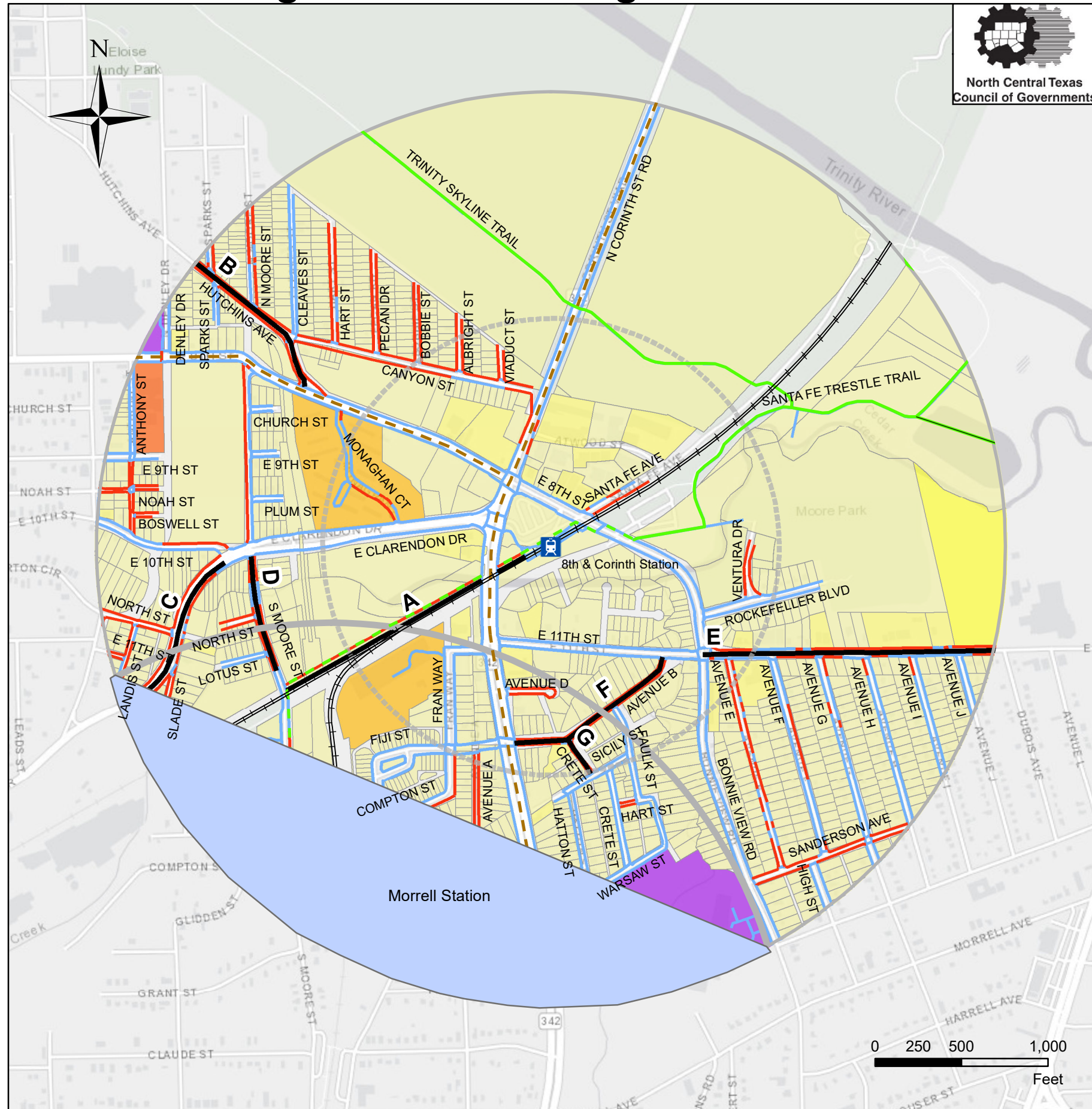


Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	DART Tracks
B	Hutchins Ave
C	E Clarendon Dr
D	S Moore St
E	E 11th St
F	Avenue B
G	Crete St



FTA DART Stations Last Mile Connections 8th and Corinth Station November 2020



Figure 5A-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

- Unsignalized Crosswalk Improvements**
- 1 Crosswalk Signs, Markings & Lighting
 - 2 Raised Crosswalk
 - 3 Advance "Yield Here" Sign
 - 4 In-Street Pedestrian Crossing
 - 5 Curb Extension
 - 6 Pedestrian Refuge Island
 - 7 Rectangular Rapid Flashing Beacon
 - 8 Road Diet
 - 9 Pedestrian Hybrid Beacon
- Signalized Crosswalk Improvements**
- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - 11 Traffic Signal

Primary Routes

Route	Street
A	DART Tracks
B	Hutchins Ave
C	E Clarendon Dr
D	S Moore St
E	E 11th St
F	Avenue B
G	Crete St

Improvement Code Legend (See Matrix)

5A-EC-SW-01

- 5A ← Station Number
- EC ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



FTA DART Stations Last Mile Connections 8th and Corinth Station November 2020



Figure 5A-4.2 Recommended Improvements Inset Detail

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - Traffic Signal
- Light Gray Canvas Base

Primary Routes

Route	Street
A	DART Tracks
B	Hutchins Ave
C	E Clarendon Dr
D	S Moore St
E	E 11th St
F	Avenue B
G	Crete St

Improvement Code Legend (See Matrix)

5A-EC-SW-01

5A ← Station Number
 EC ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)



3. Across N Corinth Street Rd at Ave B (improvements 5A-EC-CW-089 and 5A-EC-CW-090), the City should add crosswalk pavement markings and advance warning signs to these existing signed and lit but unmarked school crosswalks. A reduced speed 20 MPH school zone is in effect during school hours (compared to the normal 35 mph speed limit). A DART bus stop is also located at this intersection. Advance yield lines and "Yield Here to Pedestrians" signing should be added for each approach to mitigate risk of dual threat situation for pedestrians.

The City should also consider a road diet from six lanes to four, which would still be easily sufficient to accommodate the average daily traffic of around 14,000 vehicles/day. A road diet would allow construction of a median refuge island for easier crossing. Finally, the City should consider a pedestrian hybrid beacon to further enhance visibility of crossing pedestrians, particularly if no school crossing guard is present, a traffic study indicates pedestrian crossing demand outside school arrival/dismissal hours, or a road diet and median refuge island are not implemented.

Additional details about other improvements recommended in Figure 5A-4.1 and 5A-4.2, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Eighth & Corinth Station that can be found in **Appendix J**.

Dallas Zoo Station

Figure 5B-3 illustrates the existing conditions in the half-mile area around the Dallas Zoo Station. The station is highly disconnected from sidewalks in surrounding neighborhoods. The Dallas Zoo itself and Marsalis Ave along its eastern boundary form a barrier which impedes more direct multi-modal travel between the station and neighborhoods on the opposite side of the zoo. Long sidewalk gaps on the south side of IH-35E also contribute to the problem.

Though Marsalis Ave has sidewalks along both sides to the north of the station, a gap exists on the east side, and no connections are provided from the overpass bridge above to Clarendon Dr or the station platform below. To the south, there is no sidewalk on either side of Marsalis Ave, and roughly half of the neighborhood streets lack existing sidewalk in good condition. There are no existing shared use path or bicycle facilities in the area.

Figure 5B-4.1 shows the recommended improvements in the half-mile area around the Dallas Zoo Station. **Figure 5B-4.2** provides a zoomed-in view of a portion of the station area with a dense concentration of improvements. The improvements highlighted in yellow along Marsalis Ave, Clarendon Dr, Ewing Ave, Morrell Ave, Strickland St, and Galloway Ave were selected by NCTCOG for 15% sidewalk design by the consultant team.

Several improvements along the IH-35E frontage roads will be included as part of TxDOT's widening of the highway which is currently under construction.

Near the station platform, the City of Dallas should coordinate with DART to add pedestrian warning signs to the existing marked and lit crosswalk from the station platform across Clarendon Dr to the zoo entrance. Refer to improvement 5B-DZ-CW-085 on Figure 5B-4.1. This should include adding yield lines and "Yield Here to Pedestrians" signing for each approach to mitigate risk of dual threat situation for pedestrians. A pedestrian ramp is also needed at the south end of the crosswalk. The City should consider adding pedestrian-actuated RRFB's. See Section 3.1.10 for more information.

Constructing an elevator and stairway connection between sidewalk on the Marsalis Ave bridge above and Clarendon Dr beneath near the station platform could significantly reduce walking distances to the station for many destinations west of the zoo and/or north of IH-35E, since they would no longer need to travel east out of the way via Ewing Ave. However, estimated construction cost for this improvement would require preliminary structural design outside this scope of work.

The City of Dallas is planning on-street bikeways along Ewing Ave, Clarendon Dr, Jefferson Blvd, and Morrell Ave in the vicinity.

Additional details about other improvements recommended in Figure 5B-4.1 and 5B-4.2, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Dallas Zoo Station that can be found in **Appendix J**.

Morrell Station

Figure 5C-3 illustrates the existing conditions in the half-mile area around the Morrell Station. This station is surrounded by mostly single-family homes. Many of the residential streets have sidewalk in fair to good condition. However, on many other streets sidewalk is almost entirely absent or deteriorated. A short section of shared use pathway that will ultimately become part of a longer trail connects the north end of the station platform to the corner of Fayette St and Gilroy St to the north.

Figure 5C-4.1 shows the recommended improvements in the half-mile area around the Morrell Station. **Figure 5C-4.2** provides a zoomed-in view of a portion of the station area with a dense concentration of improvements. The City of Dallas is planning a Regional Veloweb shared use path along Moore St and Gilroy St north of the station. South of the station, the alignment would be along a widened existing sidewalk already in the DART right-of-way on the east side of the tracks next to Woodbine Ave.

Across Morrell Ave immediately south of the station, the City should coordinate with DART to install signed and marked crosswalks (see improvements 5C-MO-CW-66 through 5C-MO-CW-69). These should include new streetlighting, and consideration should be given to constructing a raised pedestrian refuge island in the median. See Section 3.1.11 and station improvements 5C-MO-ST-03 and 5C-MO-ST-04.

To the east along Morrell Ave at its intersection with Hutchins Rd (see improvements 5C-MO-CW-71 and 5C-MO-CW-72), the City should add school crossing signs at this existing marked and lit crosswalk, which is located within a signed school reduced speed zone for Franklin D. Roosevelt High School. The improvement should include adding advance yield lines and "Yield Here to Pedestrians" signing due to the high width of the two lane roadway (~40 feet). Consideration should also be given to constructing a median refuge island and/or curb extensions and adding pedestrian-actuated RRFB's.

A worn path in the grass east of Renner Rd indicates existing pedestrian demand leading to a pedestrian bridge over Little Cedar Creek and stairs up to S Corinth Street Rd, where a DART bus stop is present (see improvement 5C-MO-SW-107). Sidewalk to fill this gap should be constructed in conjunction with enhanced crosswalks across S Corinth Street Rd (at locations 5C-MO-CW-108 and 5C-MO-CW-135 described in the following paragraphs) to allow DART riders to safely and comfortably access the bus stops on either side of the six-lane divided arterial.



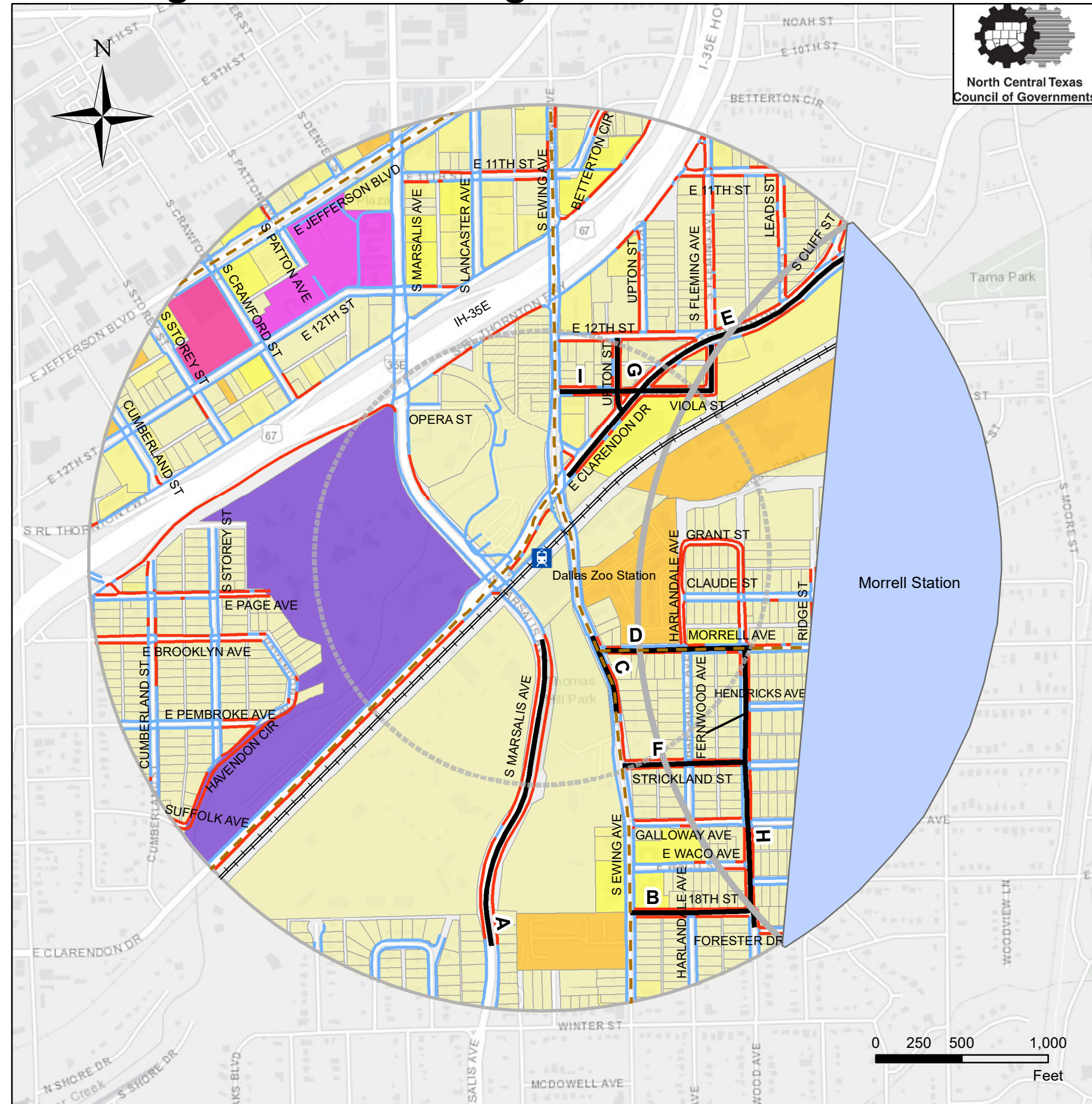
**FTA DART Stations
Last Mile Connections
Dallas Zoo
Station
November 2020**



Figure 5B-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	S Marsalis Ave
B	18th St
C	S Ewing Ave
D	Morrell Ave
E	E Clarendon Dr
F	Strickland St
G	Upton St
H	Fernwood Ave
I	Viola St

**FTA DART Stations
Last Mile Connections
Dallas Zoo
Station
November 2020**



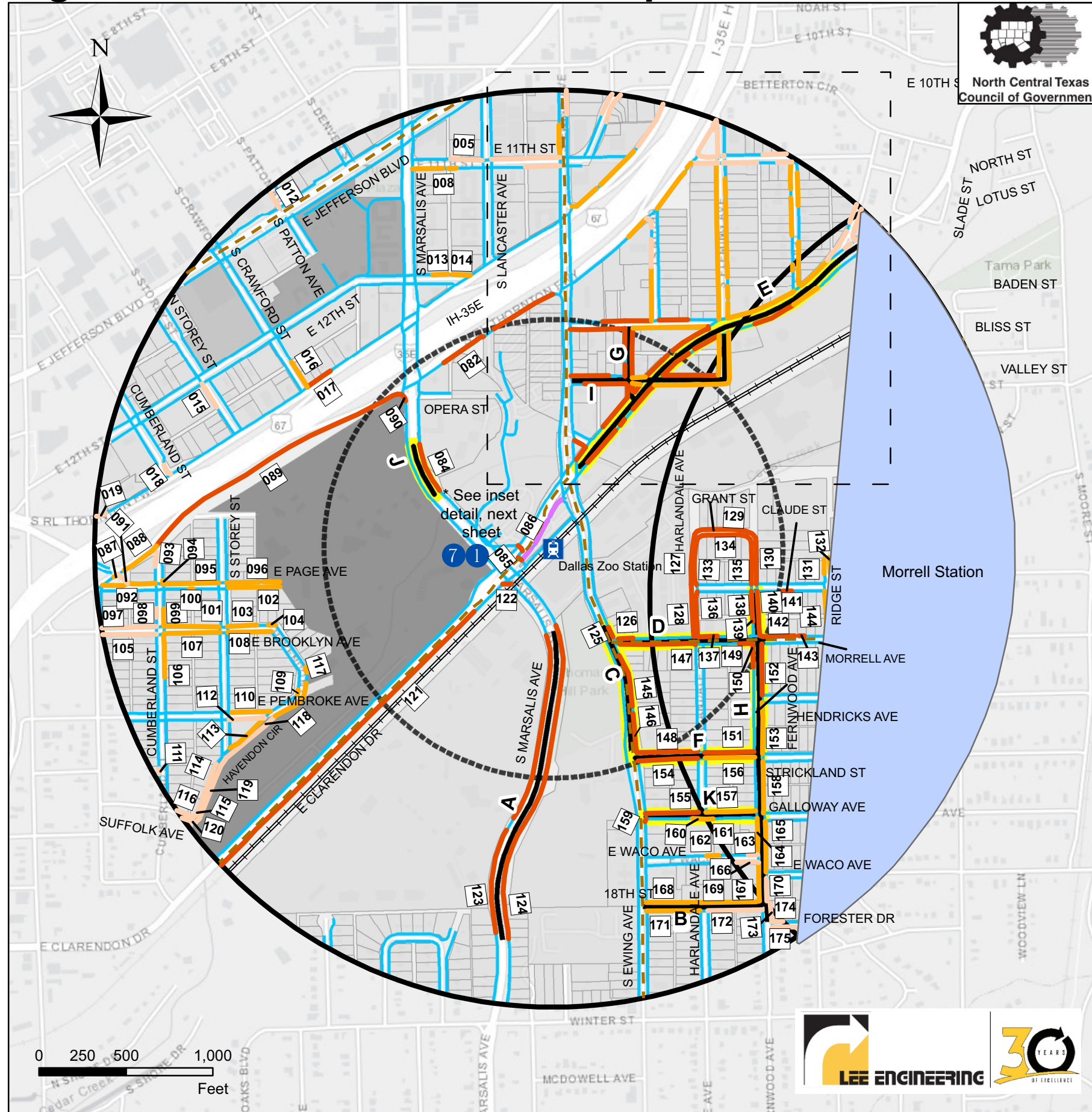
Figure 5B-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
 - 15% Design Corridors
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes	
Route	Street
15% Design Corridors	
A	S Marsalis Ave
B	18th St
C	S Ewing Ave
D	Morrell Ave
E	E Clarendon Dr
F	Strickland St
G	Upton St
H	Fernwood Ave
I	Viola St
J	S Marsalis Ave
K	Galloway Ave

Improvement Code Legend (See Matrix)

- 5B ← Station Number
- DZ ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



**FTA DART Stations
Last Mile Connections
Dallas Zoo
Station
November 2020**

**Figure 5B-4.2
Recommended Improvements Inset Detail**



Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- 15% Design Corridors

Existing Residential and Employment Population (Number of People)

Ppl

0 - 234
235 - 1049
1050 - 2586
2587 - 5364
5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes	
15% Design Corridors	
Route	Street
A	S Marsalis Ave
B	18th St
C	S Ewing Ave
D	Morrell Ave
E	E Clarendon Dr
F	Strickland St
G	Upton St
H	Fernwood Ave
I	Viola St
J	S Marsalis Ave
K	Galloway Ave

Improvement Code Legend (See Matrix)

5B-DZ-SW-01

5B ← Station Number
DZ ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)

