

COMPREHENSIVE DISTRICT-WIDE MOBILITY STUDY

*An evaluation of pavement condition, pedestrian accessibility,
cut-through traffic, and markings within the Montrose District*

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NOTE:

Observations east of Montrose Blvd. occurred during the summer of 2009.
Observations west of Montrose Blvd. occurred during the summer of 2011.

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SECTION 1: INTRODUCTION

At the request of the Montrose Management District, Walter P Moore conducted a comprehensive District-wide mobility study, focusing on a parking evaluation, pavement evaluation, safety study, sidewalk and crosswalk evaluation, and cut-through traffic evaluation. **Figure 1-1** shows the location of the project.

The Montrose Management District is an area of diverse land uses. Located just west of Downtown Houston, it is bound by W. Dallas to the north, Taft or Spur 527 to the east, US 59 or Bissonnet to the south, and Shepherd to the west. The boundaries are shown in **Figure 1-2**. Encompassing an area of approximately one square mile, the District is predominately residential but also includes significant retail, entertainment, and institutional land uses.

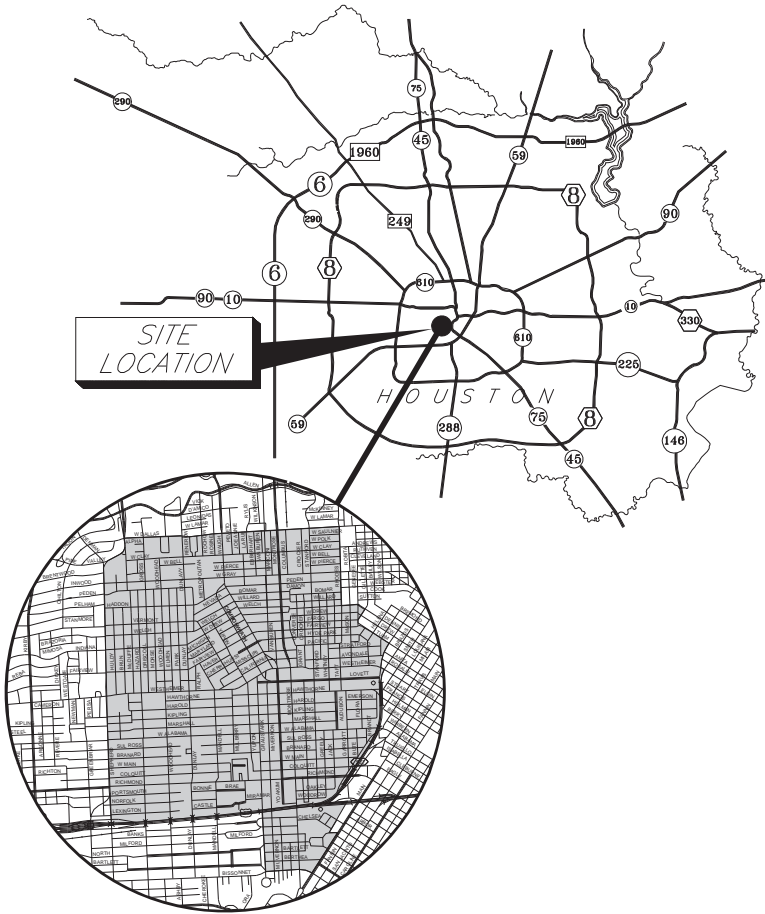


Figure 1-1
Area Site Map

Because the District has developed and redeveloped over several decades, there is a diversity of mobility issues to be considered in the mobility study. The following list is an example of issues that need to be addressed by the District:

- Spillover parking from businesses into neighborhoods (day and night)
- Parking on areas used by pedestrians
- Insufficient parking at some retail and entertainment venues
- Sidewalks not continuous, missing, or in poor condition
- Pedestrian crossings not in compliance with the Americans with Disabilities act
- Insufficient street and/or right-of-way (ROW) width for parking and traffic movement needs
- Insufficient sight distance at intersections
- Inconsistent use of intersection control types at similar intersections (two-way stop, four-way stop, yield)
- Sidewalks blocked by overhanging vegetation
- Signs obscured by vegetation
- Streets with poor pavement condition and worn pavement markings
- Streets with very high crowns compared to gutter elevation
- Utilities within the travel way or sidewalk
- Open ditch cross sections
- Insufficient illumination
- Cut-through traffic
- Proposed light rail on Richmond
- Traffic signals with unprotected left turning movements causing queues on major roadways

These challenges/issues are not uncommon for similar neighborhoods across Houston. They are identified and summarized within this document so that improvements can be carefully considered and prioritized.



