



U.S. Department
of Transportation
**Federal Highway
Administration**

Texas Division

March 29, 2024

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Dr. Ghassan “Gus” Khankarli, Ph.D., P.E., PMP, CLTD
Director
Department of Transportation
City of Dallas
1500 Marilla Street, L1BS
Dallas, TX 75201

Dear Dr. Khankarli:

Enclosed for your use is the Akard Street and Ervay Street Pedestrian and Bicycle Road Safety Assessment conducted by the Federal Highway Administration with assistance from the North Central Texas Council of Governments and other local partners. The report includes several recommendations for improving pedestrian and bicyclist safety along the Akard and Ervay corridors from Ross Avenue to Elm Street. Thank you for the City’s interest in improving pedestrian safety for the corridor, hosting the assessment, and providing the staff from multiple departments.

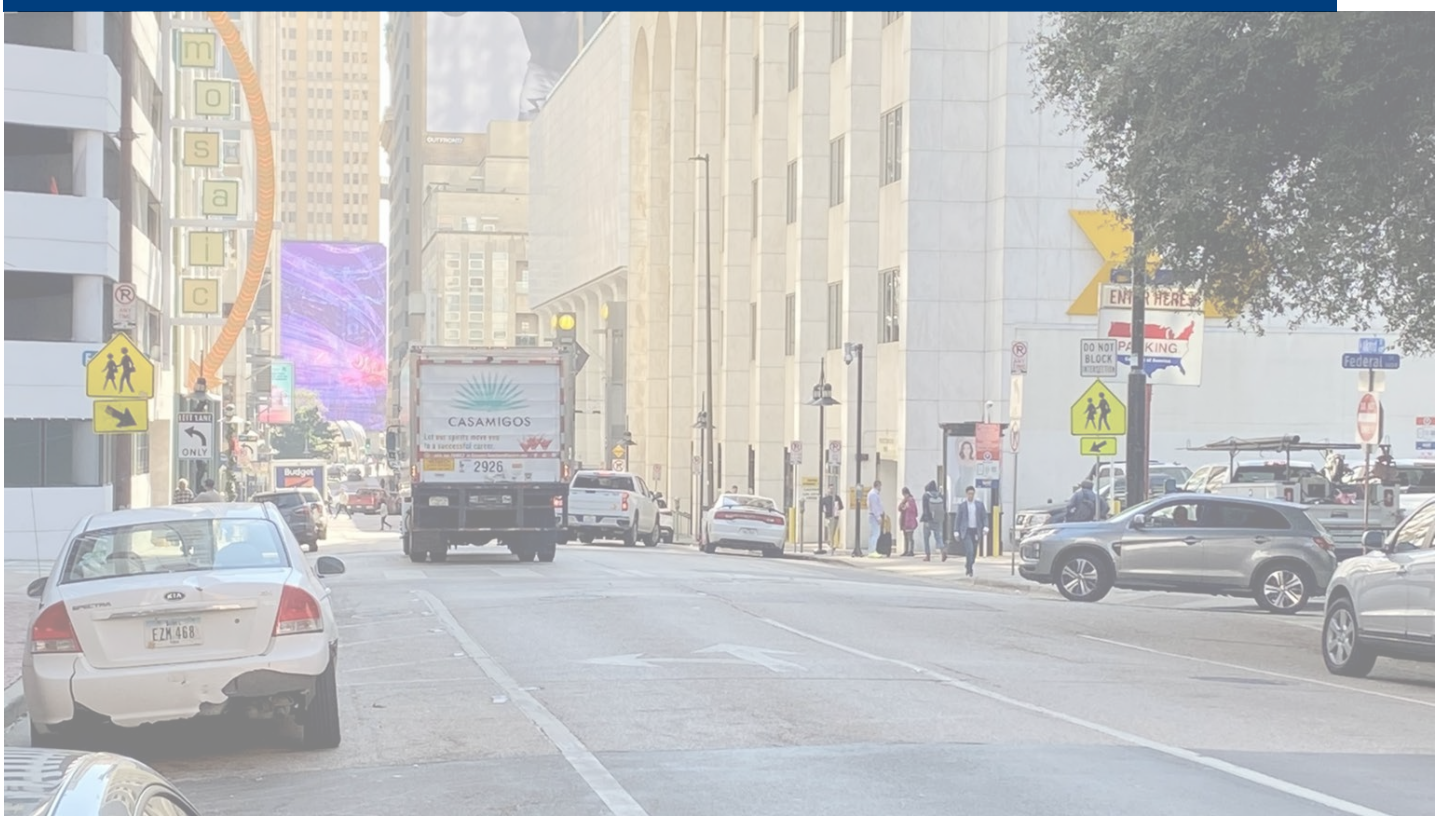
After the City of Dallas has completed its response to the recommendations, please provide me with a copy. If needed, my office is available to provide further technical assistance to help implement the recommendations listed in this report. We look forward to continuing our work with the City to advance pedestrian and bicyclist safety and achieve vision zero.

Sincerely,

Amelia (Millie) Hayes, P.E., PTOE, RSP₂₁
Safety and Traffic Operations Specialist

Enclosure

cc: Kathryn Rush, City of Dallas
Reema Elsaad, City of Dallas
Karla Windsor, NCTCOG
Kevin Kokes, NCTCOG



Road Safety Audit Akard and Ervay Streets Dallas, TX

MARCH 28, 2022

Facilitated by: Amelia (Millie) Hayes, P.E., PTOE, RSP₂₁
FHWA Texas Division



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Background

In 2021 the North Central Texas Council of Governments (NCTCOG) and the Federal Highway Administration (FHWA), along with regional stakeholders, created a regional Pedestrian Safety Action Plan (PSAP) that was adopted by the Regional Transportation Council. Texas is a FHWA pedestrian Focus State and Dallas and Fort Worth were Focus Cities until the late 2021. As part of the PSAP efforts to improve pedestrian safety throughout the NCTCOG region, pedestrian safety focused Road Safety Audits (RSA) were identified as a tool to help road owners identify possible improvements along priority corridors. FHWA agreed to facilitate several RSAs under the Focused Approach to Safety, including the Akard Street and Ervay Street corridors in Dallas.

The FHWA Office of Safety established RSAs to improve the overall safety performance of roadways. An [RSA](#) is a comprehensive formal safety performance evaluation on an existing or future road segment or intersection performed by an independent and multidisciplinary team. RSAs are a low-cost proactive approach to safety that considers all road users and identifies opportunities to enhance safety and reduce the number and severity of crashes. A [pedestrian-focused Road Safety Audit](#) is a specialized type of RSA intended to focus on pedestrian safety issues. In addition to pedestrians, the RSA documented here also considered safety and operational conditions for motor vehicles, bicyclists, and transit vehicles, and other users.

The RSA was conducted from November 14 to 17, 2023.

Road Safety Audit Team

- City of Dallas:
 - Reema Elsaad
 - Hannah Allen
- Dallas Area Rapid Transit (DART)
 - Ernie Martinez
- City of Plano:
 - Brian Shewski

-
- NCTCOG:
 - Catherine Richardson
 - Texas Department of Transportation (TxDOT):
 - Tahmina Khan
 - Matt Mestre
 - FHWA:
 - Stephen Ratke
 - Amelia (Millie) Hayes

RSA Location

The corridors are located in central downtown Dallas. Akard Street and Ervay Street are thoroughfares that extend through downtown and surrounding adjacent neighborhoods. The RSA study limits were North Akard and North Ervay Streets between Ross Avenue to the north and Elm Street to the south. Akard Street is one-way with southbound traffic and generally has four lanes. On Akard Street, the uses along the street are mixed but mainly commercial, with multi-family residential uses in the middle and south ends. Just south of the RSA limits, Akard switches to two-way traffic. Ervay Street is one-way with northbound traffic and generally has four lanes. On Ervay Street, the uses are mainly commercial with multi-family residential on the south end.