FTA DART Stations Last Mile Connections Morrell Station

December 2020

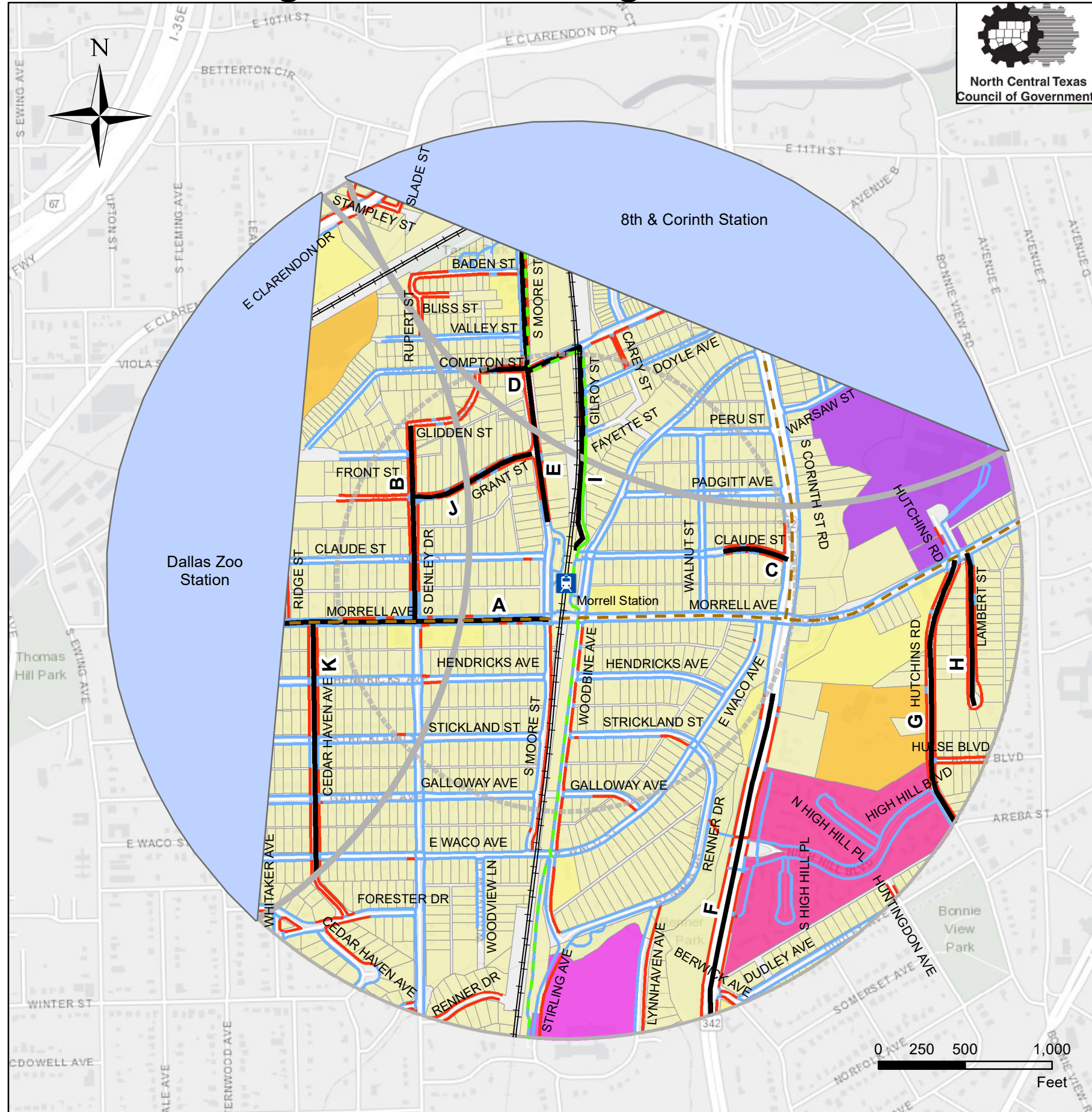


Figure 5C-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Morrell Ave
B	S Denley Dr
C	Claude St
D	Compton St
E	S Moore St
F	S Corinth St Rd
G	Hutchins Rd
H	Lambert St
I	Compton St/Gilroy St
J	Grant St
K	Cedar Haven Ave

FTA DART Stations Last Mile Connections Morrell Station

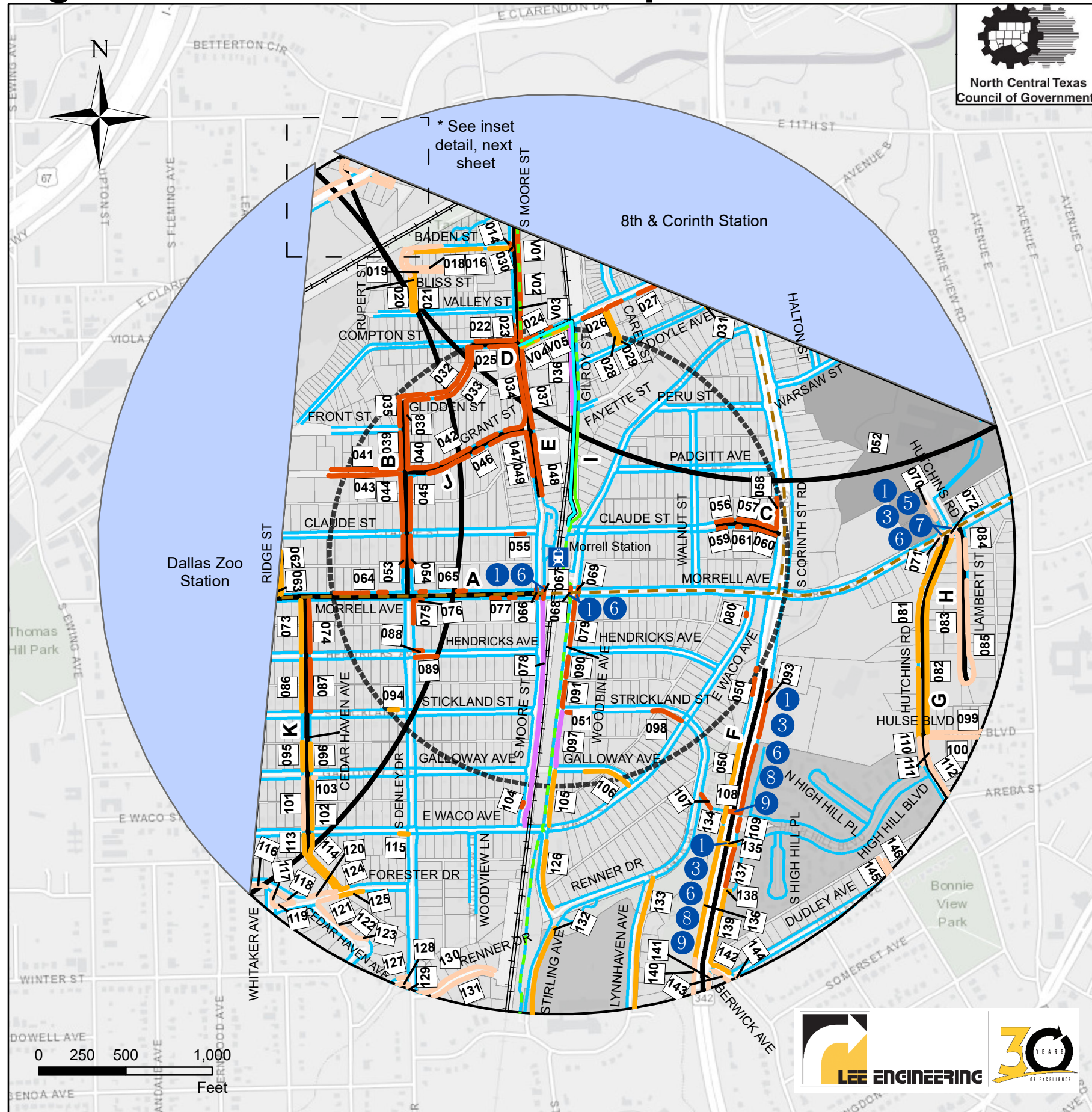
November 2020



Figure 5C-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- Existing Residential and Employment Population (Number of People)**
- Ppl**
- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

- Unsignalized Crosswalk Improvements**
- 1 Crosswalk Signs, Markings & Lighting
 - 2 Raised Crosswalk
 - 3 Advance "Yield Here" Sign
 - 4 In-Street Pedestrian Crossing
 - 5 Curb Extension
 - 6 Pedestrian Refuge Island
 - 7 Rectangular Rapid Flashing Beacon
 - 8 Road Diet
 - 9 Pedestrian Hybrid Beacon
- Signalized Crosswalk Improvements**
- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - 11 Traffic Signal

Primary Routes

Route	Street
A	Morrell Ave
B	S Denley Dr
C	Claude St
D	Compton St
E	S Moore St
F	S Corinth St Rd
G	Hutchins Rd
H	Lambert St
I	Compton St/Gilroy St
J	Grant St
K	Cedar Haven Ave

Improvement Code Legend (See Matrix)

- 5C ← Station Number
 MO ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)



FTA DART Stations Last Mile Connections Morrell Station

November 2020



Figure 5C-4.2 Recommended Improvements Inset Detail

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl**
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Morrell Ave
B	S Denley Dr
C	Claude St
D	Compton St
E	S Moore St
F	S Corinth Rd
G	Hutchins Rd
H	Lambert St
I	Compton St/Gilroy St
J	Grant St
K	Cedar Haven Ave

Improvement Code Legend (See Matrix)

5C-MO-SW-01

- 5C ← Station Number
- MO ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)

Improvement locations 5C-MO-CW-108 and 5C-MO-CW-135 are located across the north and south legs, respectively, of the wide intersection of High Hill Blvd and Corinth Street Rd. High Hill Blvd has a wide landscaped median that separates the eastbound and westbound lanes near the intersection by about 100 feet.

The southern leg of the intersection has an existing marked but faded crosswalk with pedestrian warning signs mounted in the median. The pavement markings should be refreshed, and additional warning signs, advance yield lines, and "Yield Here to Pedestrians" signing should be installed. The City should give strong consideration to implementing a road diet from six lanes to four in order to provide a wider median refuge area, as traffic volumes are well below the capacity of a four-lane roadway. Also, strong consideration should be given to a pedestrian hybrid beacon, which should especially be installed if a road diet is not implemented.

If a road diet and/or pedestrian hybrid beacon is implemented at the south leg of the intersection, a crosswalk across the north leg of the intersection should also be considered for more direct connection to the pedestrian bridge over Little Cedar Creek to the west. This bridge provides a slightly shorter walking distance to the station for some homes nearby. If marking the north leg with a crosswalk, additional warning signs, advance yield lines, and "Yield Here to Pedestrians" signing should be added for the north leg as well as for the south leg.

The City should coordinate with DART to ensure that the crosswalk design meets DART's needs for locating the bus stops, with bus stops downstream of the crosswalks for better sight lines if possible.

The City of Dallas is also planning on-street bikeways along Morrell Ave and S Corinth Street Rd north of Morrell Ave.

Additional details about other improvements recommended in Figure 5C-4.1 and 5C-4.2, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Morrell Station that can be found in **Appendix J**.

Tyler Vernon Station

Figure 6A-3 illustrates the existing conditions in the half-mile area around the Tyler Vernon Station. This station serves a mostly residential area. A largely connected rectangular grid street system partially compensates for the lack of sidewalk on many streets north and southwest of the station, though Clarendon Dr and the creek to the north of it are a barrier to linear travel for the neighborhood to their north. To the southeast of the station, sidewalks are completely absent from the lower density residential neighborhood tributary to Monssen Dr and Manus Dr. There are no existing shared use paths or on-street bikeways in the area.

Figure 6A-4.1 shows the recommended improvements in the half-mile area around the Tyler Vernon Station. **Figures 6A-4.2** and **6A-4.3** provide zoomed-in views of two portions of the station area with dense concentrations of improvements. Significant segments of sidewalk are proposed along Leganon Ave, adjacent to the station, as well as along Nolte Dr, Polk St, Tyler St, and Vernon Ave as well as along many neighborhood streets.

Enhanced crosswalks are proposed at several locations. Among the most notable are:

- Across Tyler St adjacent to the east end of the station platform, where a pedestrian traffic signal and median refuge island are recommended. The City should coordinate with DART at this location since some features of the improvement may be in their right-of-way.
- Across the Polk St Cutoff at Buckalew St, where the City should add high visibility markings and lighting to this existing signed but unmarked school crosswalk across a three-lane, one-way street. Advance yield lines and "Yield Here to Pedestrians" signing should be added on the approach to mitigate the risk of a dual threat situation for pedestrians. The City should consider a road diet to implement a curb extension, since two lanes would be more than sufficient for the ~7,000 average daily traffic. A pedestrian hybrid beacon should also be considered, especially if a road diet is not implemented or if a study indicates significant pedestrian demand outside school arrival and dismissal hours. A DART bus stop is located on the west side of the street near this crosswalk.
- Across Tyler St at Page Ave, where the City should add high visibility markings to this existing signed but unmarked school crosswalk across a three-lane, one-way street in a 20 mph reduced speed school zone. The improvement should include adding advance yield lines and "Yield Here to Pedestrians" signing on the approach to mitigate risk of dual threat situation for pedestrians. A road diet should be considered to implement a curb extension, since two lanes would be more than sufficient for the ~8,000 average daily traffic. A pedestrian hybrid beacon should also be considered, especially if a road diet is not implemented or if a study indicates significant pedestrian demand outside school arrival and dismissal hours. A DART bus stop is located on the east side of the street near this crosswalk.
- Across Tyler St at Burlington Ave, where the City should add high visibility markings and lighting to this existing signed but unmarked school crosswalk that crosses a six-lane divided arterial but which is not in a reduced speed school zone. The improvement should include adding advance yield lines and signing. A road diet should be considered to implement a median refuge, since four lanes would be more than sufficient for the ~15,000 average daily traffic. A pedestrian hybrid beacon should also be considered, especially if a road diet is not implemented or if a study indicates significant pedestrian demand outside school hours. DART bus stops are located on either side of Tyler St at this location.
- Across Vernon Ave at Ferndale Ave, where DART bus stops with modest ridership are present on both sides of the six-lane divided roadway here. If a crosswalk is installed, it must be accompanied by other measures, such as advance yield lines and "Yield Here to Pedestrians" signing at the yield lines. Preferably, a road diet from six lanes to four lanes and a median refuge area would also be implemented. A pedestrian hybrid beacon could also be considered, particularly if not implementing a road diet.

The City of Dallas is planning a shared use path as part of the Regional Veloweb that will extend west from the station in a greenway north of Elmwood Blvd. The City of Dallas has funded an on-street bikeway for Edgefield Ave, which runs north-south through the area about 0.25 mile west of the station. Additional on-street bikeways are planned for Tyler St, Vernon Ave, the Polk St Cutoff, Clarendon Dr, and Ferndale Ave.

Additional details about other improvements recommended in Figure 6A-4.1, 6A-4.2 and 6A-4.3, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Tyler Vernon Station that can be found in **Appendix J**.

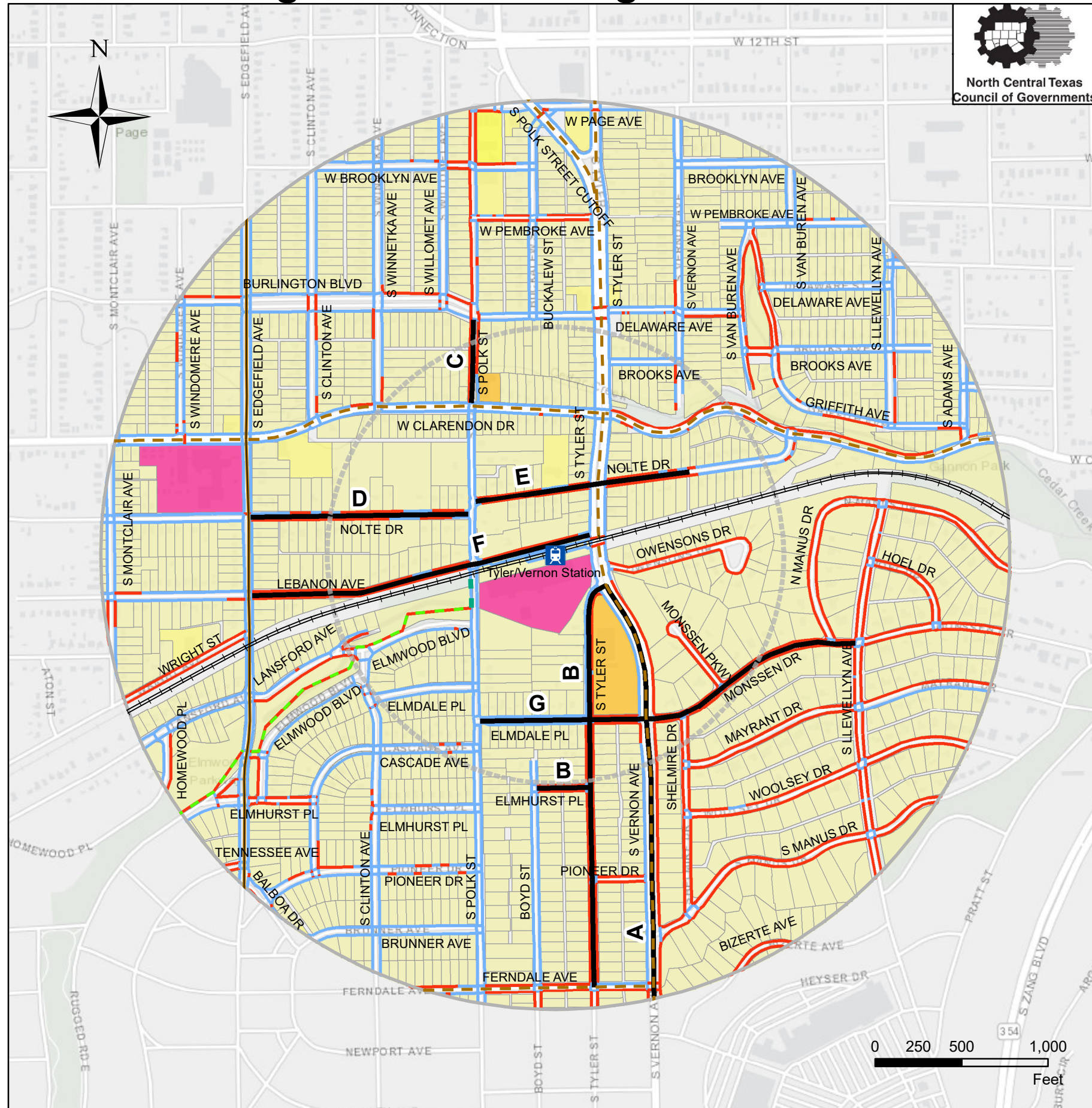
FTA DART Stations Last Mile Connections Tyler Vernon Station December 2020



Figure 6A-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	S Vernon Ave
B	Elmhurst Pl / S Tyler St
C	S Polk St
D	Nolte Dr
E	Nolte Dr
F	Lebanon Ave
G	Elmdale Pl / Monssen Dr