Figure 1-2
Montrose Management District Boundaries

SECTION 2: GOALS

The goals of this comprehensive District-wide mobility study are to assess current conditions, develop viable improvement projects, and establish a realistic implementation program. The long term directive from the District include:

- Improve safety
- Reduce spillover parking from businesses into residential neighborhoods
- Make the streets of the District more conducive to walking
- Make the District a place where existing businesses can succeed
- Make the District attractive to new businesses
- Maintain the character of the District

These goals apply to the District as a whole. During this first phase of the project, we have concentrated on identifying existing conditions along the major roadways in the District.

Suggested improvements are aimed at making the District a more walkable and livable place for residents and businesses while still maintaining the unique flair that makes the Montrose area truly a one-of-a-kind place in Houston.

SECTION 3: STUDY AREA

The Montrose Management District has a large network of roadways. There are eleven major roadways in the area that not only serve the mobility needs of the District, but they also move traffic over significant distances within the city. The following streets serving the District are described based on the City of Houston Major Thoroughfare and Freeway Plan (MTFP).

Table 3-1
Major Thoroughfares and Collectors

Street	Designation	Lanes	ROW Width (Feet)
W. Dallas	Major Collector	4	60
W. Gray	Major Thoroughfare	4	70
Westheimer	Major Thoroughfare	4	70
W. Alabama	Major Collector	4	60
Richmond	Major Thoroughfare	4	80
Montrose	Major Thoroughfare	4	90 - 100
Waugh	Major Collector/ Major Thoroughfare	2/ 6	50/ 100
Commonwealth	Major Collector	3	80
Dunlavy	Major Collector	4-6	60
Shepherd	Major Thoroughfare	4	50-70

According to the 2011 MTFP map, all the collector and thoroughfares within the District have the required right-of-way (ROW) for their designation, with the exception of Westheimer between Bagby and Shepherd, Dunlavy between Richmond and US 59, and Shepherd between W. Dallas and W. Gray.

The study included major thoroughfares and major collectors within the Montrose Management District. These corridors, shown in **Figure 3-1**, are as follows:

- W. Dallas Street from Shepherd to Taft
- W. Gray Street from Shepherd to Taft
- Fairview Street from Shepherd to Tuam
- Westheimer Road from Shepherd to Bagby
- W. Alabama Street from Shepherd to Spur 527
- Richmond Avenue from Shepherd to Spur 527
- Shepherd Drive from W. Dallas to US 59
- Dunlavy Street from W. Dallas to US 59
- Commonwealth Street from Westheimer to Waugh
- Waugh Drive from Westheimer to W. Dallas
- Montrose Boulevard from W. Dallas to Bissonnet