Transit in the corridors is provided by DART light rail and bus service. The DART light rail system serves the region with all four light rail lines converging downtown along the Bryan/Pacific Transit Mall, including Akard Station (also DART headquarters) and St Paul Station within the RSA limits. A few DART buses are routed northbound on Ervay Street and southbound on St Paul Street, and east/west on Ross Avenue, San Jacinto Avenue, and Elm Street. McKinney Avenue Transit Authority operates nearby, with service on St Paul Street north of DART's St Paul Station.

The RSA Team focused on the following intersections: (1) Akard Street at Ross Street, (2) Akard Street at San Jacinto Street, (3) Akard Street at Patterson Street, (4) Akard Street at Federal Street, (5) Akard Street at Pacific Avenue (adjacent to DART's Akard

Station), (6) Akard Street at Elm Street, (7) St Paul Street at Bryan Street (adjacent to DART’s St Paul Station), and (8) Ervay Street at Federal Street, identified numerically in Figure 1 below.

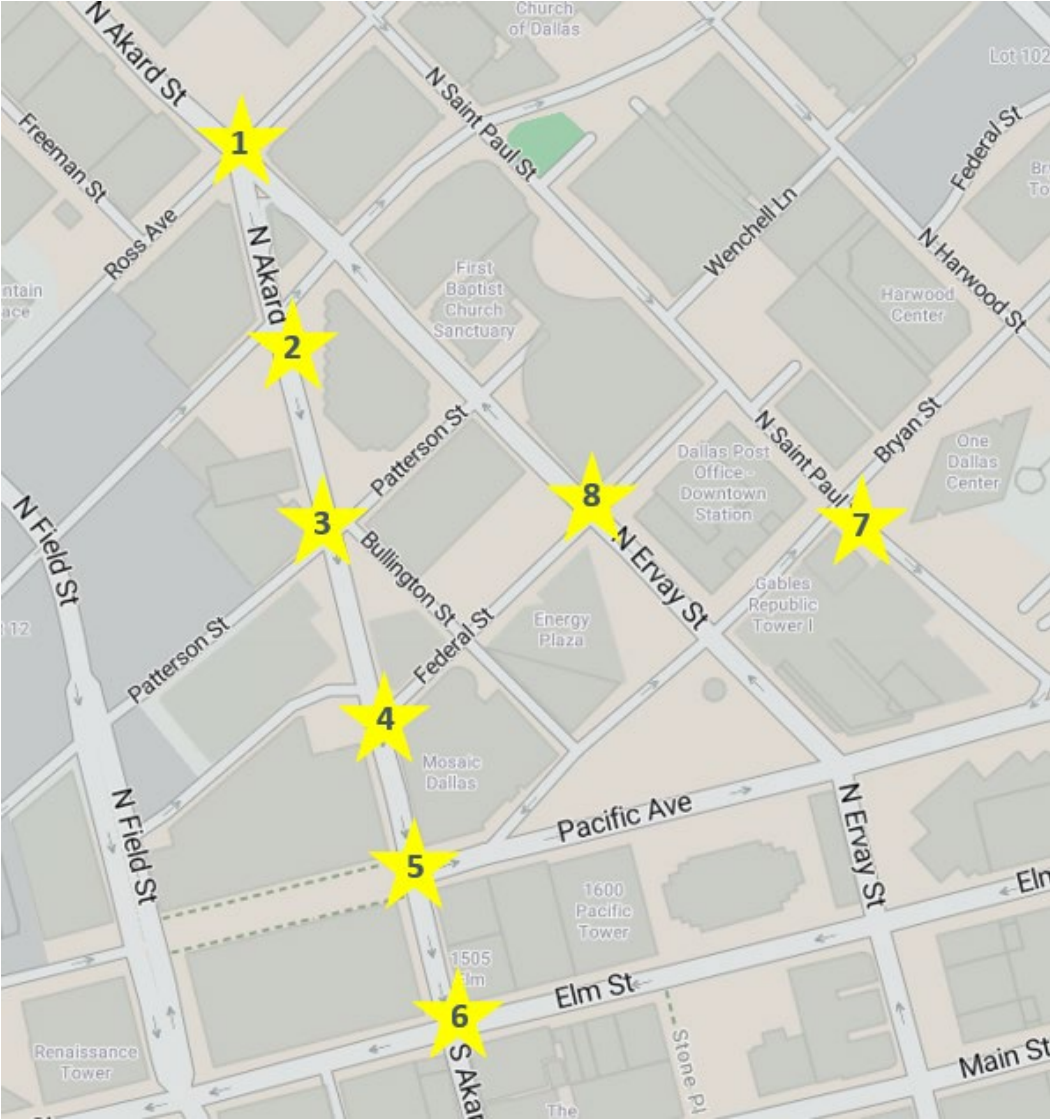


Figure 1: Akard and Ervay Streets location map (Source: [Bing Maps](#))

Kickoff Meeting

The kickoff meeting for the RSA was held at First Baptist Dallas on Tuesday, November 14, 2023 at 9am. The meeting included staff from the City of Dallas Department of Transportation, Dallas Police Department, Downtown Dallas Inc, TxDOT, and FHWA.

The list of attendees is in Appendix A. FHWA began the meeting by providing a refresher on RSAs and explaining how the RSA would be conducted. FHWA presented on the pedestrian safety focused RSAs being led by NCTCOG. City of Dallas presented information about the Akard Street and Ervay Street corridors for the RSA Team to consider. An open discussion with all attendees was then conducted, which gave the Team more specifics to consider during the review.



Figure 2: Kickoff meeting attendees

Site Visits

The following site visits were conducted:

Tuesday, November 14:

- Lunchtime observations at Akard/Ervay/Ross and Akard corridor from 11:30am to 1:30pm
- Afternoon observations at Ervay/Federal and St Paul/Pacific from 2pm to 3:30pm
- PM peak and night observations at Akard/Ervay/Ross and Akard corridor from 4:30pm to 7pm

Wednesday, November 15:

-
- AM peak observations at Akard corridor and DART’s Akard Station from 6:30am to 10am
 - Lunchtime observations at DART’s Akard Station, Akard/Elm, and DART’s St Paul Station
 - PM peak observations on Ervay corridor and Akard/Ervay/Ross from 4pm to 6pm
 - AM peak observations at Akard/Ervay/Ross and Akard/San Jacinto from 7:30am to 9am

Thursday, November 16:

- AM peak observations at Akard/Ervay/Ross and Akard/San Jacinto from 7:30am to 9am

Closeout Meeting

A closeout meeting was held at the First Baptist Dallas on Friday, November 17 at 10am and Monday, November 20 at 10am (virtual). The RSA Team reviewed the observations made in the field and covered the most important recommendations for feedback from City representatives, along with information the Team requested feedback on to develop the final report. During the closeout meeting, no major issues were identified by the City, and the results of the recommendations are detailed in this report.



Figure 3: Closeout meeting attendees

The Positives

While the Akard Street and Ervay Street corridors were identified for an RSA due to concerns about pedestrian and bicyclist safety, it is important to note that there are many positive aspects to the corridor that help it function well in providing an important transportation link in the City of Dallas. Few congestion or capacity issues were observed during peak periods. The RSA Team observed signal optimization, with good vehicle progression throughout the corridor as well as good timing with DART light rail.