FTA DART Stations Last Mile Connections Tyler/Vernon Station November 2020



Figure 6A-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority 1

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

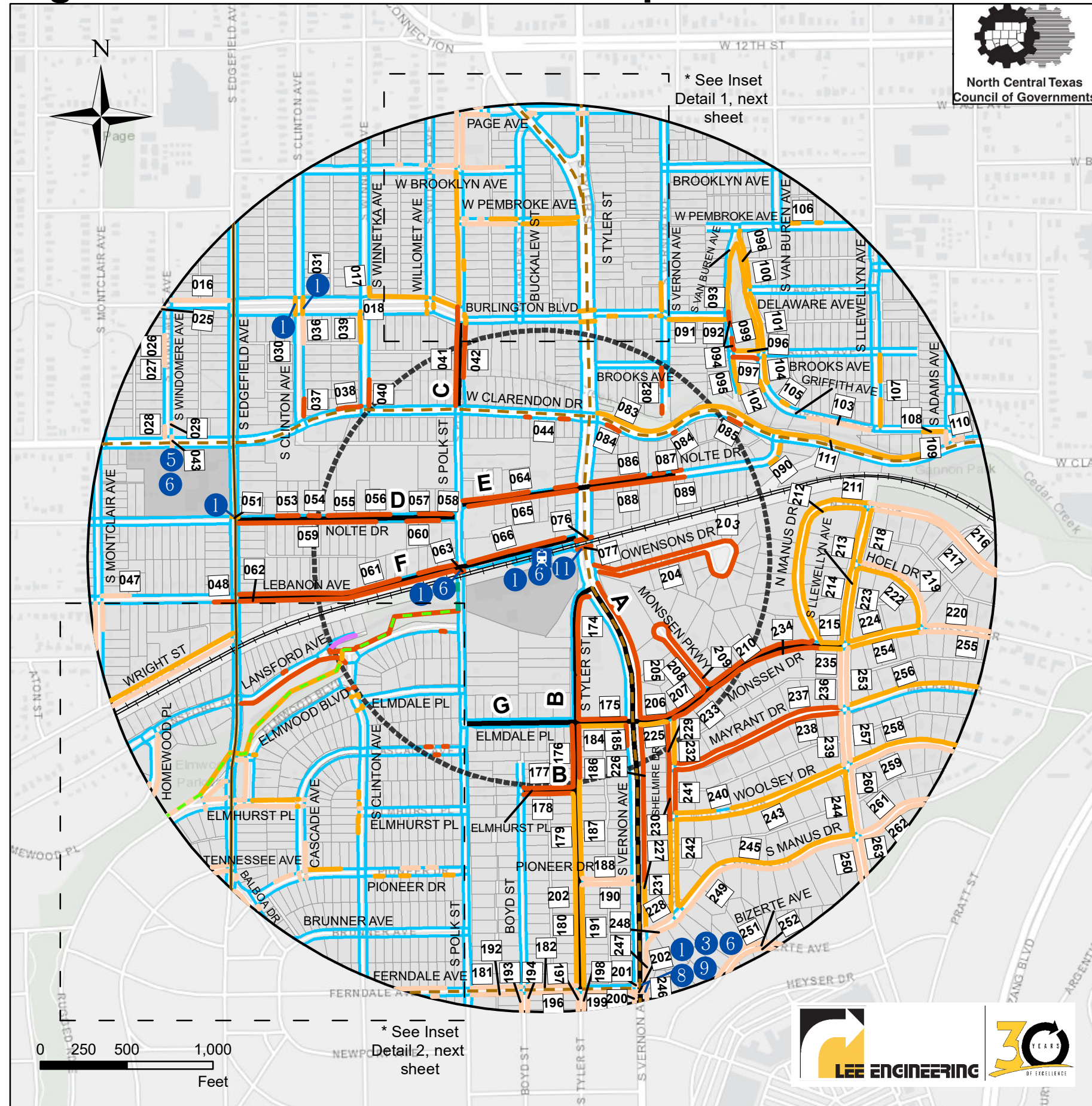
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - Traffic Signal

Primary Routes

Route	Street
A	S Vernon Ave
B	Elmhurst Pl / S Tyler St
C	S Polk St
D	Nolte Dr
E	Nolte Dr
F	Lebanon Ave
G	Elmdale Pl / Monssen Dr

Improvement Code Legend (See Matrix)

6A-TV-SW-01

- 6A ← Station Number
- TV ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



**FTA DART Stations
Last Mile Connections
Tyler/Vernon
Station
November 2020**

**Figure 6A-4.2
Recommended Improvements Inset Detail 1**



Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Built by Others
- Gap to Remain
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	S Vernon Ave
B	Elmhurst PL / S Tyler St
C	S Polk St
D	Nolte Dr
E	Nolte Dr
F	Lebanon Ave
G	Elmdale Pl / Monssen Dr

Improvement Code Legend (See Matrix)

6A-TV-SW-01

- 6A ← Station Number
- TV ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)

**FTA DART Stations
Last Mile Connections
Tyler/Vernon
Station
November 2020**

**Figure 6A-4.3
Recommended Improvements Inset Detail 2**



Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority 1**
- High
- Medium
- Low
- Built by Others
- Gap to Remain
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

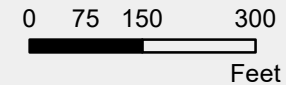
Primary Routes

Route	Street
A	S Vernon Ave
B	Elmhurst Pl / S Tyler St
C	S Polk St
D	Nolte Dr
E	Nolte Dr
F	Lebanon Ave
G	Elmdale Pl / Monssen Dr

Improvement Code Legend (See Matrix)

6A-TV-SW-01

- 6A ← Station Number
- TV ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



Hampton Station

Figure 6B-3 illustrates the existing conditions in the half-mile area around the Hampton Station. Sidewalk connectivity is good for some streets but poor or nonexistent for others. The lack of sidewalk on the west side of Hampton Rd north of the station is a significant barrier to pedestrian travel since there are no other signalized crossings of the street north of Wright St. Both sides of Wright St east of the station are also without sidewalk, leaving many residential streets with circuitous walking routes to access transit.

No bicycle facilities are currently located particularly near the station. A shared use path on the Regional Veloweb is present near Rugged Dr at the east boundary of the station area, but this is at greater than a half mile travel distance due to the curvature of Elmwood Blvd, its adjacency to the Elmwood Branch creek, and the lack of creek crossings south or east of Hampton Rd.

Figure 6B-4.1 shows the recommended improvements in the half-mile area around the Hampton Station. In addition to filling the sidewalk gaps on the streets mentioned above and others, enhanced crosswalks are recommended at the following locations:

- For crossing Wright St at Hollywood Ave (improvements 6B-HA-CW-90 and 6B-HA-CW-91), the City of Dallas should coordinate with DART to add a signed and marked, high-visibility crosswalk immediately adjacent to the DART Station. Streetlighting is already present. Provide pedestrian ramps on the south side of Wright St to connect the new crosswalks to the existing sidewalk that is set back from the street by a grass strip. Some tree root damage may occur. Make crosswalk improvements in conjunction with DART improvements to provide gaps in the decorative fencing around the station and short sidewalk connections to the station platform. See station improvements 6B-HA-ST-05 and 6B-HA-ST-06. Additionally, consider constructing a median refuge by narrowing the existing 17-ft lanes on Wright St to 12 feet in each direction.
- For crossing Wright St at Montreal Ave (improvement 6B-HA-CW-92), the City should coordinate with DART to add a signed and marked, high-visibility crosswalk immediately adjacent to the DART Station. Streetlighting is already present. Provide pedestrian ramps on the south side of Wright St to connect the new crosswalks to the existing sidewalk. Additionally, consider constructing a median refuge by narrowing the existing 17-ft lanes on Wright St to 12 feet in each direction.
- At the signalized intersection of Hampton Rd and Wright St (improvements 6B-HA-CW-87 through 89 and 6B-HA-CW-105), the City should add parallel white edge lines to the existing brick crosswalk. Though an unmarked legal crosswalk by default exists at the signalized intersection, similar architectural brick work (recommended for removal or modification by DART in Section 3.1.13) is present in the adjacent station area in places that may temporarily confuse distracted pedestrians. A design for crosswalks in the area that is consistent, legal, and distinct from architectural flourishes is recommended for proper emphasis of correct pedestrian crossing locations. See Station area improvements 6B-HA-ST-01 and 6B-HA-ST-02 for reference.
- At the intersection of Hampton Rd and Elmwood Blvd (improvement 6B-HA-CW-133), a marked, signed, and lit school crosswalk is already in place near Moreno Elementary School in an existing 20 mph reduced speed school zone. DART bus stops with modest ridership are

present on either side of Hampton Rd here. The City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines. The City should give strong consideration to a pedestrian hybrid beacon due to the number of lanes crossed, high traffic volumes, potential for high speeds, and the benefit to pedestrians crossing outside of school arrival/dismissal times.

- For crossing Hampton Rd south of Illinois Ave (improvement 6B-HA-CW-134), the City should install additional warning signs for this existing marked crosswalk. The improvement should include adding advance yield lines, "Yield Here to Pedestrians" signing, and possibly a pedestrian hybrid beacon, due to the presence of retail land use on both sides of the street, combined with high traffic volumes and the potential for high speeds.

Alternatively, the City and DART may consider if bus stops can be consolidated closer to those at Illinois Ave approximately 350 feet to the north, where a signalized crosswalk is already present. In particular, care should be taken that a pedestrian hybrid beacon would not create turning conflicts with motorists using the gaps it creates in through traffic to turn to and from the adjacent shopping center across the crosswalks. Note that none of these improvements would be expected to impact walking trips to the station but would affect the safety of DART riders using these bus stops.

- For crossing Illinois Ave at Hollywood Ave (improvements 6B-HA-CW-204 and 205), the City should consider installing a signed and marked crosswalk with advance yield lines, "Yield Here to Pedestrians" signing, and a pedestrian hybrid beacon, due to the presence of moderate ridership bus stops and retail land use on both sides of the street, combined with high traffic volumes and the potential for high speeds. However, the City and DART might first consider if bus stops can be consolidated closer to those at Hampton Rd approximately 350 feet to the west, where a signalized crosswalk is already present. In particular, care should be taken that a pedestrian hybrid beacon would not create turning conflicts with motorists using the gaps it creates in through traffic to turn to and from the adjacent shopping center across the crosswalks. Note that none of these improvements would be expected to impact walking trips to the station but would affect the safety of DART riders using these bus stops.
- For crossing Waverly Dr at Melbourne Ave (improvements 6B-HA-CW-193 and 194), the City should add high-visibility crosswalk markings and pedestrian ramps to this existing signed but unmarked school crosswalk. Streetlighting is already present.

Additional details about other improvements recommended in Figure 6B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Hampton Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Hampton Station

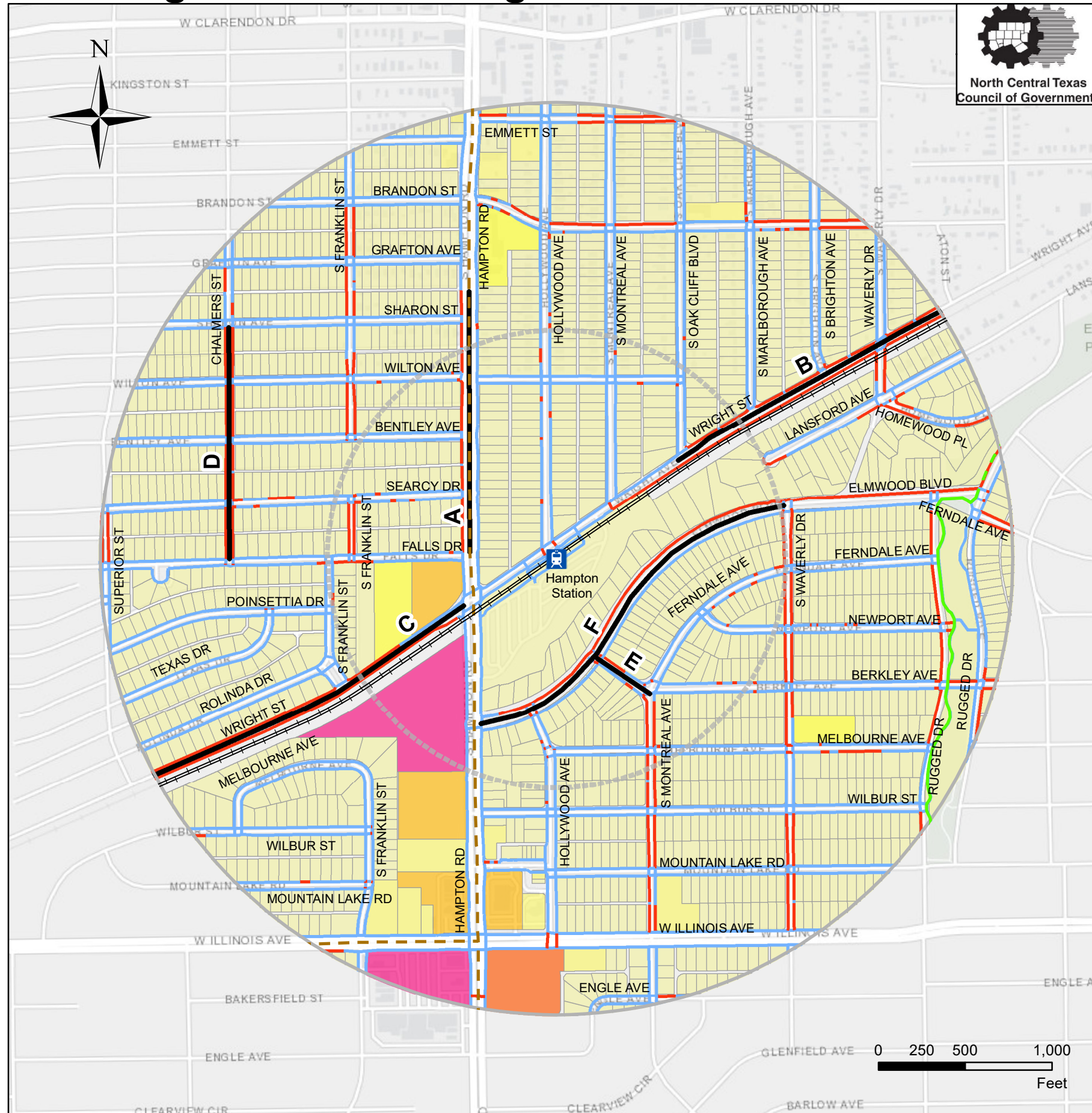
November 2020



Figure 6B-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap

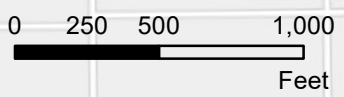


Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Hampton Rd
B	Wright St
C	Wright St
D	Chalmers St
E	Berkley Ave
F	Elmwood Blvd



FTA DART Stations Last Mile Connections Hampton Station

November 2020



Figure 6B-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority

1

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

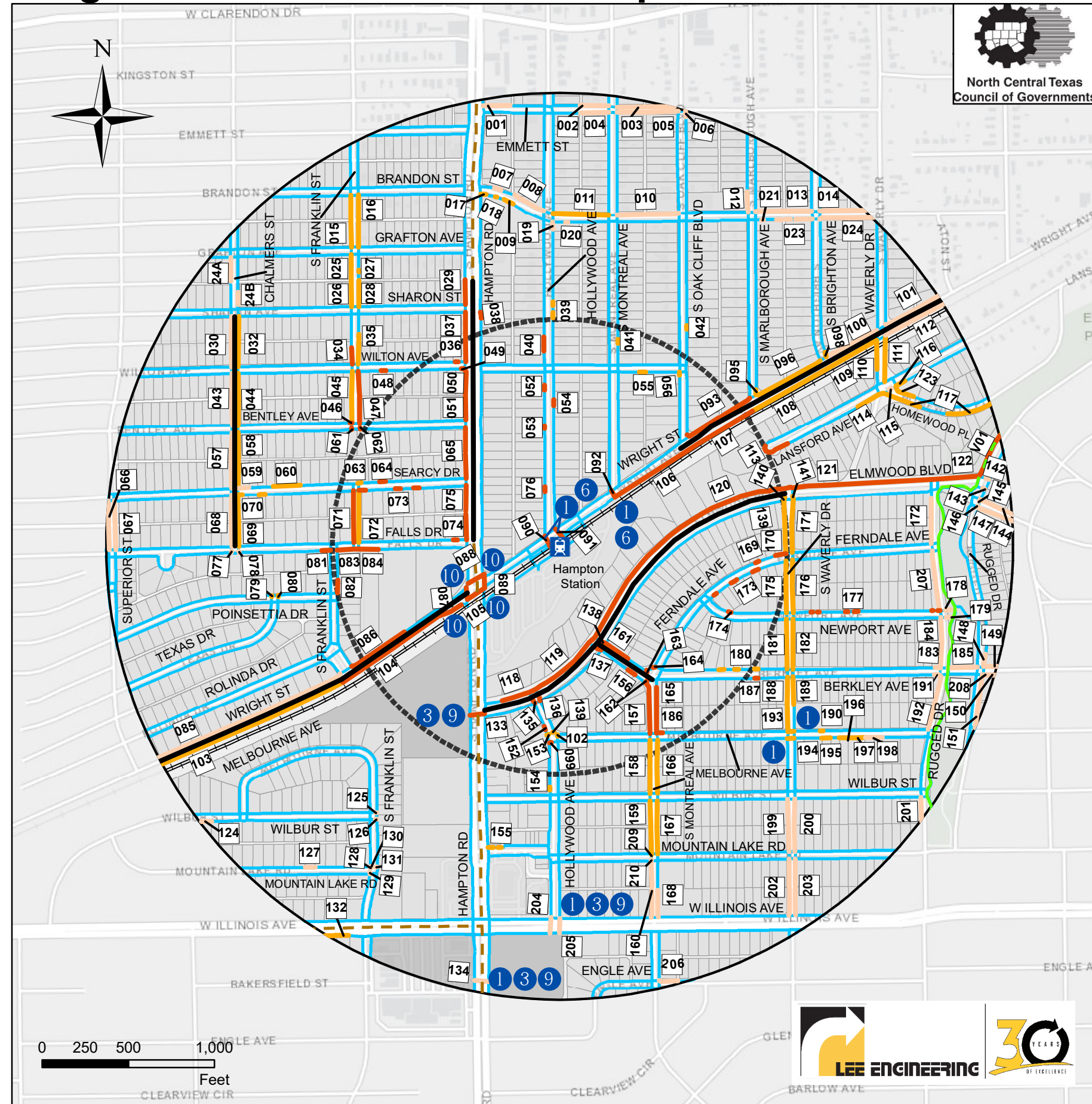
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks
- 11 Traffic Signal

Primary Routes

Route	Street
A	Hampton Rd
B	Wright St
C	Wright St
D	Chalmers St
E	Berkley Ave
F	Elmwood Blvd

Improvement Code Legend (See Matrix)

6B-HA-SW-01

- 6B ← Station Number
- HA ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches **1** on Map)



Westmoreland Station

Figure 6C-3 illustrates the existing conditions in the half-mile area around the Westmoreland Station. This station serves primarily residential land uses to the north and west, plus a large industrial area to the southeast. Multimodal connectivity is relatively poor. Illinois Ave north of the station and Westmoreland Rd to the west are each barriers to pedestrian travel since they each have six lanes of traffic and only one traffic signal where they intersect. The signal is out of the way for many walking and biking trips between the station and adjacent destinations. Significant sidewalk gaps are present along Wright Ave, Illinois Ave, and Barnett Ave in the residential neighborhood and along Glenfield Ave and Hansboro Ave in the industrial area. No existing shared use paths or bikeways are present.

Figure 6C-4 shows the recommended improvements in the half-mile area around the Westmoreland Station. In addition to constructing sidewalk to fill gaps, the recommended improvements include:

- For crossing Illinois Ave at the DART Station driveway (improvements 6C-WM-CW-100 and 101), the City of Dallas should work with DART to add a signed and marked crosswalk with pedestrian hybrid beacon. The beacon will also serve travel to a bus stop on the north side of Illinois Ave at Barnett Ave less than 300 feet to the west. Streetlighting is already in place. Include advance yield lines and "Yield Here to Pedestrians" signing at the yield lines.
- For crossing Westmoreland Ave west of the DART station (improvements 6C-WM-CW-038, 039), the City should add a signed and marked crosswalk with pedestrian hybrid beacon, connecting to a funded segment of the Regional Veloweb that will extend to the west (improvement 6C-WM-VW-V02). Streetlighting is already in place. Include advance yield lines and "Yield Here to Pedestrians" signing at the yield lines.
- South of the DART station property, the City of Dallas should work together with DART and the adjacent property owner to add a sidewalk connection to the factory and warehousing businesses along Glenfield Ave, approximately following the worn path in the grass that indicates existing pedestrian demand (improvements 6C-WM-SW-118 to 120). An easement for sidewalk across private property would be required, as would a crossing of the abandoned freight rail spur line just south of DART property. The improvement should be coordinated with recommended improvements on DART property to provide continuous sidewalk through the Park & Ride lot to the train platform. See DART Station improvement 6C-WM-ST-13 and Section 3.1.14 for more details.
- The City of Dallas should add a marked crosswalk across Wright Ave at Illinois Ave (improvement 6C-WM-CW-102) due to high skew of the intersection and the resulting long crossing distance and potential for high speed turns conflicting with pedestrians. The improvement should include new sidewalk through the Wright Ave median.