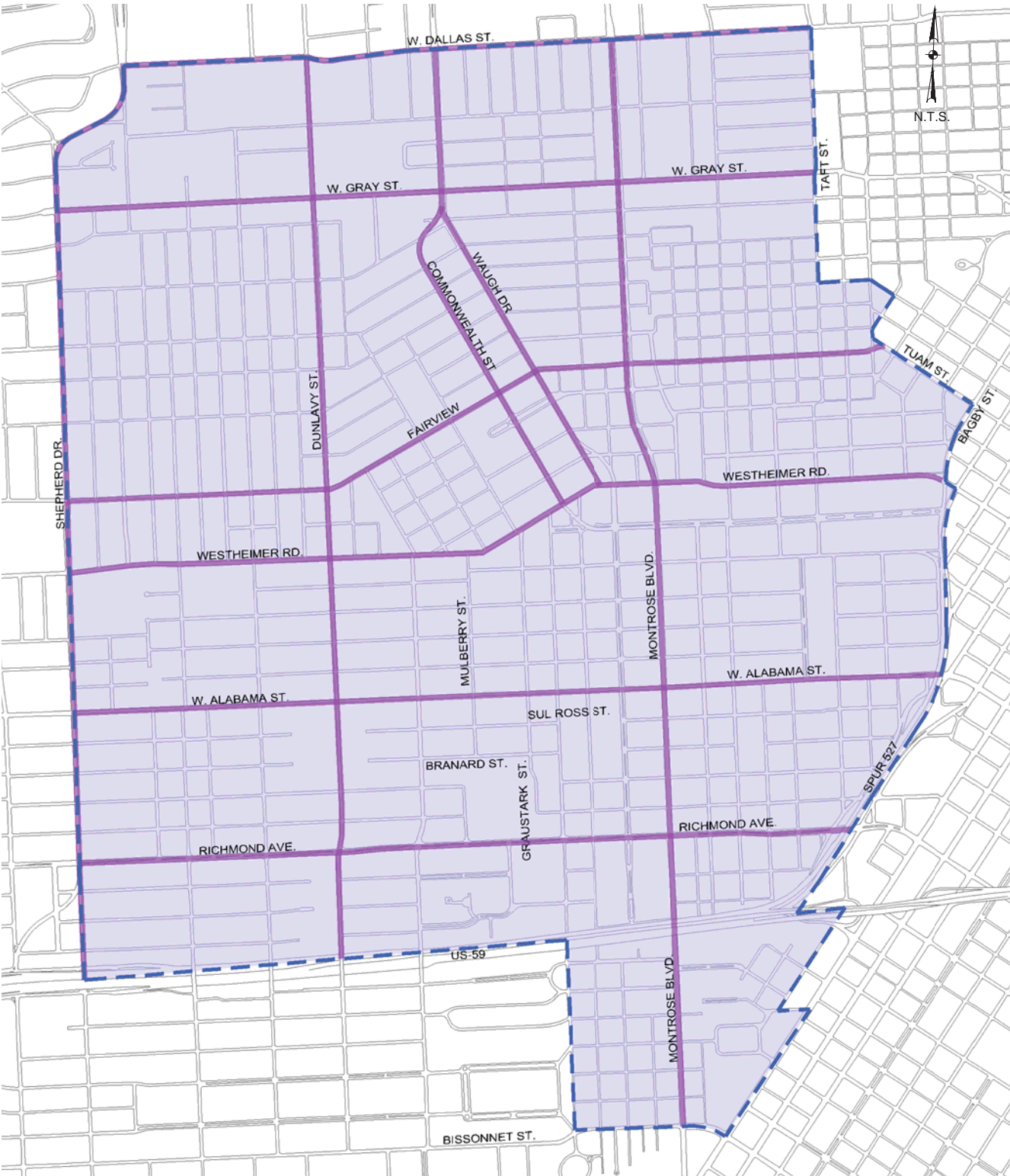


Figure 3-1
Study Corridors

3.1 METRO BUS ROUTES

In 2011, there are thirteen METRO bus routes that service the Montrose Management District. Most of these routes are local routes that stop several times as they pass through the District.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the IH 610 North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 25: Richmond is a local route. It travels along Richmond between the Mission Bend Park and Ride out west to the Wheeler Light Rail Station south of Downtown.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 35: Fairview is a local route. It runs from the south end of Downtown along Fairview out to the Tanglewood area west of IH 610 West Loop.

Route 42: Holman Crosstown is a local route. It connects the Montrose area with the Eastwood, Magnolia and Fifth Ward/Denver Harbor Transit Centers, traveling along Westheimer and Montrose in the study area.

Route 48: Navigation/W. Dallas is a local route. It runs from IH 10 at IH 610 East Loop, Downtown and US 290 at IH 610 West Loop, traveling along W. Dallas in the study area.

Route 65: Bissonnet is a local route. It runs from Downtown at the Wheeler Light Rail Station west along Bissonnet, through Montrose to just west of Dairy Ashford in West Houston.

Route 78: Alabama/Irvington is a local route. It starts in the north at Little York, travels south through Downtown and Midtown before taking W. Alabama through the study area to the Greenway Plaza area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.

Route 313: The Allen Parkway Special is a local route. It runs between Downtown and S. Shepherd traveling along W. Dallas in the study area.