Many pedestrians were observed using the corridors, particularly traveling between multifamily residential and retail/commercial buildings in the area. There was high transit activity in the area, especially at DART's Akard Station. Sidewalks were continuous, and some locations had approximately 3 feet of buffer between sidewalk and roadway. One location had leading pedestrian intervals (LPI), which is an [FHWA Proven Safety Countermeasure](#) and best practice.

During the night review, pavement markings were generally visible and retroreflective. Crosswalk lighting was generally good. Lighting of the roadway overall was good, with minimal interference from trees and other vegetation.

Primary Concerns

As identified in the selection of the RSA location and the kickoff meeting, the primary concern for this corridor is the occurrence of motor vehicle crashes with pedestrians and bicyclists. A map of pedestrian and bicyclist crashes in the area is shown in Figure 4 below.

Downtown Dallas Crash Map (2018-2022)

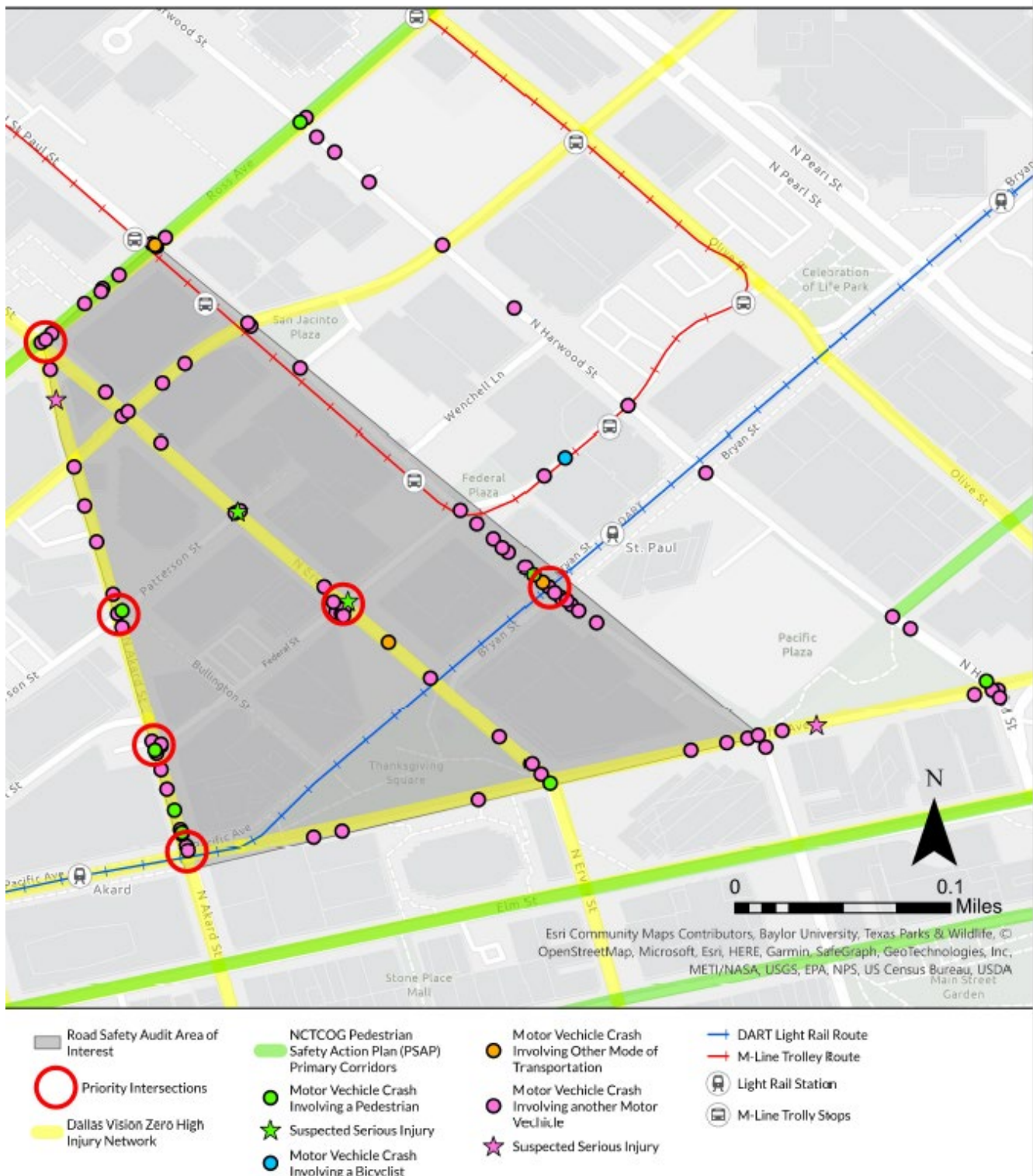


Figure 4: Pedestrian and Bicyclist crash map of the corridor. (Source: TxDOT Crash Record Information System, 2018 to 2022)

Following our field reviews, the RSA Team conducted a review of Texas Peace Officer's Crash Reports (CR-3s) of the pedestrian and bicyclist crashes in the corridors. The trends that we found in the CR-3s generally were consistent with our observations, did not change our recommendations, and are explained further when applicable below. In general, all types of crashes peaked between 3pm and 7pm, and especially at 4pm and 5pm. Pedestrian and bicycle crashes peaked between 5pm and 7pm. Additionally, DART noted that two sideswipe crashes involving their vehicles had occurred near St Paul/Bryan and three DART-related crashes occurred at Akard/Ross.

General Recommendations

The RSA Team identified several recommendations for the Akard Street and Ervay Street corridors based on the primary concerns identified above and other observations identified during the RSA. The recommendations below are presented in no order of priority but do note the relative expected timeline for implementation:

- Consider traffic signal improvements. The City should consider the following improvements for safety and accessibility.
 - Upgrade signals to current standards. Most existing signals within the Akard and Ervay corridors are rectangular pedestal poles which are still prevalent downtown. One of the disadvantages of the pedestal signal is the difficulty in meeting visibility requirements, particularly at large signalized intersections. Upgrading to the City's current standard of mast arm signals would provide more conspicuous signal head placement and would better accommodate larger intersections. The RSA Team observed some retroreflective backplates in the corridor where signal heads had recently been replaced. The City had recognized the [safety benefits](#) of retroreflective backplates and these are the current City standard for new signal heads. When applicable, ONE WAY signs should be included. Timeline: Medium- to long-term.

-
- Verify pedestrian signal intervals. Consider more pedestrian-focused operations, including calculating and monitoring pedestrian level of service and delay at signals. At many intersections, pedestrian WALK intervals were less than 7 seconds. The City should provide WALK indications of at least 7 seconds per the Manual of Uniform Traffic Control Devices (MUTCD). While walk intervals of less than 7 seconds are included as an Option under certain conditions, the pedestrian volumes and characteristics observed by the RSA Team renders this unlikely. In some locations, pedestrian change intervals and buffer intervals also appeared shorter than minimums. Timeline: Medium- to long-term.
 - Consider Leading Pedestrian Intervals (LPIs). A LPI gives pedestrians the opportunity to enter the crosswalk at an intersection 3 to 7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left. LPIs increase the visibility of crossing pedestrians, reduce conflicts between pedestrians and vehicles, and increase the likelihood of motorists yielding to pedestrians. The City had recognized the [safety benefits](#) of LPIs elsewhere in downtown and in other areas of the City. LPIs were in place for some pedestrian crossings in the corridor; however, the interval lengths were on the shorter end of the range. Longer LPIs would provide increased visibility, especially at the intersections with longer crossing distances. If LPIs are installed, accessible pedestrian signals are required to communicate information about pedestrian signal timing in non-visual formats such as audible tones, speech messages, and/or vibrating surfaces to pedestrians who are blind or visually impaired. Timeline: Medium- to long-term.