Southwest-bound Wright Ave is posted for stop control, but the crosswalk should be at least one car length to the northeast in advance of the edgeline for Illinois Ave so the crosswalk can cross the roadway at a right angle for a shorter crossing distance. The stop sign should be relocated either in advance of the crosswalk or downstream of it. Pedestrian warning signs with diagonal arrow plaques should be placed on both outside edges of the roadway and at both edges of the Wright Ave median.

In the case of southwest-bound traffic, pedestrian warning signs should be omitted if the stop sign is placed at the crosswalk instead of downstream. Consider adding pedestrian actuated rectangular rapid flashing beacons (RRFB's) in the median and on the northeast side of the intersection to face northeast-bound traffic for increased yielding compliance by drivers.

- At the existing signed crosswalk across the south leg of Westmoreland Rd at Texas Dr, a six-lane crossing with high traffic volumes and potential for high speeds, refresh pavement markings and give strong consideration to adding a pedestrian hybrid beacon (improvement 6C-WM-CW-112). Consider adding new crosswalk markings across the north leg of the same intersection (improvement 6C-WM-CW-040), where pedestrian warning signs are already in place. Streetlighting is already in place. Add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines.
- For crossing Westmoreland Rd at two additional intersections at Rockford Dr (improvements 6C-WM-CW-036 and 037) and Banning St (improvements 6C-WM-CW-042 and 043), the City should consider adding signed and marked crosswalks with pedestrian hybrid beacons due to modest bus ridership at stops on either side of the six-lane roadway with high traffic volumes and potential for high speeds. Streetlighting is already in place. Add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines.
- For crossing Illinois Ave at Coombs Creek Dr (improvements 6C-WM-CW-016 and 017), the City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines at this existing signed and marked school crosswalk in a 20 mph reduced speed school zone. Also, give strong consideration to adding a pedestrian hybrid beacon. A PHB should be considered based on modest bus ridership at DART bus stops on either side of the six-lane roadway with high traffic volumes and potential for high speeds. Streetlighting is already in place.
- For three crossings of Ravinia Dr at Texas Dr (improvement 6C-WM-CW-083), Rockford Dr (6C-WM-CW-085), and Rolinda Dr (6C-WM-CW-087), the City should install additional warning signs for the existing signed, marked and lit school crosswalks in a reduced speed 20 mph school zone. Add advance yield lines, "Yield Here to Pedestrians" signing, and consider installing pedestrian-actuated rectangular rapid flashing beacons (RRFB's).

Also consider a road diet to reduce Ravinia Dr from four lanes to three so that curb extensions and/or median refuge islands can be installed at each crosswalk. Four lanes is likely well above required capacity for this lightly traveled street, though it may be desirable to retain a parking or auxiliary lane in the northbound direction depending on school arrival and dismissal circulation patterns and vehicular storage capacity.

The City of Dallas is planning on-street bike lanes along Illinois Ave and Barnett Ave in this area, as well as an off-street shared use path along the west side of Coombs Creek Dr south of Illinois Ave.

Additional details about other improvements recommended in Figure 6C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Westmoreland Station that can be found in **Appendix J**.



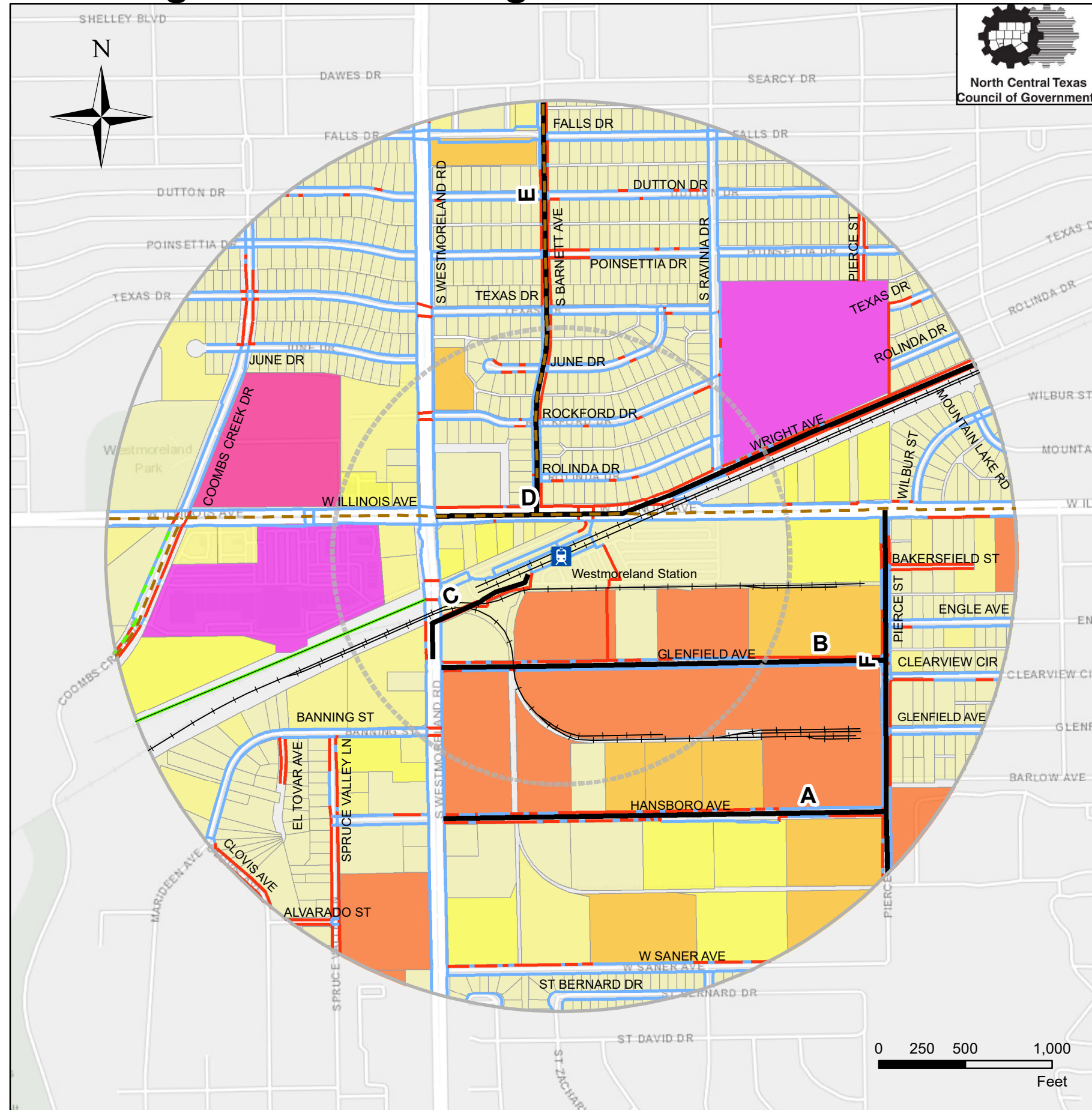
FTA DART Stations Last Mile Connections Westmoreland Station November 2020



Figure 6C-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Hansboro Ave
B	Glenfield Ave
C	S Westmoreland Rd
D	Wright Ave
E	S Barnett Ave
F	Pierce St

FTA DART Stations Last Mile Connections Westmoreland Station November 2020



Figure 6C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority 1

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

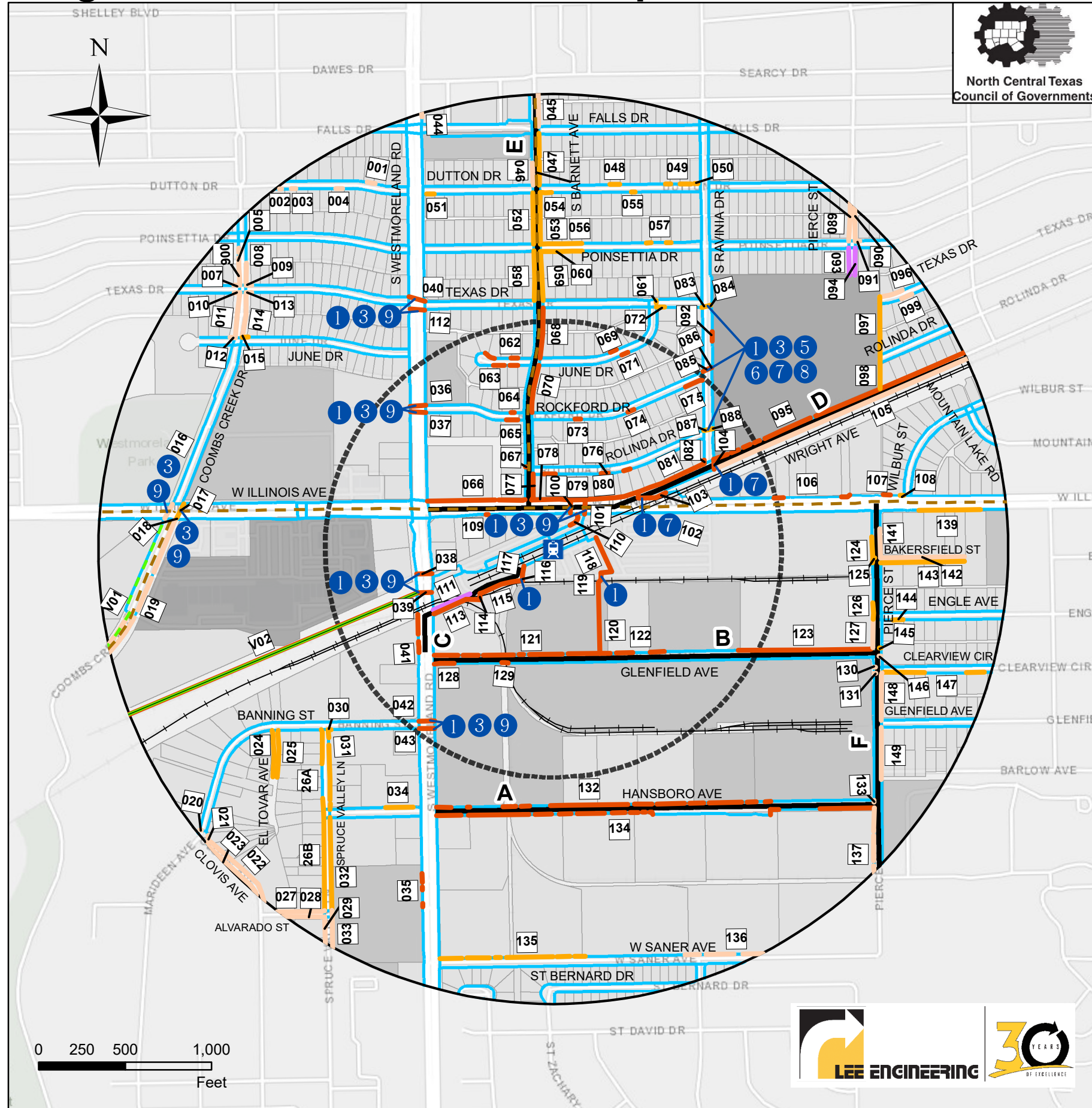
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Hansboro Ave
B	Glenfield Ave
C	S Westmoreland Rd
D	Wright Ave
E	S Barnett Ave
F	Pierce St

Improvement Code Legend (See Matrix)

6C-WM-SW-01

- 6C ← Station Number
- WM ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches on Map)



Illinois Station

Figure 7A-3 illustrates the existing conditions in the half-mile area around the Illinois Station. Sidewalk connectivity is very poor in this area. Most streets lack sidewalk on either side, though Illinois Ave and Denley Dr, two critical links, do have sidewalk along most of their length. S Corinth Street Rd is a significant barrier to east-west multi-modal travel due to its width, high speeds, and lack of sidewalk.

Shared use paths on the Regional Veloweb have recently been constructed in Onkor right-of-way south of Illinois Ave and along the north side of Illinois Ave east of S Corinth Street Rd.

Figure 7A-4.1 shows the recommended improvements in the half-mile area around the Illinois Station. **Figures 7A-4.2** and **7A-4.3** provide zoomed-in views of two portions of the station area with dense concentrations of improvements. In addition to filling the many sidewalk gaps, the more notable recommended improvements include:

- At the intersection of S Corinth Street Rd and Louisiana Ave just northeast of the station, (improvements 7A-IL-CW-309 and 312), the City of Dallas should consider adding a pedestrian hybrid beacon with high visibility crosswalk markings, pedestrian warning signs, advance yield lines and "Yield Here to Pedestrians" signing on each approach to improve crossing safety and convenience. While this crossing is about 600 feet north of the existing traffic signal at the DART station entrance, pedestrians traveling to and from the northeast of the station may be unlikely to walk over 1,000 feet out of their way to use that signal. Street lighting is already present at the intersection. Also consider a road diet from six lanes to four to implement a median refuge area, since four lanes should be more than sufficient for the ~15,000 average daily traffic. DART bus stops are located on either side of S Corinth St Rd at this location.
- At the signalized intersection of S Corinth Street Rd and the DART Station entrance (improvement 7A-IL-CW-319) the City of Dallas should add a marked crosswalk. The traffic signal already includes pedestrian signals and pushbuttons. Because the traffic signal poles on the northeast and southeast corners of the intersection sit in the middle of a narrow 5' grass strip between the curb and a sloped concrete retaining wall, the east side of the T-intersection would not be accessible even after adding sidewalk without changes to the traffic signal design. If the sloped retaining wall cannot be modified to allow for sidewalk to bypass the poles, consider replacing the two signal poles with a twin mast arm pole mounted in the north median of the intersection. A smaller pedestal pole for a pedestrian signal and pushbutton would still need to be located on the northeast corner, but it may allow the impact to the retaining wall to be minimized.
- At the Illinois Ave crossing of the planned Regional Veloweb shared use path (improvement 7A-IL-CW-176), install a pedestrian hybrid beacon and marked crosswalk with advance pedestrian warning signs, advance yield lines, "Yield Here to Pedestrians" signing at the yield lines, and pedestrian warning signs at the crosswalk. All recommended work is contingent on construction of the Regional Veloweb shared use path crossing. Consider a road diet so pedestrians only cross two lanes of traffic in each direction (ADT ~20,000 veh/day may be adequately accommodated by four rather than six lanes).

- At the intersection of S Corinth Street Rd and Illinois Ave, (improvements 7A-IL-CW-266 and 321), the City should add marked crosswalks at this signalized intersection where pedestrian signals are already present.
- On the north leg of the intersection of Lancaster Rd with S Corinth Street Rd, (improvements 7A-IL-SW/CW-258 through 260), the City should add a high visibility marked crosswalk at the stop-controlled approach for added pedestrian conspicuity due to the unusual geometry of the intersection. The guardrail protecting the DART rail bridge pier in the median would need to be modified, and structural stone surrounding the pier would need to be regraded to provide sidewalk across the median.
- Across the west leg of the same intersection (improvements 7A-IL-SW/CW-261 and 262), add a signed and marked crosswalk with pedestrian ramps across the yield controlled right turn movement from southbound Corinth St Rd to northbound Lancaster Rd. Adjust the location of the yield sign if necessary. Build sidewalk along a worn path in the grass that indicates existing pedestrian demand along the west edge of the traffic island in this wide intersection.
- Across the east leg of the same intersection (improvements 7A-IL-SW/CW-263 and 265), add a high visibility marked crosswalk with pedestrian warning signs, new street lighting, advance yield lines, "Yield Here to Pedestrians" signing to mitigate risk of dual threat situation for pedestrians, and pedestrian-actuated rectangular rapid flashing beacons (RRFB's) mounted on the warning signs. Build sidewalk along a worn path in the grass that indicates existing pedestrian demand along the west edge of the traffic island in this wide intersection.

Care should be taken to maximize sight distance between pedestrians and drivers around the horizontal curve while making the crosswalk as perpendicular to S Corinth Street Rd as possible to minimize the crossing distance. Consider geometric changes to the median island for improved sight distance and reduced speed northbound right turns.

Funding is programmed for continuation of the recently constructed shared use path from the intersection of Illinois Ave with S Corinth Street Rd along the west side of S Corinth Street Rd north to the DART station. Further extensions north parallel to the DART tracks and south in the Onkor right-of-way to Illinois Ave also planned. On-street bikeways are planned along Woodin Blvd west of the station and on Cedar Crest Blvd and Southerland Ave near the eastern boundary of the half-mile area.

Additional details about other improvements recommended in Figure 7A-4.1, 7A-4.2 and 7A-4.3, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Illinois Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Illinois Station

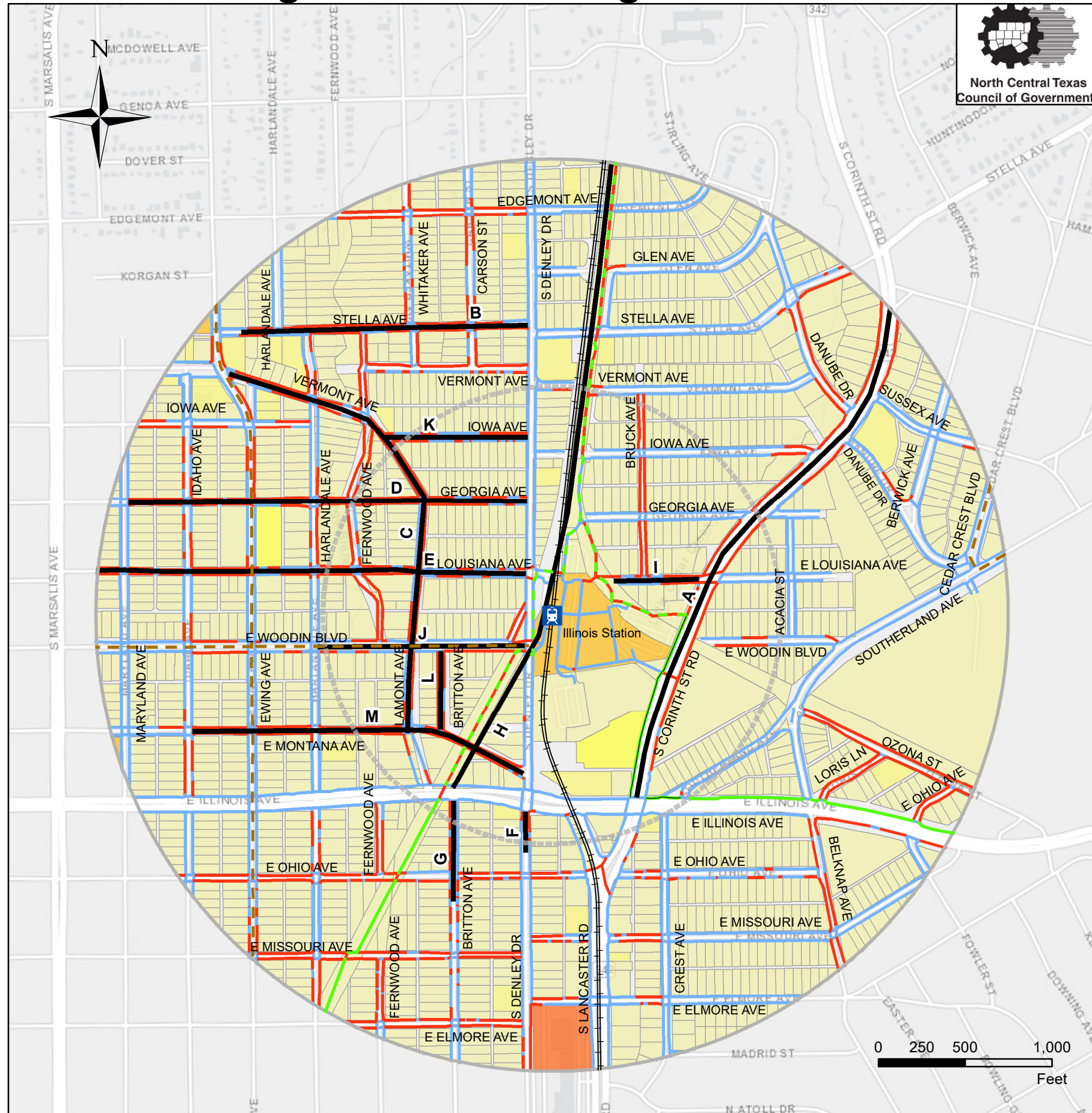
November 2020



Figure 7A-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	S Corinth St Rd
B	Stella Ave
C	Vermont Ave/Lamont Ave
D	Georgia Ave
E	E Louisiana Ave
F	S Denley Dr
G	Britton Ave
H	DART Tracks/Oncor ROW
I	E Louisiana Ave
J	E Woodin Blvd
K	Iowa Ave
L	Britton Ave
M	E Montana Ave