Figure 3-2
METRO Bus Routes

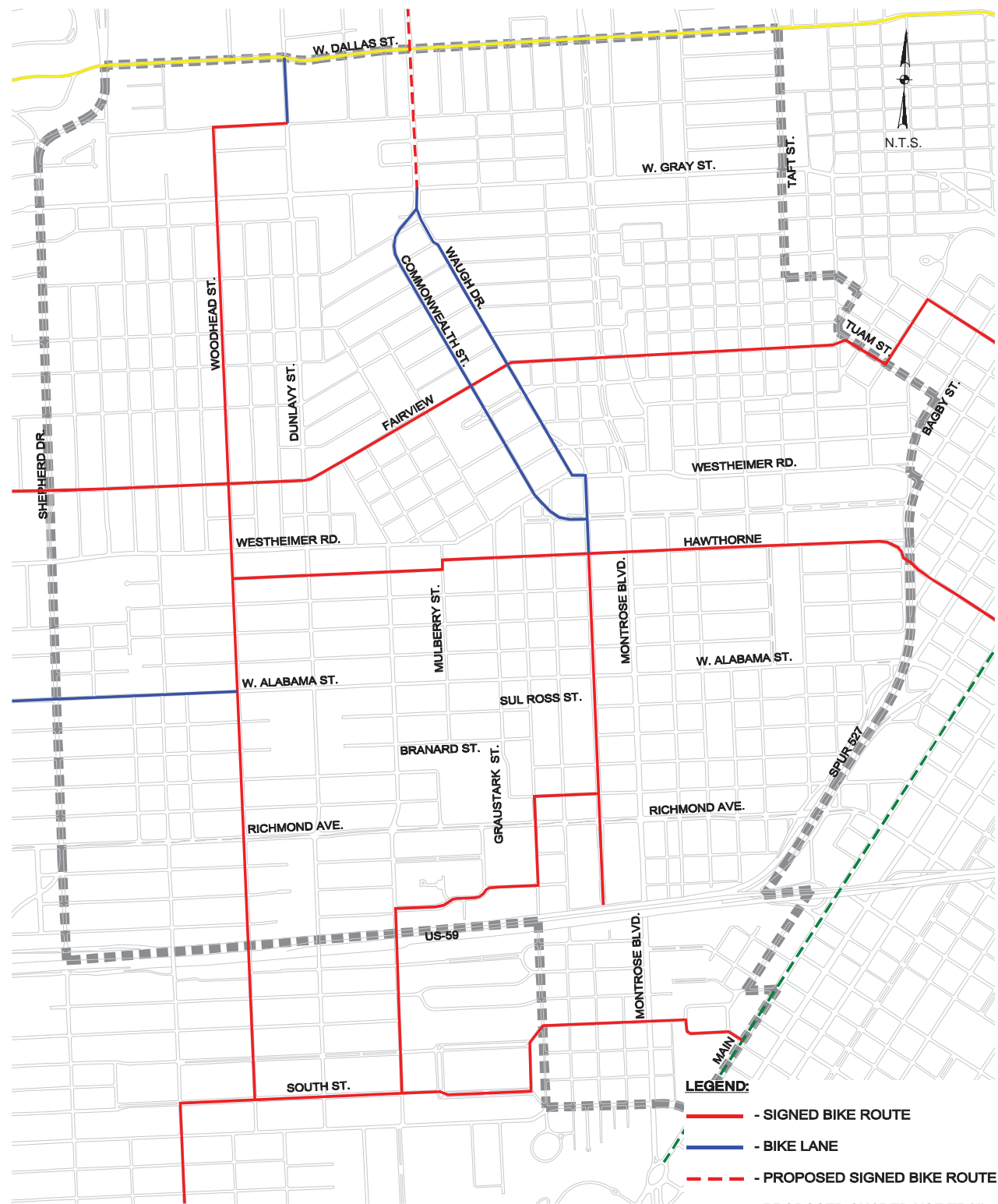


Figure 3-3
Area Bicycle Routes

3.2 BICYCLE ROUTES

The Montrose Management District has several bicycle facilities, including bike lanes, signed bike routes, and shared signed roadways. The figure to the left shows all bike routes in the area. The following sections tell where each type of bicycle facility can be found in the District.

Signed Bike Route

There are several signed bike routes, both in the north-south direction as well as the east-west direction. These signed bike routes allow bicycle access to and through the District. They connect the District to Downtown, the Texas Medical Center, and West Houston. In addition to the existing signed bike routes, there is a proposed route along Waugh, north of W. Gray that will connect the District with the existing mixed use trails along Buffalo Bayou to the north.

Bike Lane

There is a striped bike lane along Waugh and Commonwealth between W. Gray and Westheimer, and along Dunlavy between W. Dallas and W. Clay.

Shared Signed Roadway

W. Dallas is a shared signed roadway for its entire length within the District.

SECTION 4: METHODOLOGY
Five primary work tasks were identified for the comprehensive mobility study: parking evaluation, pavement evaluation, safety study, sidewalk and crosswalk evaluation, and cut-through traffic evaluation.

Data was collected in two phases.