-
- Upgrade accessibility to current standards. The City should consider the following improvements for safety and accessibility.
 - The sidewalks contain obstructions, and the effective width does not meet minimum requirements. Sidewalks should be a minimum of six feet wide, free of obstructions, with wider areas needed when businesses front the street closely (frontage zone). The City should ensure basic maintenance of the pedestrian path. Timeline: Medium-term.
 - Update curb ramps. The corridor is primarily served by diagonal single curb ramp designed corners, while dual ramp directional designs are now preferred. The RSA Team observed at least one location without a curb ramp and multiple locations of curb ramps not lining up with crosswalks. Many of the pushbuttons are not fully accessible, with locations that are out of the way or lack a level landing area. Some pedestrian signal heads are out of line with the walking line of travel and crosswalk and would be enhanced by better positioning. Timeline: Medium- to long-term.
 - Refresh pavement markings, particularly at crosswalks. The City should ensure compliance with the new minimum levels of pavement marking retroreflectivity. Some of the intersections utilized brick pavers to delineate the crosswalks. While these treatments look pleasing and distinctive from overhead or while walking, they fail to provide adequate information to drivers about where to expect people walking, particularly at night. Additionally, at some locations the brick pavers of the crosswalk extended into the interior of the intersection and space used by vehicle traffic, which potentially creates an unnecessary conflict area between those walking and driving. Any striping that is placed should be clear of vehicle paths, even if it conflicts with the brick patterns. Timeline: Short-term.
 - Ensure consistency of signs and replace signs that are no longer retroreflective. Signs should be consistently applied and placed in the same location consistently (e.g. consistent wording on parking signs and always installing ONE WAY signs

for drivers existing driveways onto Akard and Ervay Streets). Ensure all signage meets minimum retroreflectivity levels. Timeline: Short-term.

- Consider reallocating space within the right-of-way. The RSA Team observed on-street parking that was heavily utilized. Parking restrictions were not consistent at the corridor level. Rush hour restrictions were in place in some locations but were ineffective, and little to no enforcement was observed during the field visits.
 - Lane skips were in place where parking is allowed, and the City should remove clear conflicts with parking lanes. Timeline: Short-term.



Figure 5: Pavement markings (lane skips)

- During our field visits, the RSA Team did not observe capacity issues related to parking utilization. The City could consider changing the Akard cross-section to two through lanes to meet capacity demands. Remaining roadway

width could then be used for other priorities, including wider sidewalks and dedicated parking lanes with possible bulbouts or turn-lanes where appropriate to improve safety and turning operations. Bulbouts extend the sidewalk into the parking lane and reduce the crossing distance for pedestrians. Bulbouts reduce speed of turning vehicles, encourage pedestrians to cross at designated locations, shorten the crossing distance, and prevent vehicles from parking at corners. Bulbouts can also improve sight triangles, which could help locations like Federal Street which has low visibility. The City could consider rideshare curbs near high activity areas where appropriate, similar to existing downtown example on North Harwood Street. Timeline: Medium- to long-term. Where the City decides to continue to allow parking, unambiguous stall pavement markings should be installed per City standard (Standard Construction Details 251D sheet 5011). Timeline: Medium- to long-term.

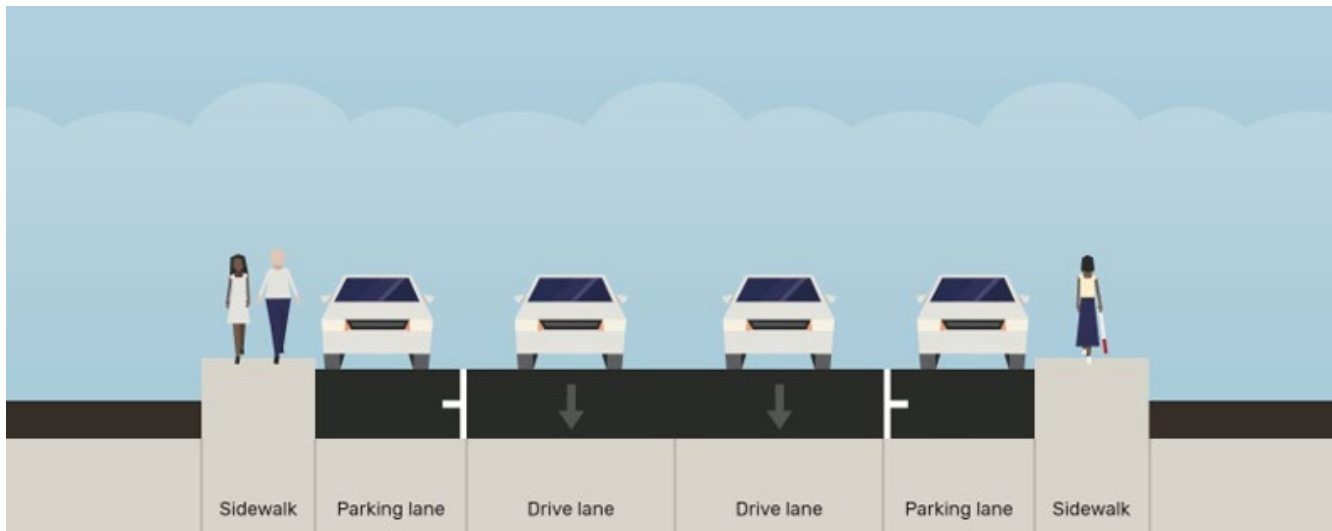


Figure 6: Rendering of potential cross-section described above

Location Specific Issues and Recommendations

Location 1: Akard Street/Ervay Street at Ross Avenue

Approaching Ross Avenue intersection from the north, Akard Street allows for traffic in two directions, then splits into Akard Street serving southbound and Ervay Street serving northbound, immediately south of Ross Avenue. North of the intersection, there are three southbound lanes (two through lanes and one through/right turn lane), and three northbound lanes. South of the intersection, southbound Akard Street has three lanes and northbound Ervay Street has three lanes, and a U-turn lane allows for drivers to travel from northbound Ervay Street to southbound Akard Street. Ross Avenue eastbound has two through lanes and one left-turn lane. Westbound Ross Avenue has three through lanes and one left-turn lane. Crosswalks on all four sides of the intersection are visually distinguishable only by brick patterned aesthetic treatments. The RSA Team generally observed higher vehicular speeds on the southbound direction due to progression and timing upstream of the intersection.

- **Observation:** The RSA Team observed many conflicts between drivers, often due to drivers deviating from their lane assignments as they traveled through the intersection. Drivers often conflicted in the right two lanes south of the intersection where the rightmost lane then allows for parking. The RSA Team also noted a history of right-angle crashes and sideswipe crashes: the last five years of crash data showed 43 crashes at this intersection, 23 of which were right-angle crashes and five of which were sideswipe crashes. The RSA Team observed that for drivers traveling southbound through the intersection, a variety of factors contributed to visibility issues.



Figure 7: Akard/Erway/Ross

Recommendation: Install and/or refresh signage and pavement markings, and consider signal upgrades. Upgrading to the City's current standard of mast arm signals would provide more conspicuous signal head placement and would better accommodate this larger intersection. Green arrow indications in lieu of circular green signal indications would provide more visual guidance to the driver about the upcoming horizontal curve, as would angled arrow pavement markings. Intersection lane control signs, possibly located on mast arms, would be more conspicuous and a supplemental sign on the near side that is located below the signal would reinforce the message. Pavement marking extensions through the intersection (“puppy tracks”) could be installed. South of the intersection, installing a raised curb median for the northbound Erway Street to southbound Akard Street U-turn movement would provide positive guidance and separation for southbound traffic. **Timeline:** Short-term for pavement marking and signage improvements that could be installed in an interim condition, otherwise medium- to long-term.