FTA DART Stations Last Mile Connections Illinois Station November 2020



Figure 7A-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority 1

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

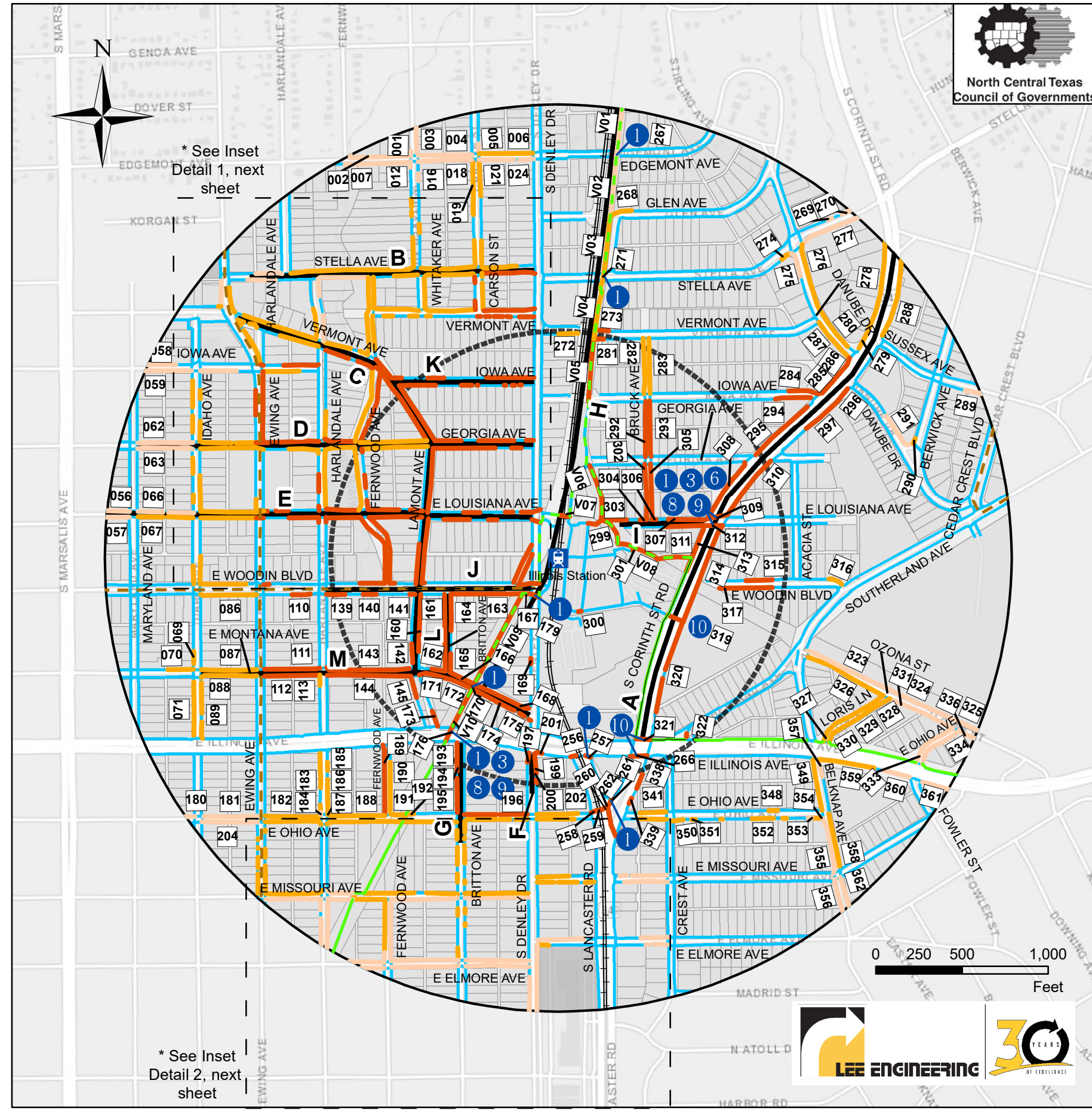
Buffers

- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- Add Marked Crosswalks
 - Traffic Signal

Primary Routes

Route	Street
A	S Corinth St Rd
B	Stella Ave
C	Vermont Ave/Lamont Ave
D	Georgia Ave
E	E Louisiana Ave
F	S Denley Dr
G	Britton Ave
H	DART Tracks/Oncor ROW
I	E Louisiana Ave
J	E Woodin Blvd
K	Iowa Ave
L	Britton Ave
M	E Montana Ave

Improvement Code Legend (See Matrix)

7A-IL-SW-01

7A ← Station Number
 IL ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)



* See Inset Detail 2, next sheet

* See Inset Detail 1, next sheet

**FTA DART Stations
Last Mile Connections
Illinois Station
November 2020**

**Figure 7A-4.2
Recommended Improvements Inset Detail 1**

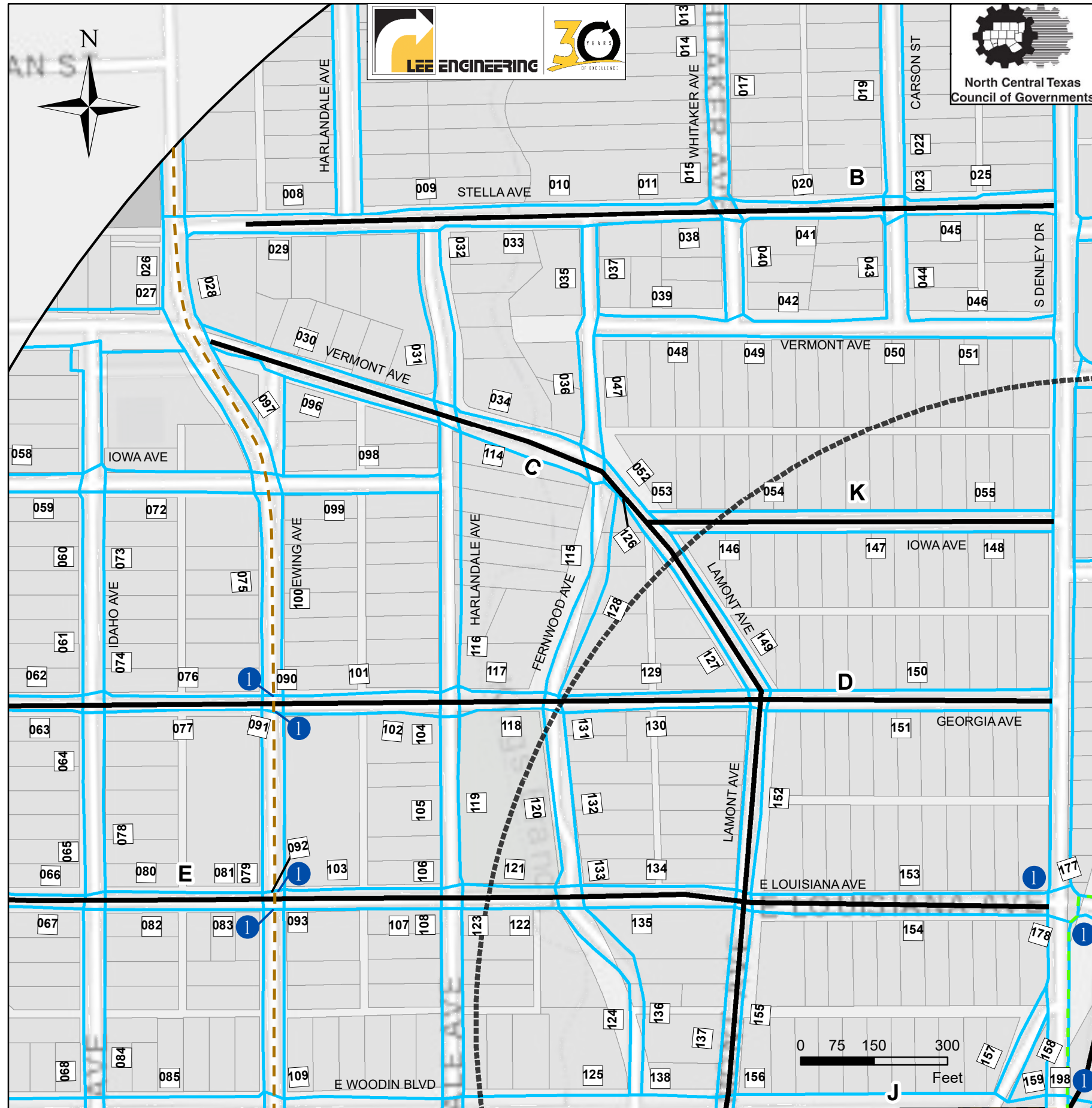


Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks
- Traffic Signal

Primary Routes

Route	Street
A	S Corinth St Rd
B	Stella Ave
C	Vermont Ave/Lamont Ave
D	Georgia Ave
E	E Louisiana Ave
F	S Denley Dr
G	Britton Ave
H	DART Tracks/Oncor ROW
I	E Louisiana Ave
J	E Woodin Blvd
K	Iowa Ave
L	Britton Ave
M	E Montana Ave

Improvement Code Legend (See Matrix)

7A-IL-SW-01

7A ← Station Number
 IL ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)

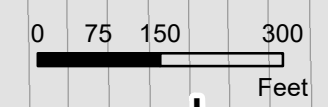




Figure 7A-4.3 Recommended Improvements Inset Detail 2

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority 1**
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- Crosswalk Signs, Markings & Lighting
- Raised Crosswalk
- Advance "Yield Here" Sign
- In-Street Pedestrian Crossing
- Curb Extension
- Pedestrian Refuge Island
- Rectangular Rapid Flashing Beacon
- Road Diet
- Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- Add Marked Crosswalks
- Traffic Signal

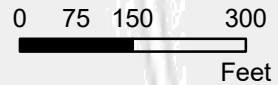
Primary Routes

Route	Street
A	S Corinth St Rd
B	Stella Ave
C	Vermont Ave/Lamont Ave
D	Georgia Ave
E	E Louisiana Ave
F	S Denley Dr
G	Britton Ave
H	DART Tracks/Oncor ROW
I	E Louisiana Ave
J	E Woodin Blvd
K	Iowa Ave
L	Britton Ave
M	E Montana Ave

Improvement Code Legend (See Matrix)

7A-IL-SW-01

7A ← Station Number
 IL ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches **1** on Map)



Kiest Station

Figure 7B-3 illustrates the existing conditions in the half-mile area around the Kiest Station. Sidewalk connectivity to the residential neighborhoods around this station is fair in some places and poor in others. Acceptable connections exist to the shopping center on the east side of Lancaster Rd. The Cedar Crest Trail, an existing shared use path on the Regional Veloweb, is present in the western part of the half-mile area parallel to Frio Dr and Maywood Ave.

Figure 7B-4 shows the recommended improvements in the half-mile area around the Kiest Station. In addition to filling the many sidewalk gaps that exist, recommended improvements include:

- At the intersection of Kiest Blvd and Frio Dr/Ramona Ave (improvement 7B-KS-CW-057), the City of Dallas should add missing signs, advance yield lines and "Yield Here to Pedestrians" signing on each approach to mitigate risk of dual threat situation for pedestrians for this existing signed and marked school crosswalk that crosses a six-lane divided arterial but is not a reduced speed school zone. Street lighting is already in place.

The Cedar Crest Trail Regional Veloweb link was recently constructed (after field visit) on either side of Kiest Blvd to cross at this crosswalk. It is unclear if additional pedestrian crossing improvements have been made in conjunction with the trail construction. Consider a road diet to implement a median refuge, since four lanes would be more than sufficient for the estimated ~16,000-19,000 average daily traffic. Give strong consideration to a pedestrian hybrid beacon, especially if a road diet is not implemented. The horizontal curve in Kiest Blvd here heightens the need to make crossing pedestrians and cyclists more visible.

- At the intersection of Kiest Blvd and Easter Ave (improvement 7B-KS-CW-058), the City should add advance yield lines and "Yield Here to Pedestrians" signing on each approach to mitigate risk of dual threat situation for pedestrians for this existing signed and marked school crosswalk that crosses a six-lane divided arterial and is in a 20 mph reduced speed school zone. Consider a road diet to implement a median refuge, since four lanes would be more than sufficient for the estimated ~12,000-18,000 average daily traffic. Give strong consideration to a pedestrian hybrid beacon, especially if a road diet is not implemented or if there is significant pedestrian demand outside school hours.
- At the intersection of Overton Rd and Easter Ave (improvement 7B-KS-CW-124 and 125), the City should add pedestrian warning signs to this existing marked and lit crosswalk. Add yield lines and "Yield Here to Pedestrians" signing for each approach to mitigate risk of dual threat situation for pedestrians. Though Overton Rd has recently been widened from 2 to 4 lanes, no median or left turn lanes have been provided for pedestrian refuge at this crossing. Consider a road diet to allow for a median refuge island and/or bike lanes, consistent with the City's bicycle master plan for on-street bike lanes. Add pedestrian-actuated rectangular rapid-flashing beacons (RRFB's) mounted below the pedestrian warning signs.

The City of Dallas is planning on-street bikeways along Kiest Blvd, Lancaster Rd north of Overton Rd, and Overton Rd east of Lancaster Rd.

Additional details about other improvements recommended in Figure 7B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Kiest Station that can be found in **Appendix J**.

VA Medical Center Station

Figure 7C-3 illustrates the existing conditions in the half-mile area around the VA Medical Center Station. Multi-modal access to the main part of the Veterans Administration Hospital campus on the east side of Lancaster Rd is good, though several crosswalks lack consistently applied, MUTCD-compliant warning signs. Some sidewalk gaps exist along the vehicular access roads internal to the hospital, but these are unlikely to affect access between the station and areas of highest travel demand within the hospital campus. Sidewalk connectivity to the neighborhood west of Lancaster Rd is quite poor, with many sidewalks missing or severely damaged.

Figure 7C-4 shows the recommended improvements in the half-mile area around the VA Medical Center Station. The City of Dallas and/or DART should work with the Veterans Administration Hospital to encourage and suggest the illustrated upgrades to crosswalk signing, as well as completion of a few segments of sidewalk. It is understood that these changes will require the participation of the VA Hospital management.

On City of Dallas streets, notable recommendations in addition to filling sidewalk gaps are:

- At the intersection of Ann Arbor Ave and Fernwood Ave (improvements 7C-VA-CW-038 and 039), the City of Dallas should add high-visibility crosswalk markings and pedestrian ramps to this existing signed but unmarked crosswalk between a church and its parking lot on the opposite side of a 4-lane undivided roadway. Streetlighting is already present. Consider a road diet to reduce the street width to one lane in each direction, with curb extensions adjacent to on-street parallel parking for the church.

A road diet would also be consistent with the City's plans to implement local on-street bicycle lanes along Ann Arbor Ave, but the bike lanes may require removal of on-street parking. In this case, a median refuge island may be more advantageous than curb extensions. If four travel lanes are to remain, add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines to avoid a dual threat situation for pedestrians. Also consider providing pedestrian-actuated rectangular rapid-flashing beacons (RRFB's).

- At the intersection of Ann Arbor Ave and Denley Dr (improvement 7C-VA-CW-040), the City should consider upgrades to this existing signed and marked school crosswalk across a 4-lane undivided roadway in a reduced speed 20 mph school zone. Consider a road diet to reduce the street width to one lane in each direction, with curb extensions adjacent to on-street parallel parking near a church and day care center on opposite sides of the street. A road diet would also be consistent with the City's plans to implement local on-street bicycle lanes along Ann Arbor Ave, but the bike lanes may require removal of on-street parking. In this case, a median refuge island may be more advantageous than curb extensions. If four travel lanes are to remain, add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines to avoid a dual threat situation for pedestrians. Also consider providing pedestrian-actuated rectangular rapid-flashing beacons (RRFB's).

The City of Dallas is planning an on-street bikeway along Ann Arbor Ave and Veterans Dr north of the station.

Additional details about other improvements recommended in Figure 7C-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for VA Medical Center Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Kiest Station

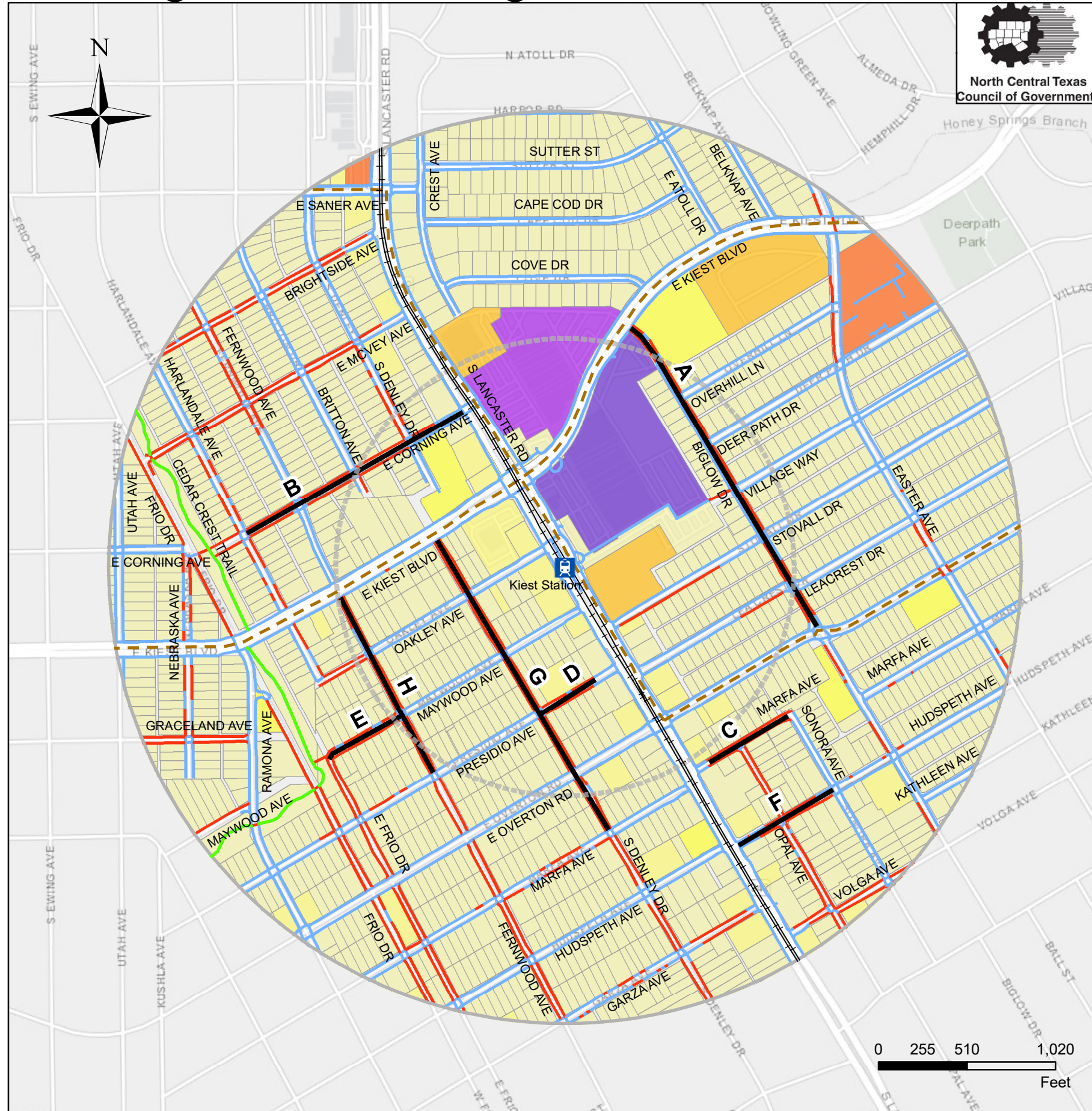
November 2020



Figure 7B-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Biglow Dr
B	E Corning Ave
C	Marfa Ave
D	Presidio Ave
E	Maywood Ave
F	Hudspeth Ave
G	S Denley Dr
H	Fernwood Ave