- Summer 2009: Observations east of Montrose Blvd. and including Montrose Blvd.
- Summer 2011: Observations west on Montrose Blvd.

Methodologies for each task are defined within this section. Subsequent sections summarize evaluations for each study area.

4.1 PARKING EVALUATION

There are several areas in the Montrose Management District where a shortage of parking was noticed. As part of this phase of the District-wide mobility study, a parking evaluation was completed for businesses on the major thoroughfares in the District.

The parking assessment along the major thoroughfares within the District included the following steps:

- Inventory existing parking areas.
- Inventory existing parking restrictions (including signage, etc.).
- Conduct parking utilization survey during peak periods (normal business day and weekend).
- Identify potential locations where shared parking may be helpful. For example, there may be businesses with surplus parking spaces during nights and weekends that could be shared with entertainment businesses.
- Identify potential locations for public parking lots or garages.

Parking restrictions and the locations of business parking lots along the corridors were identified. This information and the locations of commercial developments were combined to determine where parking is currently available and where additional parking may be needed. Where parking was scarce, possible shared parking locations and potential public garage locations were identified.

The need for additional parking was determined by comparing the capacity of parking lots to how full they were at key points during the peak periods on both weekdays and weekends.

4.2 PAVEMENT EVALUATION

There are several areas in the Montrose Management District that will require improvements to the pavement over the next five years. As part of this phase of the District-wide mobility study, a pavement evaluation was completed for the major thoroughfares in the District.

The pavement assessment along the major thoroughfares within the District included the following steps:

- Inventory the pavement of all roadways.
- Identify areas in need of immediate repair.
- Identify pavement conditions for areas without immediate needs.




- Prioritize roadway sections for pavement repairs.
- Develop implementation timeline for design and construction of pavement repairs.
- Coordinate recommended improvements with planned projects such as identified CIP street or utility projects which could result in street reconstruction.
- Make formal requests to the city for immediate repairs.

In order to maintain consistent assessments of various pavement conditions, a three-tiered rating system was developed. Pavement was identified as being good, acceptable, or poor. Good pavement is either new or like new and repair is not anticipated to be needed within the next five years. Acceptable pavement is that which shows signs of normal wear and tear and will likely need to be repaired or replaced within the next five years.

Poor pavement is that which has cracks, holes, or wear and tear beyond what would be considered safe or comfortable to drive on. **Table 4-1** shows examples of the different pavement conditions.

Each corridor was divided into segments between cross street locations. The segment was given a pavement condition rating based on visual observations and photos taken during field visits. The segments were categorized based on their overall condition, but extreme exceptions such as a single large pot hole or crack were noted and identified on the summary figures. Medians were categorized separately from the pavement that surrounded them. A list was then developed for the priority segments in each major thoroughfare corridor that need pavement repair immediately. The priorities for each corridor were then combined into an overall priority list for the District relative to pavement repair.

**Table 4-1
Pavement Condition Criteria**

Good	Acceptable	Poor
New or like new, no repair or replacement expected to be needed within the next 5 years	Normal wear and tear, repair or replacement expected to be needed within 5 years	Cracks, holes or wear and tear beyond what would be considered safe or comfortable to drive on, immediate repair or replacement recommended
		

4.3 SAFETY STUDY

As part of this phase of the District-wide mobility study, a safety study was completed for the major thoroughfares in the District.

The purpose was for the District to develop a program of immediate, short range, and long range safety improvements. Safety issues associated with sidewalks and roadway crossings will be addressed in a separate task.

The safety study along the major thoroughfares within the District included the following steps:

- Inventory existing signs within the District.
- Inventory existing intersection control measures in place.
- Determine existing intersection sight distances concerns.
- Develop measures to improve sight distances at intersections.
- Inventory existing pavement markings.
- Determine locations that need new or refreshed pavement markings.

All signs and existing intersection control in the area were inventoried. The location and content of signs was determined through field visits and photos taken.

Intersections that appear to have deficient sight distances were identified. Sight distances were not calculated, they were checked by driving through the intersections and determining if there were any impediments to safely completing any of the allowed turning movements.

Additionally, the condition of the pavement markings was inventoried. The review included the actual conditions of the markings themselves and not whether they conformed to current City of Houston code and design standards.