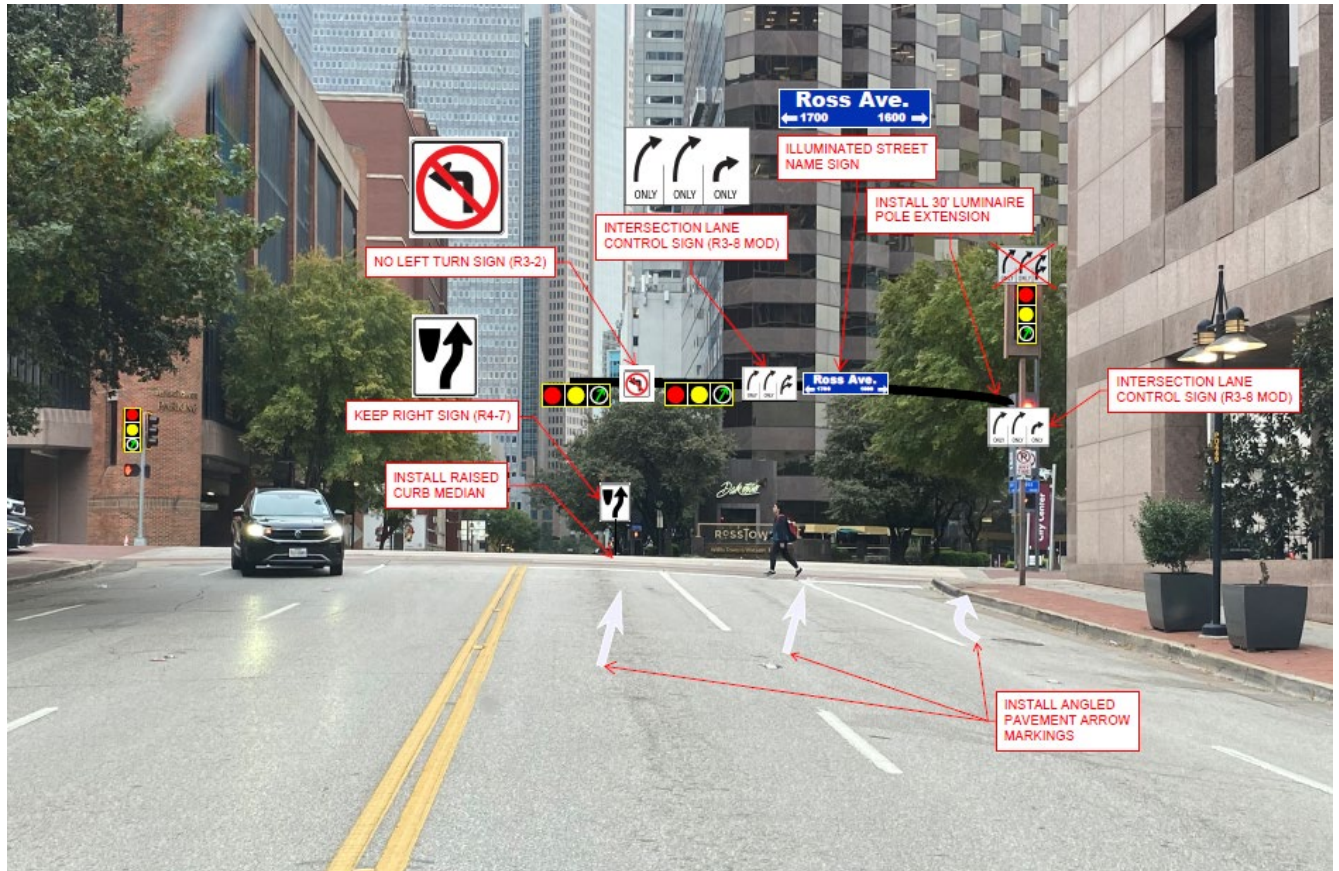


Figure 8: Rendering of potential improvements for Akard/Erway/Ross

- Observation:** The RSA Team noted operational issues along Ross Avenue, including queue spillback at Ross Avenue at St Paul Street which resulted in congestion at Ross Avenue at Akard Street. From the RSA Team’s limited time in the field, there appeared to be network issues, including diversions and overlapping demand at San Jacinto Street. **Recommendation:** The City should look further into these issues. **Timeline:** Medium-term.

Location 2: Akard Street at San Jacinto Street

At the intersection, Akard Street has four southbound lanes. San Jacinto Street has three eastbound lanes. Crosswalks on all four sides of the intersection are visually distinguishable only by brick patterned aesthetic treatments.

- Observation:** As noted in General Recommendations above, the sidewalks contained obstructions. The west side of Akard Street in this area, especially

north of San Jacinto Street, appeared to contain the narrowest sidewalks in the corridor. Obstructions further reduced its effective width.



Figure 9: Obstructions on Akard Street north of San Jacinto Street

Recommendation: Sidewalks should be a minimum of six feet wide, free of obstructions, with wider areas when needed. The City should ensure basic maintenance of the pedestrian path. **Timeline:** Long-term.

- **Observation:** The east side of the intersection, on San Jacinto Street between Akard and Ervay Streets, has no lane markings. The RSA Team observed eastbound San Jacinto Street drivers generally adhering to the same lane configuration that was marked on the west side of the San Jacinto intersection when through traffic had the green signal. When southbound Akard traffic had the green signal, drivers turning onto San Jacinto from Akard lacked any visual guidance, at times making extra lanes. The RSA Team noted the issue was exacerbated during certain times of day, when valet was operational on the

north side of the block and when drivers idled their vehicles for apparent pickup orders on the south side of the block. **Recommendation:** Install lane markings on this block. **Timeline:** Short-term.

- **Observation:** As noted in Ross Avenue above, there appeared to be network issues, including diversions and overlapping demand at San Jacinto Street. **Recommendation:** The City should look further into these issues. **Timeline:** Medium-term.

Location 3: Akard Street at Patterson Street

At the intersection, Akard Street has four southbound lanes. Patterson Street has one lane in each direction. Marked crosswalks (two transverse lines) are present on the south and west sides of the intersection. Crosswalks on the north and east sides of the intersection are visually distinguishable only by brick patterned aesthetic treatments. On the southeast side of the intersection is the entrance and exit for the Bullington Street Truck Terminal.

- **Observation:** On the east side of the intersection, the unusual configuration is leading to safety concerns. On Patterson Street, the Bullington Street Truck Terminal entrance/exit driveway is east of the Akard intersection, and has its own pedestal signals (vehicular heads and pedestrian heads) on the east and north sides. It appears that pedestrians walking northbound or southbound on the east side of Akard Street are intended to make two crossing maneuvers: one across the Truck Terminal driveway and the other across Patterson Street. The same brick patterned aesthetic treatment used in the corridors for crosswalks also spans the surface of the Truck Terminal entrance/exit intersection. The observed pedestrian behavior and crossing paths conflicted with both the pedestrian signalization and messaging conveyed by the aesthetic treatment. The RSA Team observed several conflicts with drivers and pedestrians on the east side of the intersection. When walking southbound on Akard Street, pedestrians often followed the pedestrian signal head southeast quadrant of Akard/Patterson, which is intended to serve pedestrian traffic crossing the Truck Terminal driveway.