0 255 510 1,020
Feet

FTA DART Stations Last Mile Connections Kiest Station

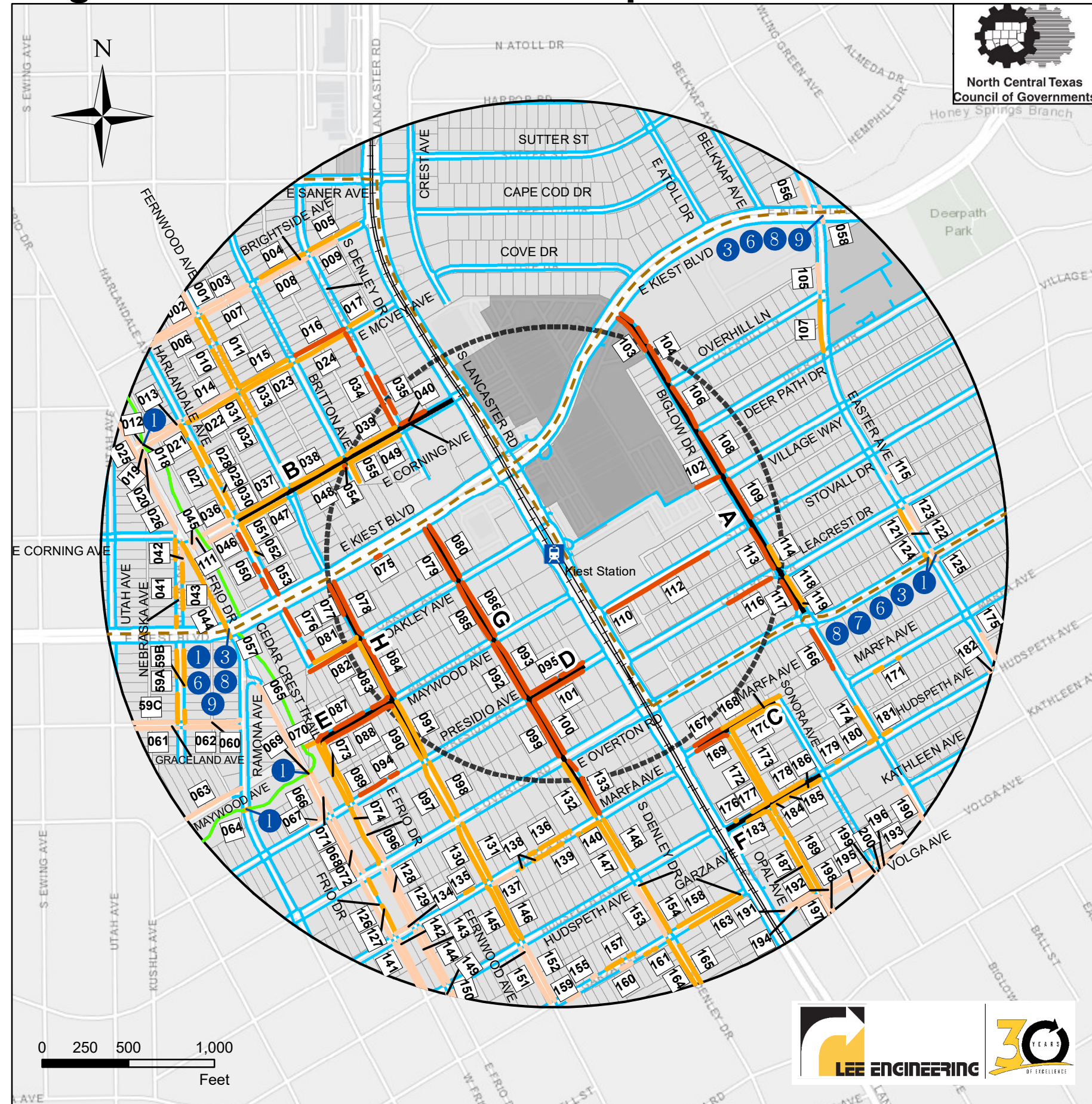
November 2020



Figure 7B-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- Existing Residential and Employment Population (Number of People)**
- Ppl**
- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Biglow Dr
B	E Corning Ave
C	Marfa Ave
D	Presidio Ave
E	Maywood Ave
F	Hudspeth Ave
G	S Denley Dr
H	Fernwood Ave

Improvement Code Legend (See Matrix)

7B-KS-SW-01

- 7B ← Station Number
- KS ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



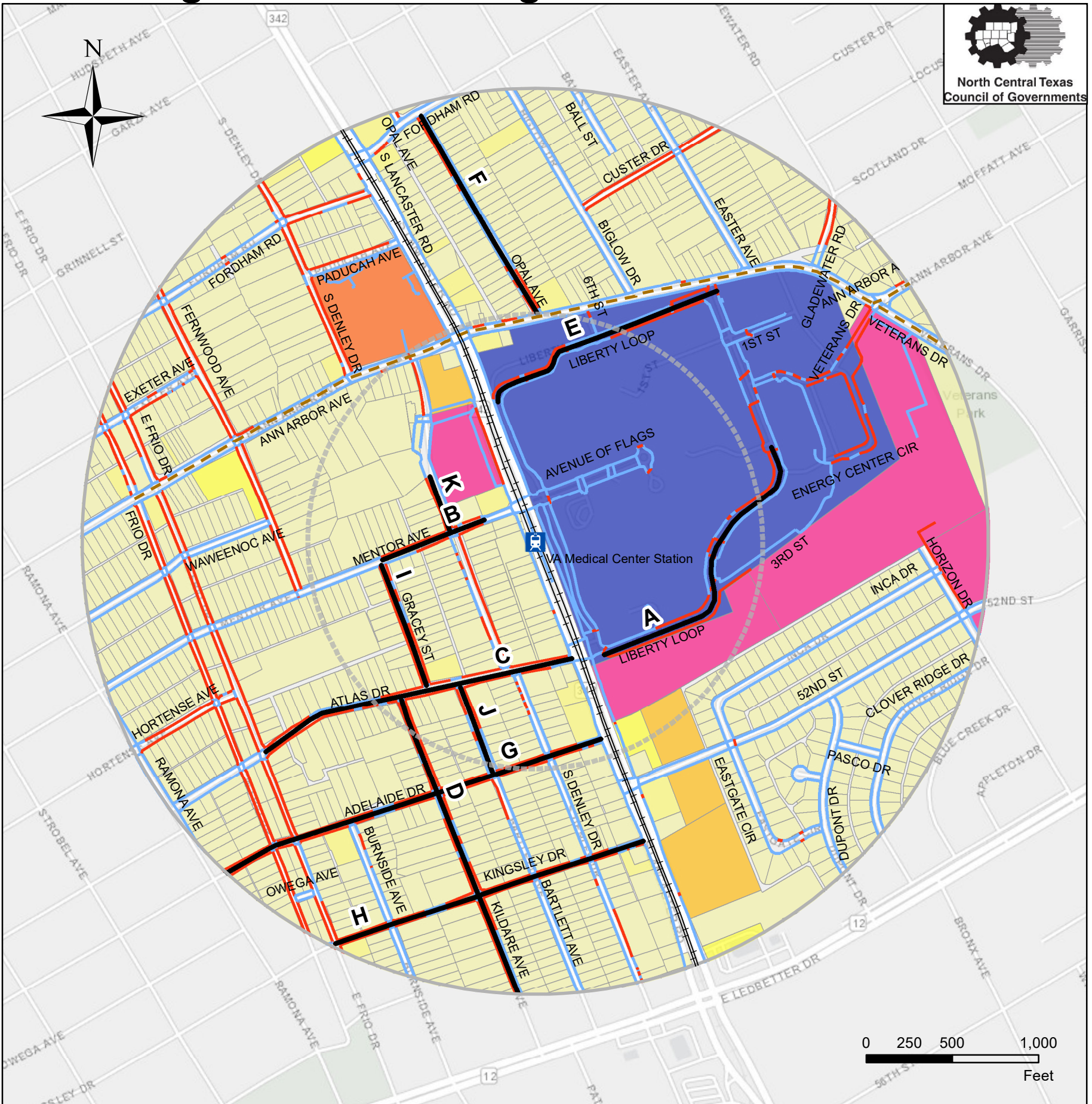
FTA DART Stations Last Mile Connections VA Medical Center Station November 2020



Figure 7C-3 Existing Conditions

Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Liberty Loop
B	Mentor Ave
C	Atlas Dr
D	Kildare Ave
E	Liberty Loop
F	Opal Ave
G	Adelaide Dr
H	Kingsley Dr
I	Gracey St
J	Bartlett Ave
K	S Denley Dr

FTA DART Stations Last Mile Connections VA Medical Center Station November 2020



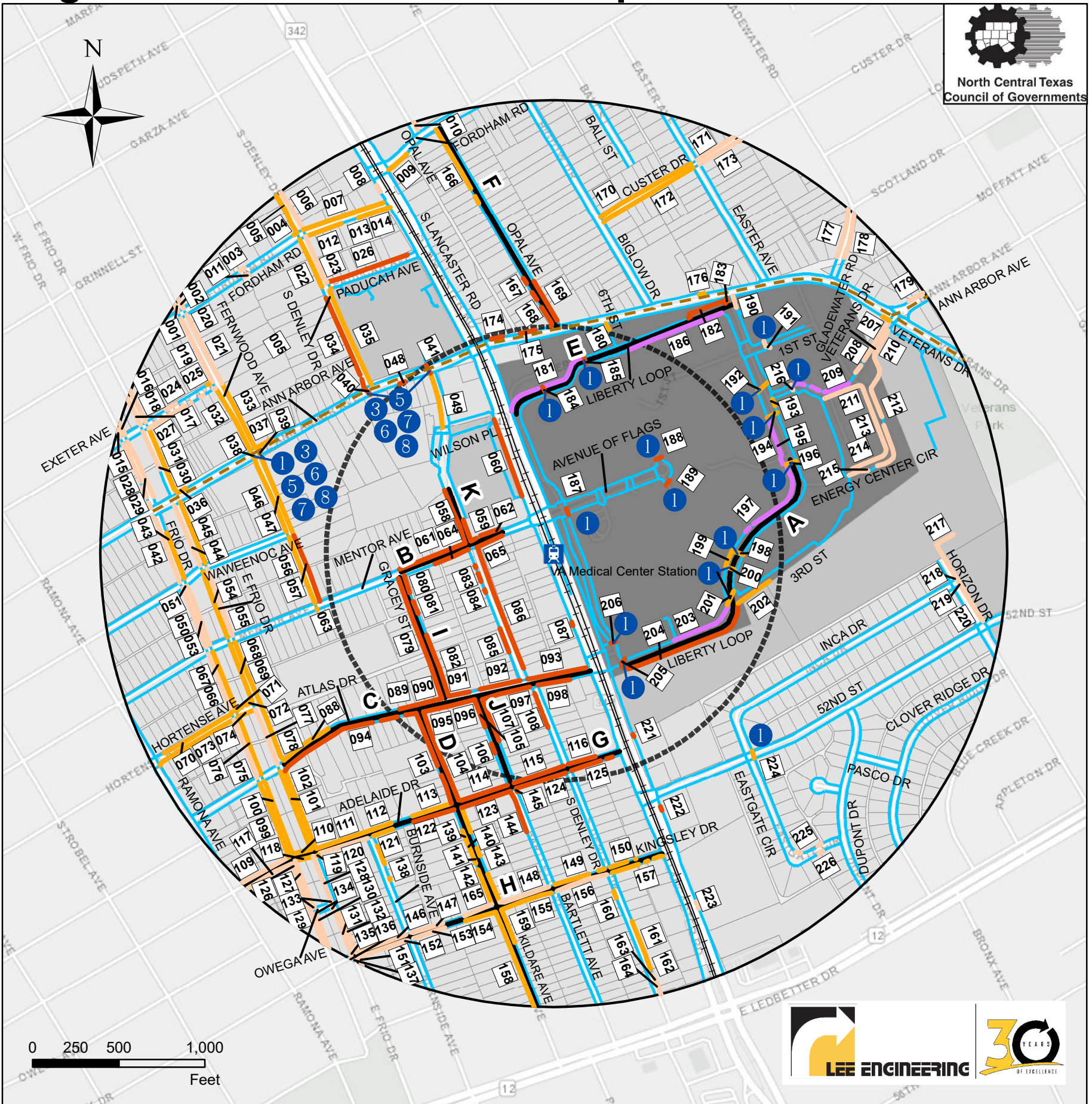
Figure 7C-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority 1**
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes
- Existing Residential and Employment Population (Number of People)**

Ppl

 - 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- Crosswalk Signs, Markings & Lighting
 - Raised Crosswalk
 - Advance "Yield Here" Sign
 - In-Street Pedestrian Crossing
 - Curb Extension
 - Pedestrian Refuge Island
 - Rectangular Rapid Flashing Beacon
 - Road Diet
 - Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - Traffic Signal

Primary Routes

Route	Street
A	Liberty Loop
B	Mentor Ave
C	Atlas Dr
D	Kildare Ave
E	Liberty Loop
F	Opal Ave
G	Adelaide Dr
H	Kingsley Dr
I	Gracey St
J	Bartlett Ave
K	S Denley Dr

Improvement Code Legend (See Matrix)

7C-VA-SW-01

7C ← Station Number
VA ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches **1** on Map)



CityPlace/Uptown Station

Figure 8A-3 illustrates the existing conditions in the half-mile area around the CityPlace/Uptown Station. The area is dense, urban, and very well connected for pedestrians and cyclists, with only a limited number of gaps in the sidewalk network. Since the station is underground beneath U.S. 75 (Central Expy), the highway is removed as a barrier to access from either side. However, heavy traffic along several busy streets can still be an impediment to bicycle and pedestrian travel.

Figure 8A-4 shows the recommended improvements in the half-mile area around the CityPlace/Uptown Station. In addition to filling the limited number of sidewalk gaps, the recommended improvements include:

- For crossing Haskell Ave at the mid-block location northeast of the station (improvements 8A-CP-CW-031 and 032), the City of Dallas should add crosswalk signing and markings to this crossing location which already includes pedestrian ramps and brick paving in the median. Add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines. Restrict parking blocking the pedestrian ramp on the southwest side of the street and build a curb extension to reduce the crossing distance and improve sight distance between pedestrians and southeast-bound traffic around parked cars. Consider pedestrian-actuated RRFB's to further enhance visibility of crossing pedestrians.
- For crossing Haskell Ave at the mid-block location east of the station (improvements 8A-CP-CW-033 and 034), the City of Dallas should add crosswalk signing and markings to this crossing location which already includes pedestrian ramps and brick paving in the median. Add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines. Consider pedestrian-actuated RRFB's to further enhance visibility of crossing pedestrians.
- At the intersection of Haskell Ave at Lemmon Ave (improvements 8A-CP-CW-037 and 040-043), the City should provide crosswalks and countdown, accessible pedestrian signals for the southwest and southeast legs. Consider geometric changes to the intersection to signalize and/or slow the high-speed double right turn lanes from northeast-bound Lemmon Ave to southwest-bound Haskell Ave. Pedestrian-actuated RRFB's might also be considered for crossing the double right-turn movement if geometric changes are infeasible. New sidewalk along the northwest edge of the channelizing island in the middle of this large intersection should also be built in conjunction with the connecting crosswalks.
- For crossing Haskell Ave at Munger Ave (improvement 8A-CP-CW-044), the City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines for the existing signed and marked school crosswalk. Consider pedestrian-actuated RRFB's or a pedestrian hybrid beacon to further enhance the visibility of crossing pedestrians, particularly if no school crossing guard is present or study indicates pedestrian crossing demand outside school arrival/dismissal hours.
- For crossing Lemmon Ave E at Howell St (improvement 8A-CP-CW-010), the City should add a marked crosswalk with advance pedestrian warning signs, advance yield lines, "Yield Here to Pedestrians" signing at the yield lines, and pedestrian warning signs at the crosswalk. Construct a pedestrian hybrid beacon to accommodate pedestrian crossings across four lanes of one-way traffic.

- The west leg of Lemmon Ave at Washington Ave (improvement 8A-CP-CW-035) has a pedestrian crossing prohibition and lack of crosswalk, presumably due to the northbound double left turn movement from Washington Ave. The City should reconsider if a single left turn would function adequately for the northbound approach and/or explore alternative lane configurations and signal phasing to allow for a west leg crosswalk to operate at separate times than the northbound left turn. If so, add the west leg crosswalk with countdown, accessible pedestrian signals.
- For crossing Lemmon Ave at Caddo St (improvement 8A-CP-CW-036), the City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines for existing signed and marked school crosswalk. Consider pedestrian-actuated RRFB's or a pedestrian hybrid beacon to further enhance visibility of crossing pedestrians, particularly if no school crossing guard is present or study indicates pedestrian crossing demand outside school arrival/dismissal hours.
- For crossing Lemmon Ave at Oak Grove Ave (improvements 8A-CP-CW-008 and 009), the City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines for existing signed and marked crosswalk. Add a pedestrian hybrid beacon to further enhance visibility of crossing pedestrians.
- For crossing Blackburn St at Travis St (improvements 8A-CP-CW-003 and 004), the City should add pedestrian warning signs and white pavement marking lines outside of existing brickwork that may appear to casual observers to represent crosswalks. White edge lines as traffic control devices are required to make crosswalks legally enforceable. Add advance yield lines and "Yield Here to Pedestrians" signing. Consider pedestrian-actuated RRFB's to further enhance visibility of crossing pedestrians.
- At the crossing of Cole Ave at Haskell Ave (improvement 8A-CP-CW-001), a marked and signed crosswalk is already in place across three-lane, one-way street near North Dallas High School. The City should add advance yield lines and "Yield Here to Pedestrians" signing at the yield lines. Consider curb extensions and pedestrian-actuated RRFB's. Note that this section of Cole Ave will be converting from one-way operation to two-way operation as part of a City project in the near future, so it may be possible to incorporate such changes into that project. The new lane configuration will be two lanes southbound and one lane northbound. Warning signs for northbound traffic at this crosswalk should be incorporated into the design.

The City of Dallas is planning on-street bikeways along Cole Ave, Hall St, McKinney Ave, Oak Grove Ave, Washington Ave, Capitol Ave, and Haskell Ave near the station.