Figure 10: Misleading pedestrian signal head

Recommendation: The City should rotate the misleading Truck Terminal driveway pedestrian signal to make it less visible to pedestrians crossing Akard Street. The City could consider striping the larger expanse of pavement near the Truck Terminal to allow for a single pedestrian crossing movement on Akard Street since it provides a more direct pedestrian path. The City could also consider making the truck terminal exit a right-turn only to reduce some of the conflicts. **Timeline:** Short-term for adjusting the pedestrian signal head, medium-term for others.

Location 4: Akard Street at Federal Street

At the intersection, Akard Street has three southbound lanes (one lane crosshatched on the north side of the intersection, and just south of the intersection starts as a left-turn lane for the Pacific Avenue intersection). Federal Street is offset and skewed. Federal Street east of the intersection allows for two-way traffic with one lane in each direction. Federal Street west of the intersection is one-way with one lane eastbound (what would be the westbound lane is crosshatched). Marked crosswalks (ladder style pavement markings) are present on the east and west sides of Akard Street to cross

Federal Street, and one marked crosswalk across Akard Street is present between the two offset legs of Federal Street. The RSA Team observed high pedestrian traffic at this location.

- **Observation:** The RSA Team observed many conflicts between pedestrians crossing Akard Street (using the marked crosswalk or otherwise) and drivers making the eastbound through movement continuing on Federal Street. Due to the skewed configuration, drivers continuing eastbound on Federal Street tended to focus on looking for oncoming vehicular traffic on Akard. This often led to drivers not looking for pedestrians using the marked crosswalk. The RSA Team observed some pedestrians preferring to cross Akard Street north of the existing crosswalk, likely desiring to avoid the conflict with eastbound Federal Street drivers.

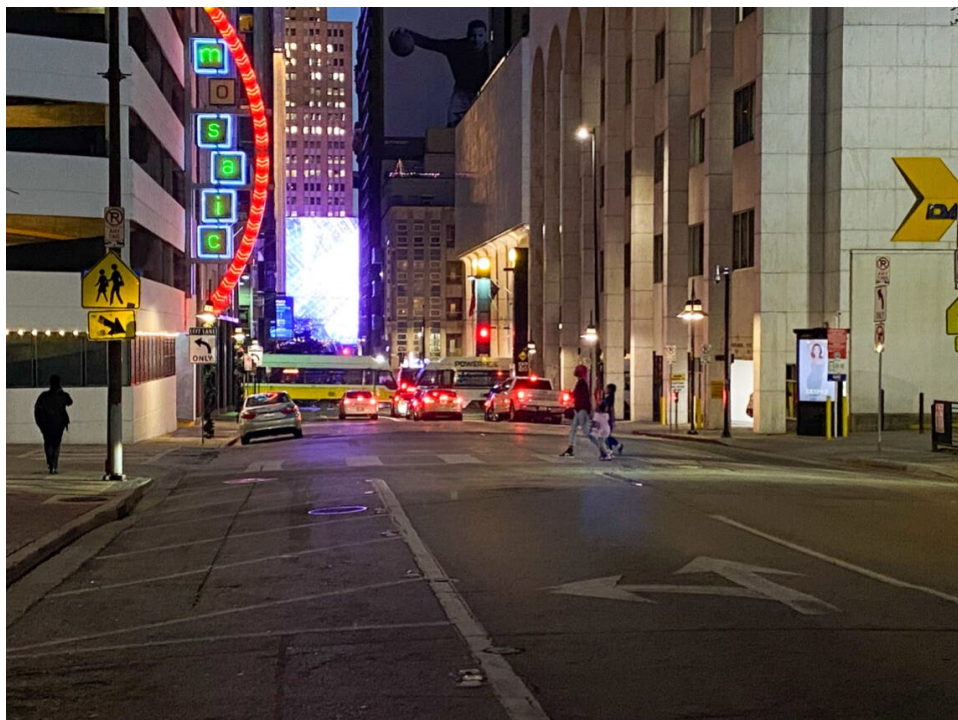


Figure 11: Pedestrians crossing Akard Street at Federal Street

Recommendation: The crosswalk could be relocated with enhanced pedestrian improvements, which would remove the conflict with pedestrians crossing Akard Street and drivers making the through eastbound Federal movement. Enhanced pedestrian improvements to the crosswalk could be the addition of a [Pedestrian Hybrid Beacon](#), [Rectangular Rapid Flashing Beacon](#), or [Crosswalk Visibility](#)

Enhancements. **Timeline:** Short-term for pavement markings; medium-term for other enhancements.

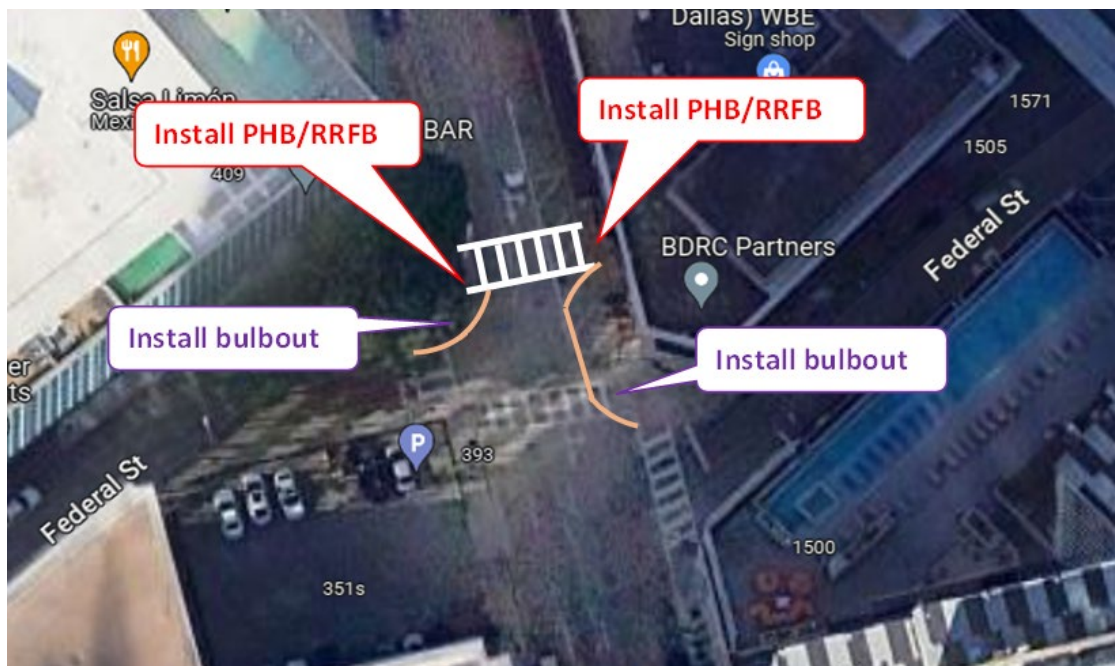


Figure 12: Rendering of potential improvements at Akard/Federal

- **Observation:** The offset and skewed configuration of Federal Street leads to sight distance issues for drivers making the eastbound through movement. North of the intersection, parking was prohibited on both east side of Akard Street (crosshatched pavement markings and signage were present) and west side (signage was present); however, vehicles were parked in these locations at various observation times. The RSA Team observed several near-miss crashes at this location. **Recommendation:** The City could enforce current parking prohibitions in this location or consider infrastructure changes to prevent parking within proximity of the intersection. As noted in General Recommendations above, the City could consider changing the Akard cross-section to two through lanes and two dedicated parking lanes, including bulbouts. Bulbouts and extended sidewalk north of the intersection would be particularly helpful to improve current sight distance issues currently caused by parked vehicles, and would provide shorter crossing distance and increased sidewalk space for pedestrians. **Timeline:** Short-term for enforcement, medium- to long-term for bulbouts.