Additional details about other improvements recommended in Figure 8A-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for CityPlace/Uptown Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Cityplace/Uptown Station November 2020



Legend

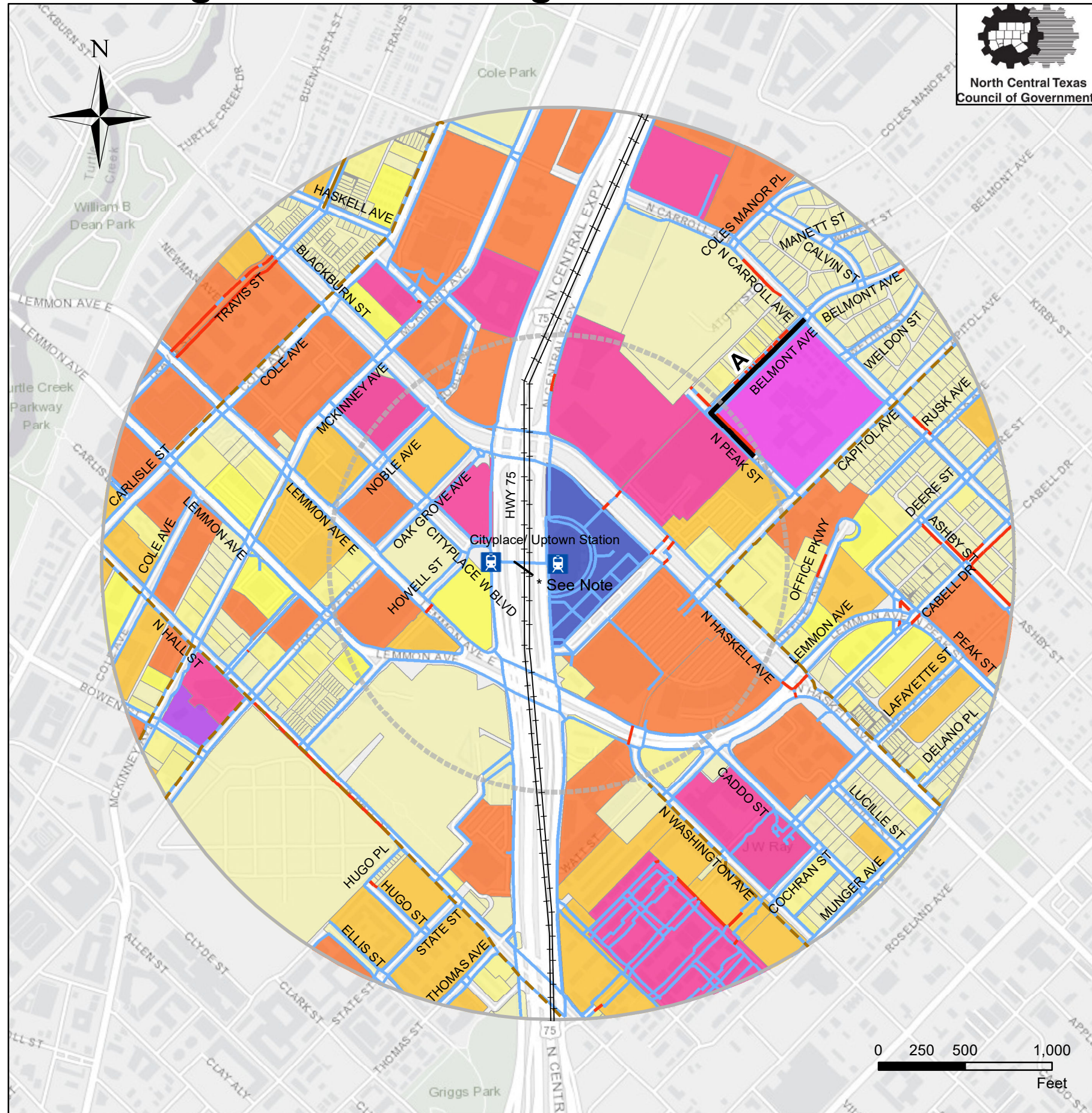
- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 8A-3 Existing Conditions



Existing Residential and Employment Population (Number of People)

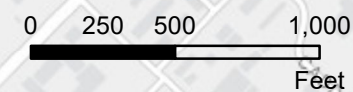
- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170



Primary Routes

Route	Street
A	Belmont Ave N Peak St

* Escalators/elevators to underground station.



FTA DART Stations Last Mile Connections Cityplace/Uptown Station November 2020



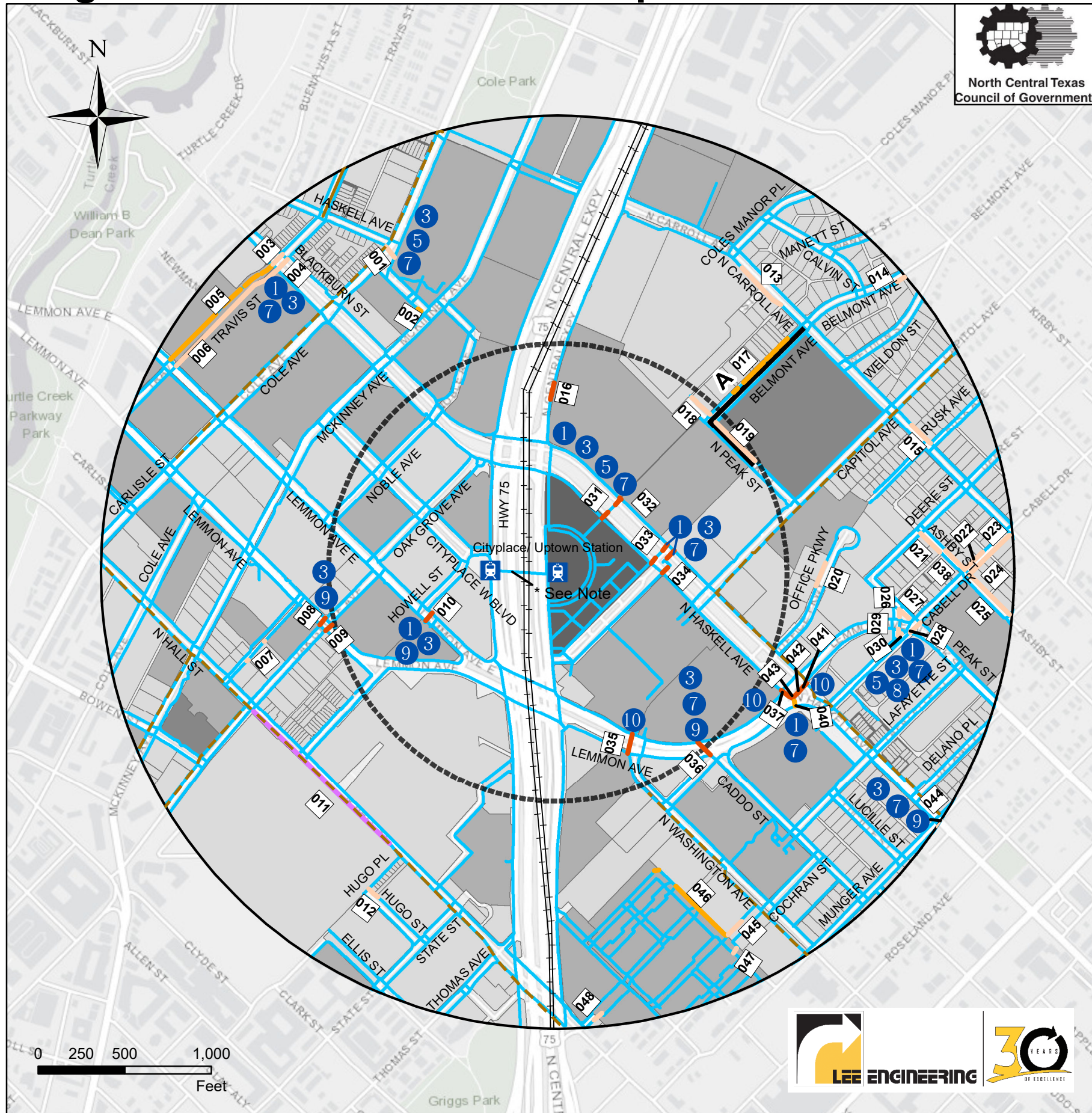
Figure 8A-4 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl**
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Belmont Ave N Peak St

* Escalators/elevators to underground station.

Improvement Code Legend (See Matrix)

- 8A ← Station Number
- CP ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



Convention Center Station

Figure 8B-3 illustrates the existing conditions in the half-mile area around the Convention Center Station. The station is well situated for special event-related walking trips to and from the Kay Bailey Hutchison Convention Center in which it is housed. Other downtown areas to the north are also well connected by sidewalk and crosswalks to the station, though many are closer to other existing DART stops. IH-30 and its interchange with IH-35 E form barriers to bicycle and pedestrian travel to and from the south, as do the freight rail lines paralleling Hotel St.

Figure 8B-4 shows the recommended improvements in the half-mile area around the Convention Center Station. Several new sidewalk and shared use path improvements to fill existing gaps are programmed along Canton St and Cadiz St parallel to IH-30 as part of the IH-30 Canyon project that is under design by the City of Dallas and TxDOT.

The City of Dallas is planning a shared use path as part of the Regional Veloweb along the north side of IH-30, south of Sports St and Canton St along an alignment that overlaps with the IH-30 Canyon project area. The shared use path turn south at Akard St.

It is recommended that the certain pedestrian elements be incorporated into the IH-30 Canyon project at the following locations:

- The segment of Regional Veloweb shared use path on the north side of IH-30 between Lamar St and Hotel St (improvement 8B-CC-VW-V01) would most likely involve a retaining wall near the top of the existing slope between the westbound IH 30 collector-distributor roadway and a private parking lot. Right-of-way or easement acquisition would be needed to cross the southern corner of the parking lot near an abandoned rail bridge over IH 30.
- For crossing Hotel St at the Regional Veloweb shared use path (improvement 8B-CC-CW-021), the project should add a marked crosswalk with lighting, advance pedestrian warning signs, advance yield lines, "Yield Here to Pedestrians" signing at the yield lines, and pedestrian warning signs at the crosswalk.
- Along the north side of IH-30 (and south side of Canton St) between Akard St and Griffin St (improvement 8B-CC-VW-V02), street trees and a streetlight pole occupy the narrow space between the Canton St travel lanes and the retaining wall for the IH 30 mainlanes that would be needed for sidewalk or the regional Veloweb trail planned here.

Canton St functions as the westbound frontage road for IH-30, so sidewalk on the southeast side adjacent to the freeway would be unlikely to serve much if any existing pedestrian demand, with parallel sidewalk existing on the northwest side adjacent to active land uses. It may receive use as part of a continuous Veloweb system, but strong consideration should be given to realign the Veloweb to the northwest side of Canton St to avoid the conflict across the two-lane on-ramp to IH 30 westbound. A road diet from three one-way lanes to two one-way lanes on Cantron St would likely be feasible given modest traffic volumes to make way for a shared use path on the north side.

- If the road diet and shared use path realignment described for improvement 8B-CC-VW-V02 above are not feasible, consider a pedestrian hybrid beacon for the south-side crosswalk of the shared use path where it will cross the on-ramp to the IH-30 westbound mainlanes

(improvement 8B-CC-CW-024). The beacon should be coordinated with the adjacent traffic signal at Canton St and Akard St.

Elsewhere in the half-mile area for Convention Center Station, recommended improvements include:

- At the mid-block crossing of Marilla St next to the Convention Center entrance (improvement 8B-CC-CW-001), the City should add advance yield lines and "Yield Here to Pedestrians" signing for the existing signed and marked crosswalk. Add pushbutton-actuated rectangular rapid flashing beacons (RRFB's) and consider a road diet from four lanes to two lanes to enable a shorter crossing distance and create space for a median refuge island.
- For crossing the south leg of Akard St at its intersection with Marilla St (improvement 8B-CC-CW-016), the City should add advance yield lines and "Yield Here to Pedestrians" signing for the existing signed and marked crosswalk. Consider adding pushbutton-actuated rectangular rapid flashing beacons (RRFB's) or a pedestrian hybrid beacon, coordinated with adjacent traffic signals.
- For crossing the northeast leg of Canton St at its intersection with Browder St (improvement 8B-CC-CW-035), the City should add advance yield lines and "Yield Here to Pedestrians" signing for the existing signed and marked crosswalk across a three-lane, one-way street. Add a curb extension to prevent parking in the left-hand lane too close to the crosswalk. Add pushbutton-actuated rectangular rapid flashing beacons (RRFB's) and consider a road diet from three to two lanes for a shorter crossing distance.
- For the west leg of the Riverfront Ave/Cadiz St intersection (improvement 8B-CC-CW-032), add a marked crosswalk with pedestrian ramps and countdown, accessible pedestrian signals. Remove the pedestrian prohibition against crossing this leg of the intersection. Add protected-only phasing for the left turn from the northbound IH-35E off-ramp to westbound Riverfront Blvd in conjunction with this change.

Additional details about other improvements recommended in Figure 8B-4, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Convention Center Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Convention Center Station

December 2020

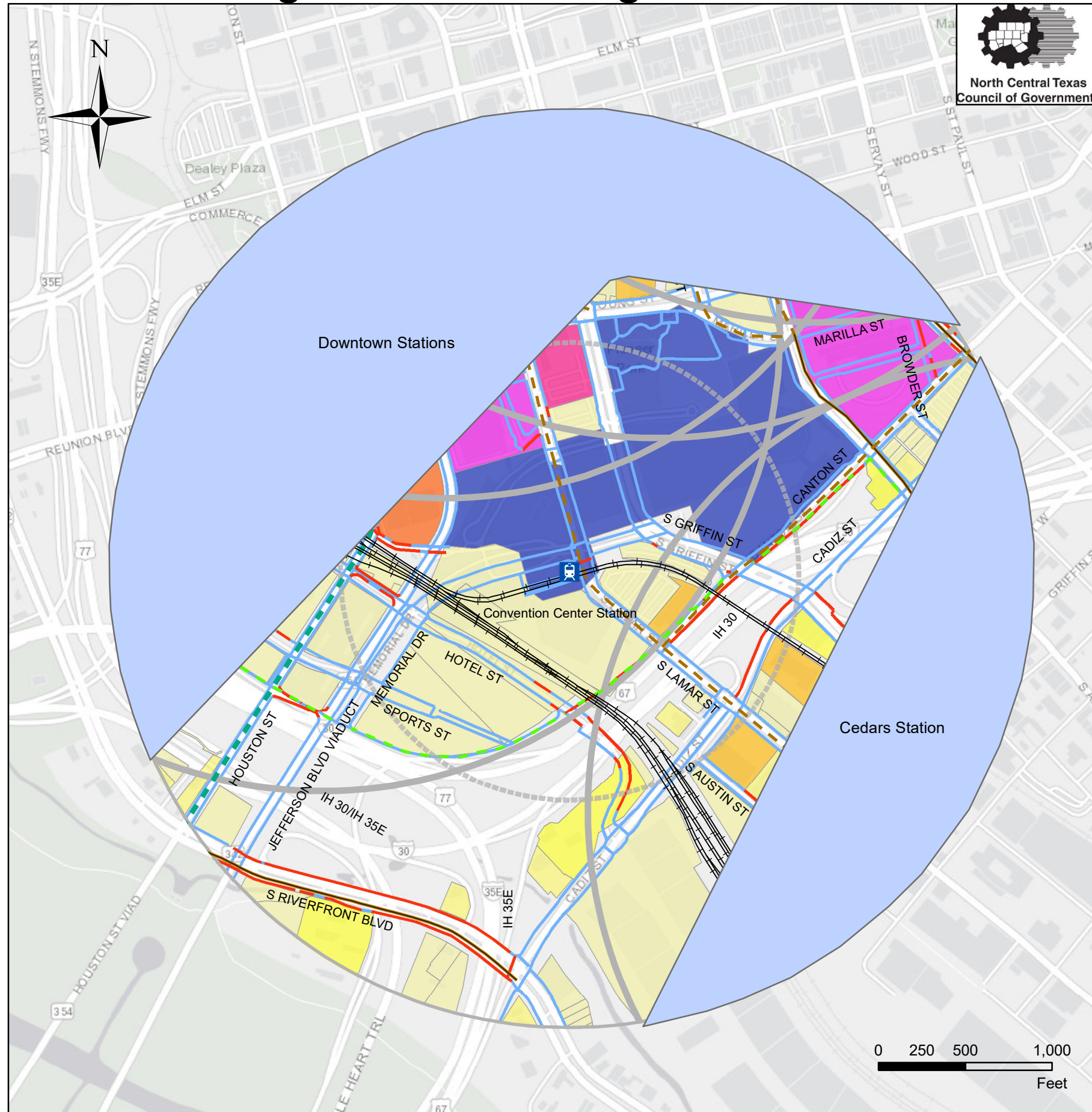


Figure 8B-3 Existing Conditions



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

None for this station area

FTA DART Stations Last Mile Connections Convention Center Station November 2020



Figure 8B-4 Recommended Improvements

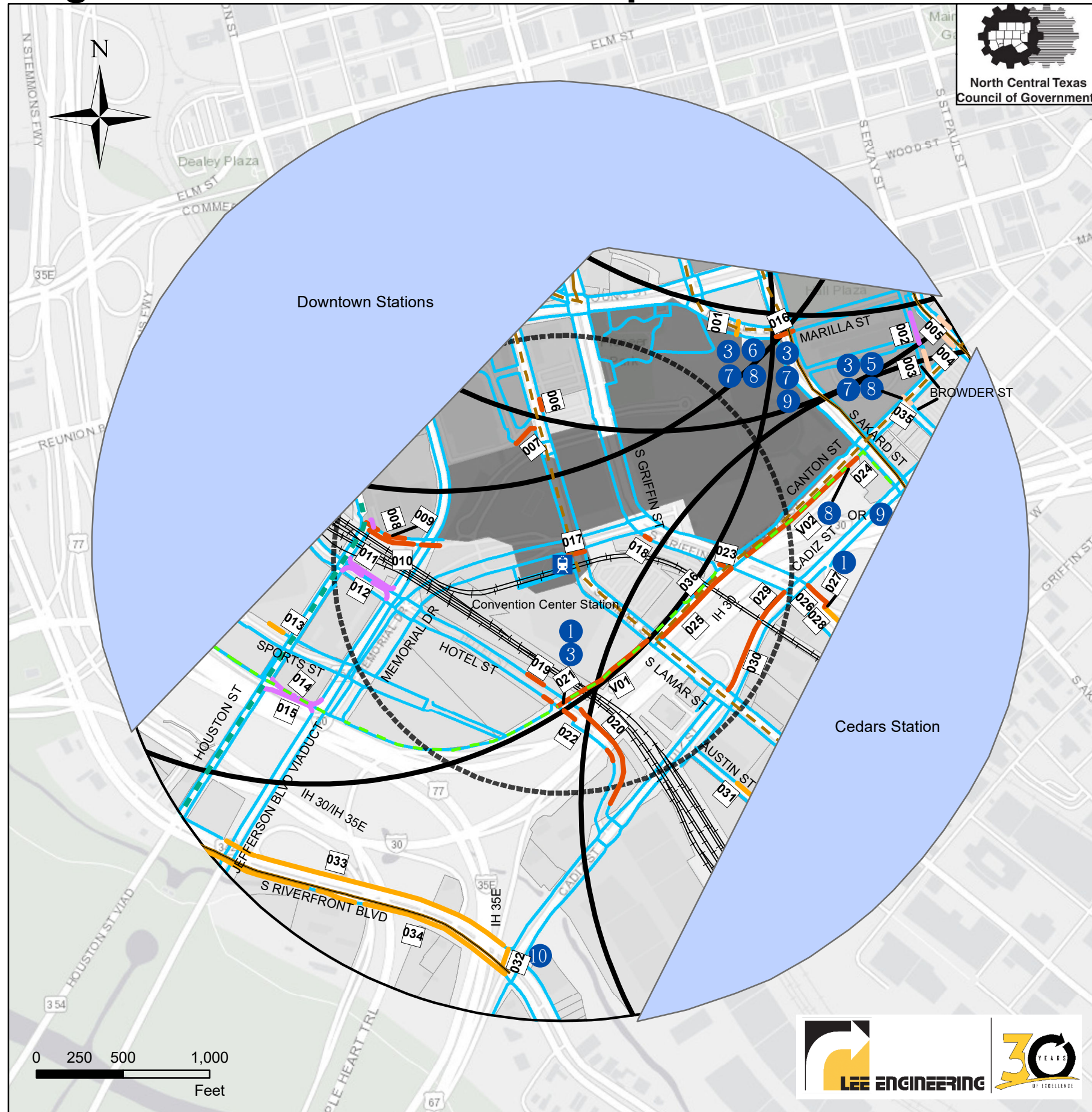
Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
 - Existing Sidewalk/Crosswalk
 - Proposed Sidewalk/Crosswalk by Priority** 1
 - High
 - Medium
 - Low
 - Gap to Remain
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- Buffers**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

None for this station area

Improvement Code Legend (See Matrix)

8B-CC-SW-01

8B ← Station Number
CC ← Station Abbreviation
SW ← Sidewalk (or CW for Crosswalk)
01 ← Improvement Number (Matches 1 on Map)



Cedars Station

Figure 8C-3 illustrates the existing conditions in the half-mile area around the Cedars Station. This station serves a mix of urban residential, commercial and institutional land uses that are relatively well connected via the sidewalk network, though several streets such as Wall St, Austin St, Blakeney St, and Browder St have significant sidewalk gaps.

Figure 8C-4.1 shows the recommended improvements in the half-mile area around the Cedars Station. **Figure 8C-4.2** provides a zoomed-in view of a portion of the station area with a dense concentration of improvements. Several new sidewalk and shared use path improvements to fill existing gaps are programmed along Corsicana St and Griffin St parallel to IH-30 as part of the IH-30 Canyon project that is under design by the City of Dallas and TxDOT.

The City of Dallas is planning a shared use path as part of the Regional Veloweb along the north side of IH-30, south of Corsicana St along an alignment that overlaps with the IH-30 Canyon project area.