-
- **Observation:** School Crosswalk Warning Assembly (S1-1 with W16-7P) was present at the crosswalk across Akard Street, with applicable advance warning signs on the block north. The RSA Team noted a private playground but there did not appear to be a school in this location. **Recommendation:** Verify whether the school crosswalk signage is needed in this location. **Timeline:** Short-term.

Location 5: Akard Street at Pacific Avenue

At the intersection, Akard Street has three southbound lanes, including two through lanes, one left-turn lane, and one lane crosshatched north of the intersection. South of the intersection, there are two through lanes and two lanes crosshatched. Pacific Avenue has two DART light rail tracks, and east of the intersection has one eastbound vehicular lane. On the west side of the intersection is DART's Akard Station, serving red, blue, orange, and green light rail lines. Crosswalks on all four sides of the intersection are visually distinguishable only by brick patterned aesthetic treatments.

- **Observation:** This is an area of very high pedestrian activity. The width of the sidewalks are inadequate, especially on the west side of the intersection adjacent to Akard Station. The RSA Team observed conflicts between drivers and pedestrians crossing Pacific Avenue, especially on the west side of the intersection after passengers arrived via light rail. In peak periods, the RSA Team observed pedestrians challenged by the lack of space in certain locations (e.g. maneuvering around planter boxes, safety railing, vertical drop-offs, pedestal signals with large footprints, placemaking/art, etc.). On the west side of the intersection, within the crosswalk, there was a large gap between the rails and the pavement surface that exceeded the typical flange way gap in this and other locations. The RSA Team observed more than one pedestrian struggle to traverse this area. There were several other locations where basic maintenance is needed.



Figure 13: Pedestrian activity on the west side of Akard/Pacific



Figure 14: Pedestrian activity on the west side of Akard/Pacific

Recommendation: Due to high pedestrian volumes, the City should consider enhancing the pedestrian use and accessibility. Bulbouts similar to those at St Paul Station would provide more space for pedestrians and shorten the crossing distances. The City should install detectable warnings in compliance with current standards. The City should ensure that the sidewalk is free of obstructions and ensure basic maintenance of the pedestrian path. **Timeline:** Short-term for basic maintenance needs, medium- to long-term otherwise.

- **Observation:** During the field visits, curb management in this location was impacting safety and operations. The RSA Team observed very low utilization of the rightmost through lane on the northwest side of the intersection. Issues at this location were further hindered by operational issues at Akard Street at Elm Street location, as noted below.

On the northwest side, rush hour parking restrictions were in place but were often ineffective, and no enforcement was observed during the field visits. This resulted in an effective cross-section of one through lane and one left-turn lane.

On the northeast side of the intersection, the crosshatched pavement markings and No Parking signage were often ineffective, and no enforcement was observed during the field visits. Parked vehicles on both northeast and northwest sides of the street were often DART vehicles, especially on the northwest side adjacent to their headquarters building and Akard station.



Figure 15: Parking activity on the north side of Akard/Pacific

Recommendation: As noted in General Recommendations above, the City could consider changing the Akard cross-section to two through lanes and two dedicated parking lanes, including bulbouts. Bulbouts and extended sidewalk would be particularly helpful to improve the narrow pedestrian path. To allow for the observed parking needs, the City could consider the northeast parking lane to be loading/unloading or freight vehicles, and northwest parking lane for DART vehicles (security, DART Police, maintenance vehicles servicing Akard Station, etc.). **Timeline:** Medium-term.

Location 6: Akard Street at Elm Street

North of the intersection, Akard Street has two southbound lanes (one through lane and one right-turn lane), and two lanes crosshatched on the east side of the street that span the entire block from Pacific Avenue to Elm Street. South of the intersection, Akard Street switches to two-way operation and has one lane in each direction. Elm Street has four westbound lanes and one lane crosshatched on the north side of Elm, adjacent to DART's Elm/Akard bus stop. Marked crosswalks (ladder style pavement

markings) are present on north, east, and west sides of the intersection. The crosswalk on the south side of the intersection is visually distinguishable only by brick patterned aesthetic treatment.

- **Observation:** North of the intersection, between Pacific Avenue and Elm Street, curb management was impacting safety and operations. Valet parking on the west side was operating on a mountable sidewalk which spanned approximately one-third of the sidewalk on this block. The RSA Team observed several peak periods throughout the day where the valet queuing impacted the westernmost lane as newly arriving drivers blocked the travel lane adjacent to the sidewalk/valet. This resulted in an effective cross-section of one through lane instead of a through and right-turn only lane.

As noted in Akard Street at Pacific Avenue location above, this is an area of very high pedestrian activity. The width of the sidewalk was inadequate even without the presence of the valet operation, especially on the west side of the intersection adjacent to Akard Station. The RSA Team observed conflicts between drivers and pedestrians, especially on the west side of the intersection after passengers arrived via light rail. As noted in Akard Street at Pacific Avenue above, in peak periods, the RSA Team observed pedestrians challenged by the lack of space in certain locations (e.g. maneuvering around planter boxes, landscaping, aesthetic light fixtures, between vehicles in the sidewalk-turned-valet, etc.).

For pedestrians walking on the sidewalk traveling northbound, two planters served as a physical barrier between the expected pedestrian path and the valet portion of the sidewalk. For those pedestrians traveling southbound, no barrier or other visual indication to expect vehicles on the sidewalk was provided. Longitudinally on the sidewalk, a series of bollards were present.



Figure 16: Congestion north of Akard/Elm extending to Akard/Pacific

Recommendation: The two travel lanes could be shifted to the east for the majority of the block and tapered back to the west approaching Elm Street, and one crosshatched lane could be installed on both the east and the west sides. This would allow for vehicles to stay in the street, and valet operations could occur in the crosshatched area with one lane for each of the 1505 Elm Street residences and The National building. **Timeline:** Medium- to long-term.



Figure 17: Rendering of potential improvements at Akard/Pacific and Akard/Elm

- **Observation:** This is an area of high pedestrian activity. Conflicts between pedestrians and drivers were observed between pedestrians on the west side of the intersection and drivers traveling from southbound Akard Street to westbound Elm Street. **Recommendation:** Conflicts between pedestrian movement and driver right-turns likely warrant an upgraded investment in signal technology at this location. Consider implementing the emerging trend of using Flashing Yellow Arrow for pedestrian conflicts instead of circular green signal indication. Some municipalities, including Austin (example shown in Figure 17 below) and Houston, have been using the Flashing Yellow Arrow in areas with pedestrian conflicts. Research indicates that the Flashing Yellow Arrow increases yielding behavior and “fails safe” in that drivers stop when they are unsure what to do while with a circular green signal indication drivers tend to go when they are unsure what to do. Akard Street at Elm Street might be a particular location for further study, with a protected green for right-turns and a pedestrian phase with Flashing Yellow Arrow right-turn indication to encourage yielding behavior. While the City is considering the Flashing Yellow Arrow, a

more immediate temporary Turning Vehicles Stop for Pedestrians signs (R10-15) on both the far side and near side of the intersection could be installed.

Timeline: Medium- to long-term for new equipment. For signage and pavement markings while the City considers and/or plans for Flashing Yellow Arrow, short-term.



Figure 18: Example of Flashing Yellow Arrow for pedestrian conflicts ([Google Street View](#)). Note that Austin frequently uses dynamic ITS signs for these treatments, and the sign appearing here as Turning Vehicles Yield to Pedestrians (R10-15) is one of them.