It is recommended that the certain pedestrian elements be incorporated into the IH-30 Canyon project at the following locations:

- The segment of Regional Veloweb shared use path on the north side of IH-30 between Cadiz St and Ervay St (improvement 8C-CS-VW-V01 and V02) would most likely involve relocation of parking meters and other appurtenances in the narrow space between the street and the IH-30 retaining wall that would be required for sidewalk or shared use path.
- If the future Regional Veloweb shared use path currently planned along Corsicana St crosses Ervay St on the southeast leg of their intersection (improvement 8C-CS-CW-01B), add a new signed and marked crosswalk with advance yield line and "Yield Here to Pedestrians" signing. Also add pushbutton-actuated rectangular rapid flashing beacons (RRFB's) or a pedestrian hybrid beacon, coordinated with adjacent traffic signals. Note, however, that adjacent constraints may make it difficult to construct sidewalk or shared use path on the south side of Corsicana St, in which case this leg of the intersection may remain without a crosswalk and the crossing may be better suited for the northwest leg of the intersection (improvement 8C-CS-CW-01A).
- In conjunction with the future Regional Veloweb shared use path currently planned to cross St. Paul St at this location (improvement 8C-CS-CW-002), add a new signed and marked crosswalk with advance yield line and "Yield Here to Pedestrians" signing. Also add pushbutton-actuated rectangular rapid flashing beacons (RRFB's) or a pedestrian hybrid beacon, coordinated with adjacent traffic signals.

Elsewhere in the half-mile area for Cedars Station, recommended improvements include:

- Crossing Wall St and Belleview St at four locations immediately adjacent to the station (improvements 8C-CS-CW-081, 082, 085, and 094), the City of Dallas should coordinate with DART to add signed and marked crosswalks with pedestrian ramps, signing, and lighting where not already present.
- At the Akard St crossings at Belleview St and Sullivan Dr (improvements 8C-CS-CW-023 and 028), the City of Dallas should add new signed and marked crosswalks. Consider a road diet

from four lanes to three lanes and median refuge islands at each location, consistent with a City-funded project to add on-street bike lanes along Akard St. If remaining as four lanes, add advance yield lines and "Yield Here to Pedestrians" signing.

- For crossing Lamar St at Powhattan St (improvement 8C-CS-CW-092), the City should add advance yield lines and "Yield Here to Pedestrians" signing for the existing signed and marked crosswalk. Consider upgrading with rectangular rapid flashing beacons (RRFB's) on an overhead mast arm or a pedestrian hybrid beacon.
- For crossing Lamar St at McKee St (improvements 8C-CS-CW-095 and 096), the City should add advance yield lines and "Yield Here to Pedestrians" signing for the existing signed and marked crosswalk with existing overhead warning sign and flashing yellow beacons. Consider upgrading beacon to rectangular rapid flashing beacons (RRFB's) on the overhead display or a pedestrian hybrid beacon.
- At the Ervay St crossings at Gano St, McKee St, and Beaumont St (improvements 8C-CS-CW-008, 009, 014), the City should add signed and marked crosswalks where not currently present. The City should also consider a road diet from four lanes to three lanes to build median refuge islands, consistent with City-funded project to add on-street bike lanes along Ervay St. If remaining as four lanes, add advance yield line and "Yield Here to Pedestrians" signing for existing signed and marked school crosswalk.
- At the southwest end of Belleview St at its intersection with Roe St, a Regional Veloweb shared use path is planned to connect towards the southwest, bridging over the existing Union Pacific Railroad tracks to Riverfront Blvd and the Trinity River trails south of the study area (improvement 8C-CS-VW-V04). This pathway would also provide access to Texas Central Partners' passenger station for high-speed rail between Dallas and Houston, which is proposed for a vacant parcel near the tracks. The shared use path would require right-of-way acquisition and coordination with the multiple parties involved.

Additional details about other improvements recommended in Figure 8C-4.1 and 8C-4.2, as well as challenges associated with the recommended gaps to remain, are included in the matrix notes for Cedars Station that can be found in **Appendix J**.



FTA DART Stations Last Mile Connections Cedars Station

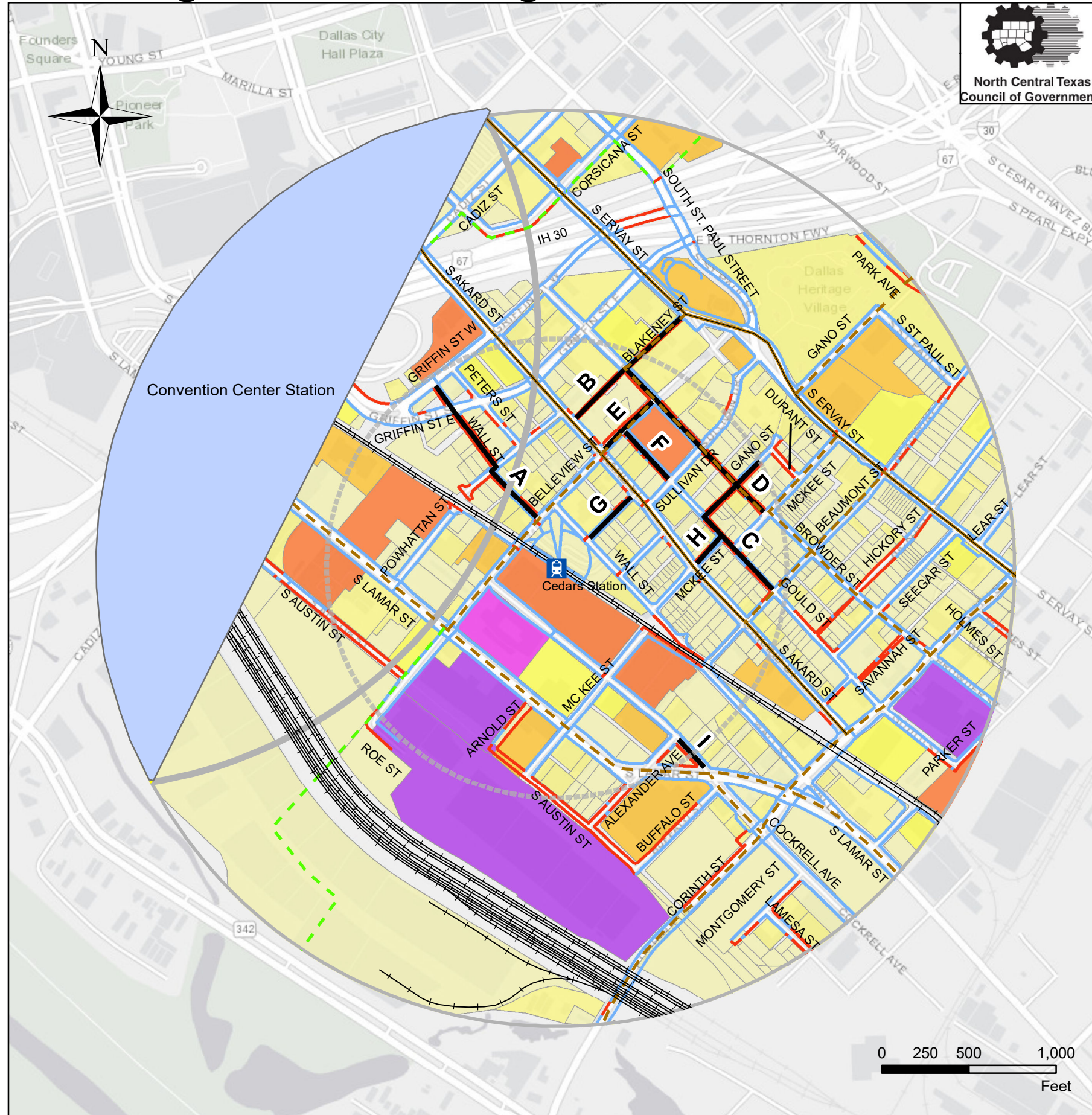
November 2020



Legend

- DART Rail Station
- Railroad Track
- Segment Category**
 - Existing Sidewalk/Crosswalk
 - Sidewalk/Crosswalk Gap
- Regional Veloweb (Mobility 2045)**
 - Regional Existing
 - Regional Funded
 - Regional Planned
- Local Shared Use Paths**
 - Local Existing
 - Local Funded
 - Local Planned
- Local On-Street Bikeways**
 - Local Existing Bicycle Facilities
 - Local Funded Bicycle Facilities
 - Local Planned Bicycle Facilities
- DISPLAY**
 - 0.5 Mile Buffer
 - 0.25 Mile Buffer
 - Primary Routes

Figure 8C-3 Existing Conditions



Existing Residential and Employment Population (Number of People)

- 0 - 10
- 11 - 50
- 51 - 100
- 101 - 250
- 251 - 578
- 579 - 1000
- 1001 - 1500
- 1501 - 2500
- 2501 - 5000
- 5001 - 24170

Primary Routes

Route	Street
A	Wall St
B	Blakeney St
C	Gould St Gano St
D	Browder St
E	Belleview St
F	Gould St
G	Sullivan Dr
H	McKee St
I	Cockrell Ave

FTA DART Stations Last Mile Connections Cedars Station November 2020



Figure 8C-4.1 Recommended Improvements

Legend

- DART Rail Station
- Railroad Track

Sidewalk

- Existing Sidewalk/Crosswalk

Proposed Sidewalk/Crosswalk by Priority

- High
- Medium
- Low
- Gap to Remain

Regional Veloweb (Mobility 2045)

- Regional Existing
- Regional Funded
- Regional Planned

Local Shared Use Paths

- Local Existing
- Local Funded
- Local Planned

Local On-Street Bikeways

- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities

Buffers

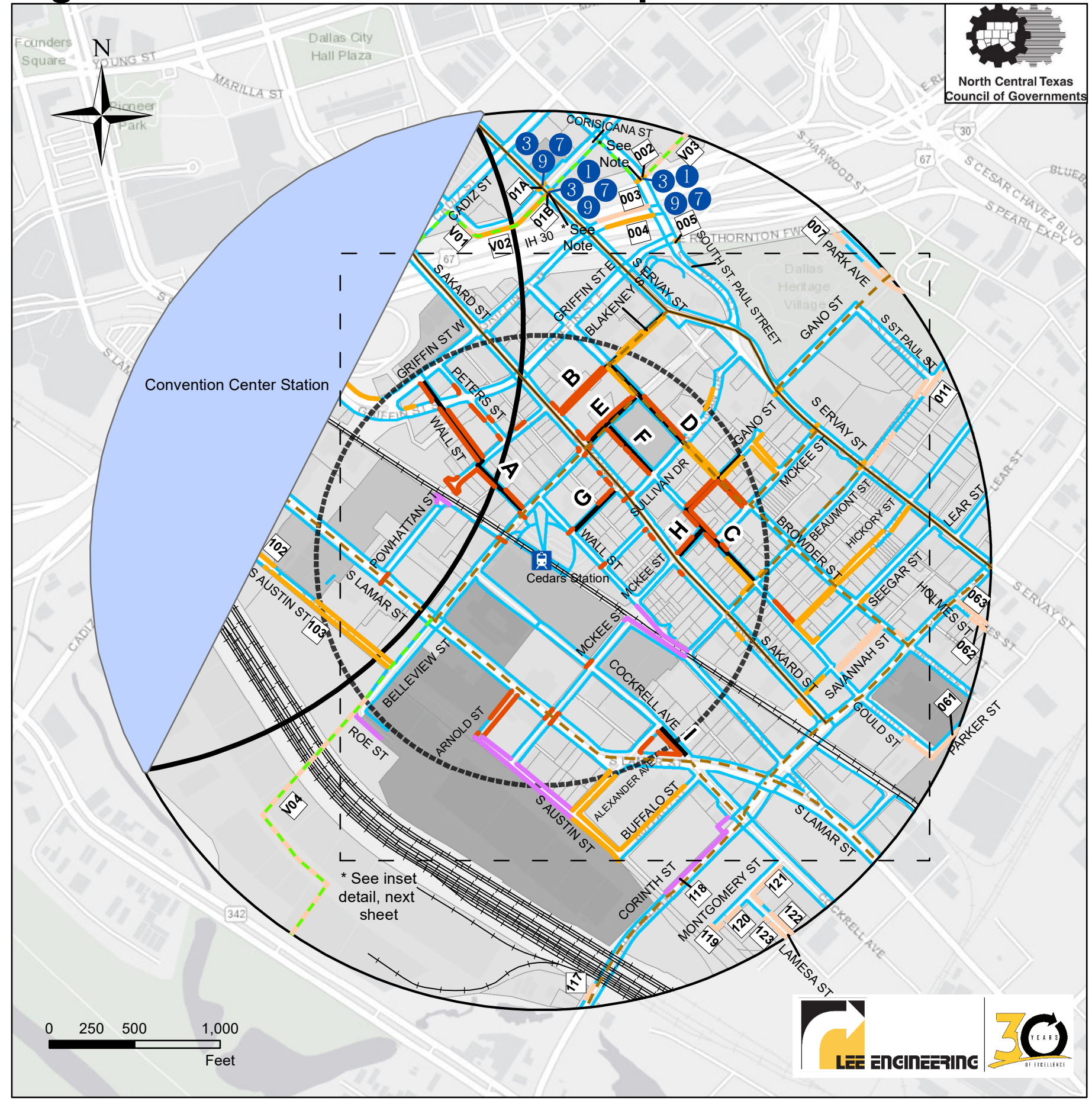
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

Ppl

- 0 - 234
- 235 - 1049
- 1050 - 2586
- 2587 - 5364
- 5365 - 10339

* Need contingent on construction of Regional Veloweb Shared Use Path.



Possible Pedestrian Safety Countermeasures

- #### Unsignalized Crosswalk Improvements
- 1 Crosswalk Signs, Markings & Lighting
 - 2 Raised Crosswalk
 - 3 Advance "Yield Here" Sign
 - 4 In-Street Pedestrian Crossing
 - 5 Curb Extension
 - 6 Pedestrian Refuge Island
 - 7 Rectangular Rapid Flashing Beacon
 - 8 Road Diet
 - 9 Pedestrian Hybrid Beacon
- #### Signalized Crosswalk Improvements
- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
 - 11 Traffic Signal

Primary Routes

Route	Street
A	Wall St
B	Blakeney St
C	Gould St Gano St
D	Browder St
E	Bellevue St
F	Gould St
G	Sullivan Dr
H	McKee St
I	Cockrell Ave

Improvement Code Legend (See Matrix)

8C-CS-SW-01

- 8C ← Station Number
- CS ← Station Abbreviation
- SW ← Sidewalk (or CW for Crosswalk)
- 01 ← Improvement Number (Matches 1 on Map)



FTA DART Stations Last Mile Connections Cedars Station

November 2020



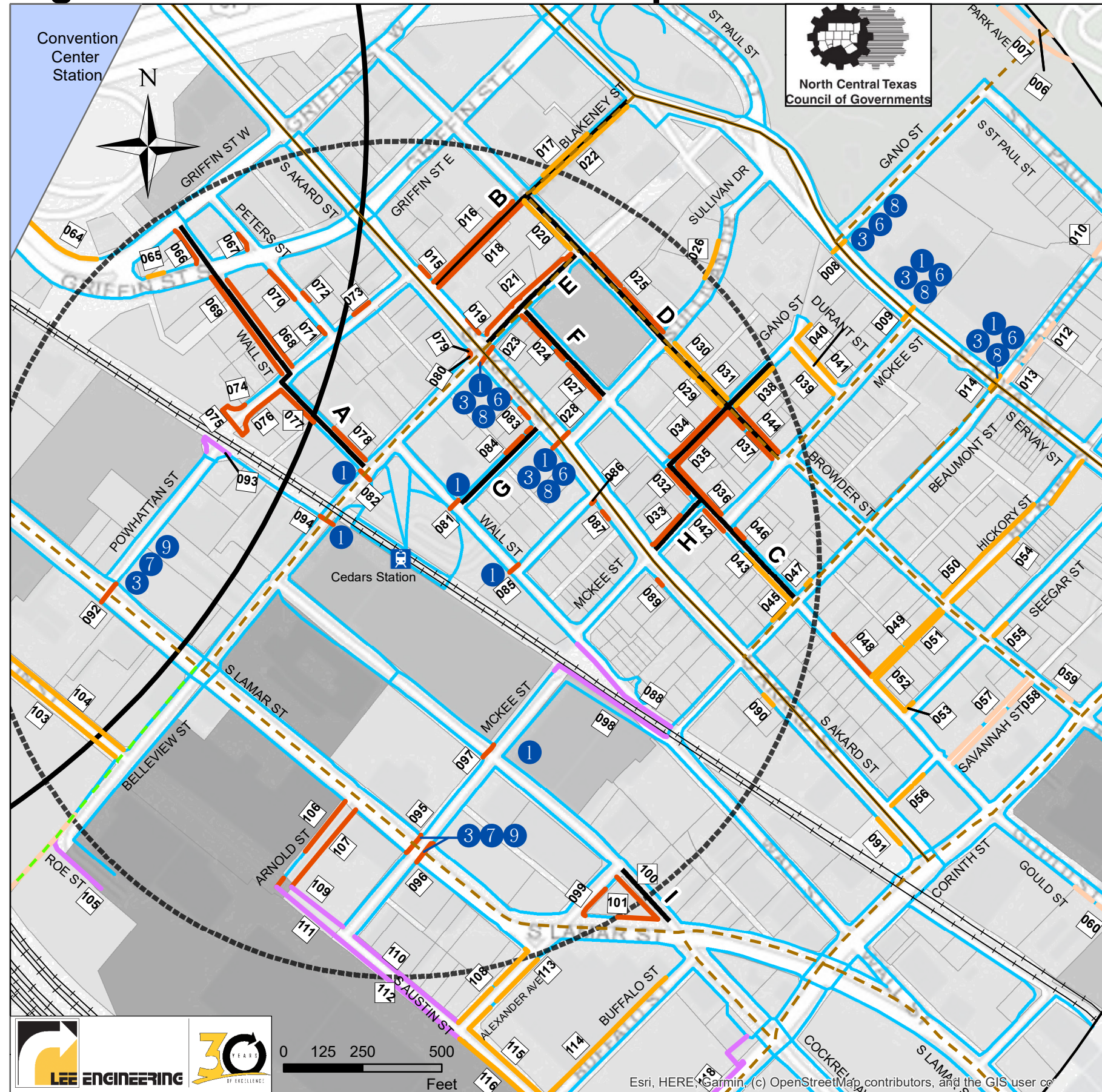
Figure 8C-4.2 Recommended Improvements Inset Detail

Legend

- DART Rail Station
- Railroad Track
- Sidewalk**
- Existing Sidewalk/Crosswalk
- Proposed Sidewalk/Crosswalk by Priority** 1
- High
- Medium
- Low
- Gap to Remain
- Regional Veloweb (Mobility 2045)**
- Regional Existing
- Regional Funded
- Regional Planned
- Local Shared Use Paths**
- Local Existing
- Local Funded
- Local Planned
- Local On-Street Bikeways**
- Local Existing Bicycle Facilities
- Local Funded Bicycle Facilities
- Local Planned Bicycle Facilities
- Buffers**
- 0.5 Mile Buffer
- 0.25 Mile Buffer
- Primary Routes

Existing Residential and Employment Population (Number of People)

- Ppl
- 0 - 234
 - 235 - 1049
 - 1050 - 2586
 - 2587 - 5364
 - 5365 - 10339



Possible Pedestrian Safety Countermeasures

Unsignalized Crosswalk Improvements

- 1 Crosswalk Signs, Markings & Lighting
- 2 Raised Crosswalk
- 3 Advance "Yield Here" Sign
- 4 In-Street Pedestrian Crossing
- 5 Curb Extension
- 6 Pedestrian Refuge Island
- 7 Rectangular Rapid Flashing Beacon
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon

Signalized Crosswalk Improvements

- 10 Add Marked Crosswalks & Provide Countdown, Accessible Pedestrian Signals
- 11 Traffic Signal

Primary Routes

Route	Street
A	Wall St
B	Blakeney St
C	Gould St Gano St
D	Browder St
E	Belleview St
F	Gould St
G	Sullivan Dr
H	McKee St
I	Cockrell Ave

Improvement Code Legend (See Matrix)

- 8C- ← Station Number
 CS ← Station Abbreviation
 SW ← Sidewalk (or CW for Crosswalk)
 01 ← Improvement Number (Matches 1 on Map)