Location 7: St Paul Street at Bryan Street

At the intersection, St Paul Street has three southbound lanes and dedicated parking lane on the east side. Bryan Street has two DART light rail tracks, and west of the intersection has one eastbound vehicular lane. On the east side of the intersection is DART's St Paul Station, serving red, blue, orange, and green light rail lines. Crosswalks on all four sides of the intersection are visually distinguishable only by brick patterned aesthetic treatments.

- **Observation:** The RSA Team observations of behavior and review of crashes suggest that parking and curb management could be improved in this location. Review of crashes indicated that crashes were all parking-related. The intersection has bulbouts and a dedicated parking lane on the east side of St Paul Street. **Recommendation:** Bulbouts and a dedicated parking lane on the west side of the street could help with parking-related crashes. A bulbout could also potentially help with the DART bus stop on the west side that was routinely blocked. **Timeline:** Medium- to long-term.
- **Observation:** The intersection has bulbouts, dedicated parking lane, and detectable warnings on the west side of St Paul Street. There are also two additional traffic signals present on the far side of the intersection, and their placement above the travel lanes makes these signals more conspicuous. Lighting was sufficient and was operational at the time of our field reviews. **Recommendation:** Bulbouts, parking lane, signals, and lighting observed in this location were the most effective compared to all other intersections studied for this RSA. The City could consider similar configuration on Akard Street at Pacific Avenue. **Timeline:** Medium- to long-term.

Location 8: Ervay Street at Federal Street

At the intersection, Ervay Street has four northbound lanes. East of Ervay Street, Federal Street has one eastbound lane and two westbound lanes (one through lane and one right-turn lane). West of Ervay Street, Federal Street has one lane in each direction. Marked crosswalks are present on all four sides of the intersection (ladder

style pavement markings are present on north and south sides, and two transverse lines on the east and west sides).

- **Observation:** At the kickoff meeting, stakeholders indicated that there had been at least three crashes where vehicles departed the roadway and came to rest in or near the building on the northeast side of the intersection (First Baptist building). A review of the crash data revealed a crash pattern that was primarily right-angle disregard signal crashes. Construction activity has been occurring on the southwest side of the intersection for over five years, resulting in various lane closures on the west side of Ervay Street in the block south of Federal Street. These construction closures make it difficult to determine why drivers are departing the roadway in this location. During field visits, the RSA Team observed that in certain signal cycles, the DART light rail activity south of this intersection occasionally interrupts the platoon at Federal Street, and the RSA Team observed several vehicles running the red. **Recommendation:** The City should study this further to confirm appropriate timing at Federal Street. **Timeline:** Short- to medium-term.

Appendix A

List of attendees at meetings:

Kickoff meeting:

City of Dallas:

- Hannah Allen
- Reema Elsaad
- Joseph Marchione
- Sargeant Noel Moore

City of Plano:

- Brian Shewski

DART:

- Ernie Martinez

MATA:

- Vic Cervantes

First Baptist Church of Dallas:

- Jill Sullivan

Downtown Dallas, Inc.

- Nikia Summerlin

NCTCOG:

- Karla Windsor
- Catherine Richardson

TxDOT:

- Tahmina Khan

FHWA:

- Stephen Ratke
- Millie Hayes

Closeout meeting:

City of Dallas:

- Rabeeta Aroosh
- Joseph Marchione
- Fernando Villarreal

-
- Reema Elsaad
 - Hannah Allen
 - Lieutenant Dan Lacy

City of Plano:

- Brian Shewski

DART:

- Ernie Martinez

MATA:

- Vic Cervantes

First Baptist Church of Dallas:

- Jill Sullivan

Downtown Dallas, Inc.

- Nikia Summerlin

NCTCOG:

- Karla Windsor
- Catherine Richardson

TxDOT:

- Matt Mestre

FHWA:

- Stephen Ratke
- Millie Hayes

Closeout meeting (virtual):

City of Dallas:

- Scott Walton
- Kathryn Rush
- Rabeeta Aroosh
- Srinivasa Veeramallu
- Joseph Marchione
- David Chen
- Favian Giraldo
- Reema Elsaad
- Hannah Allen

City of Plano:

- Brian Shewski

NCTCOG:

- Karla Windsor
- Kevin Kokes
- Catherine Richardson

TxDOT:

- Tahmina Khan

FHWA:

- Stephen Ratke
- Ed Burgos
- Rubaiet Islam
- Millie Hayes

Appendix B

Kickoff meeting sign-in sheet

Closeout meeting sign-in sheet

SIGN IN
Downtown Dallas Road Safety Audit
Kick Off Meeting
November 14, 2023
9:00-11:00 a.m.

NAME	AGENCY	PHONE	E-MAIL
Catherine Richardson	NCTCOG	817-992-8374	crichardson@nctcog.org
Karla Windsor	NCTCOG	817-609-2376	kwindsor@nctcog.org
Jill Sullivan	First Dallas	214-969-2476	jsullivan@firstdallas.org
Noel Moore	Dallas PD	214/478-3878	noel.moore@dallaspolice.gov
BRIAN SHEWSKI	CITY OF PLANO	214-718-8850	BSHEWSKI@PLANO.GOV
Hannah Allen	CDD TRN	214-422-0300	wannah.allen@dallas.gov
Reema Elsamad	CDD TRN	817-247-7416	reema.elsamad@dallas.gov
Joseph L. Marchione	CDD TRN	214-304-8500	Joseph.Marchione@dallas.gov
Vic Cervantes	MATA	214 855-0006	vcervantes@mata.org
ERNIE G. MARTINEZ	DART	214.749.3201	emartinez@dart.org
TAHMINA KHAN	TxDOT (DAL)	214-319-6577	tahmina.khan@txdot.gov
Nikia Summerlin	Downtown Dallas Inc.	214-356-1039	Summerline@downtowndallas.com

SIGN IN
Downtown Dallas Road Safety Audit
Close Out Meeting
November 17, 2023
10:00-11:30 a.m.

NAME	AGENCY	PHONE	E-MAIL
Lt. Dan Lacy	Dallas PD	972-415-4045	daniel.lacy@dallaspolice.org
Jill Sullivan	First Baptist Dallas	214.969.2476	jsullivan@firstdallas.org
Rabeeta Aroosh	Dallas		rabeeta.aroosh@cityhall.gov
Joseph L Marchione	City of Dallas	214 304 8500	Joseph.L.Marchione@dallas.gov
Karla Windsor	NCTCOB	817-608-2376	Kwindsor@nctcog.org
Fernando Villarreal	City of Dallas	469 688 2058	fernando.villarreal@dallas.gov
VIC CERVANTES	MATA	214 855-0006	vcervantes@mata.org
Nikia Summerlin	DDI	214-356-1039	Summerlin@downtowndallas.com
Reema Elsaad	City of Dallas	469-580-2068	reema.elsaad@dallas.gov
Hannah Allen	City of Dallas	214-422-0366	hannah.allen@dallas.gov
Catherine Richardson	NCTCOB	817-997-8374	crichardson@nctcog.org
Math Mestres	TXDOT	214-326-3545	matthew.mestres@txdot.gov

SIGN IN
Downtown Dallas Road Safety Audit
Close Out Meeting
November 17, 2023
10:00-11:30 a.m.

NAME	AGENCY	PHONE	E-MAIL
ERNIE G. MARTINEZ	DART	214,749,3201	emartine@dot.org
BRIAN SHEWSKI	CITY OF PLANO	214-718-8850	BSHEWSKI@PLANO.GOV
Stephen Ratke	FHWA		
MILLIE HAYES	FHWA TX DIVISION		