In order to maintain consistent assessments of various pavement marking conditions, a three-tiered rating system was developed. Pavement markings were identified as being good, acceptable, or poor. Similar to good pavement, good pavement markings are those that are

either new or like new and are not expected to need repair or replacement within the next five years. Acceptable pavement markings are those that show normal signs or wear and tear and are still identifiable but are expected to need to be replaced within the next five years. Poor pavement markings were those that were significantly worn, sometimes to the point of being illegible, and it is recommended that they be replaced immediately. Pavement marking condition examples can be seen in **Table 4-2.**

Pavement markings were categorized based on visual observation from field visits and photos taken during the field visits. A list was then developed for the priority segments in each major thoroughfare corridor where pavement marking repair or replacement is immediately recommended. The priorities for each corridor were then combined into an overall priority list for the District relative to pavement marking repair or replacement.

Table 4-2
Pavement Marking Condition Criteria



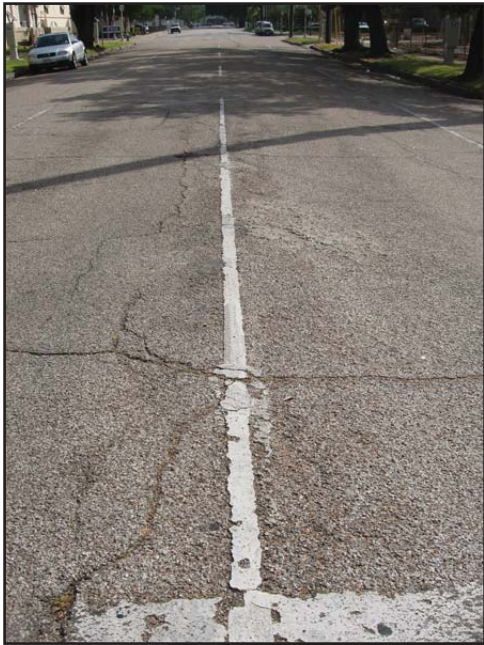




Good	Acceptable	Poor
New or like new, no repair or replacement expected to be needed within the next 5 years	Normal wear and tear or cracking, repair or replacement expected to be needed within 5 years	Improperly identified or extremely worn, immediate repair or replacement recommended
 	 	  

Table 4-3
Sidewalk Condition Criteria

4.4 SIDEWALK AND CROSSWALK EVALUATION

There are several areas in the Montrose Management District that will require improvements to the sidewalks and crosswalks over the next ten years. As part of this phase of the District-wide mobility study, a sidewalk and crosswalk evaluation was completed for the major thoroughfares in the District.

The sidewalk and crosswalk assessment along the major thoroughfares within the District included the following steps:

- Inventory sidewalk conditions within the District.
- Identify locations that may be tripping hazards and require repairs.
- Identify locations where there are no sidewalks and where pedestrians are active.
- Identify sidewalk locations that have obstructions (utility poles, vegetation, or parked vehicles).
- Review existing crosswalks at primary intersections.
- Create a prioritized list of sidewalk improvement projects.
- Create a list of crosswalk and wheelchair ramp improvement projects.

In order to maintain consistent assessments of various sidewalk, crosswalk, and ramp conditions, a four-tiered rating system was developed. Sidewalks, crosswalks, and ramps were identified as being good, acceptable, poor, or missing.

Sidewalks identified as good are new or like new condition and are not expected to need to be replaced or repaired within the next five years. Acceptable sidewalks are those with visible wear and tear that are expected to need replacement within the next five years. Sidewalks in poor condition have extreme wear and tear or cracking and/or very uneven surfaces with tripping hazards or obstructions and immediate repair or replacement is recommended. For sidewalks, areas identified as missing are areas where there is heavy pedestrian use but no sidewalk is present. In these locations, installation of a sidewalk is recommended. **Table 4-3** show examples of the different conditions for sidewalks.

Good	Acceptable	Poor	Missing
New or like new, no repair or replacement expected to be needed within the next 5 years	Normal wear and tear or cracking, repair or replacement expected to be needed within 5 years	Extreme wear and tear or cracking and or very uneven surface with tripping hazards or obstructions, immediate repair or replacement recommended	Areas where there is heavy pedestrian use but no sidewalk, installation of sidewalk recommended
		 	 

Table 4-4
Crosswalk Condition Criteria




Crosswalks in good condition are new or like new and no repair or replacement is expected within the next five years. Crosswalks in acceptable condition have experienced normal wear and tear but repair or replacement is expected to be needed within five years. Crosswalks in poor condition are improperly identified or extremely worn to the point that immediate repair or replacement is recommended. **Table 4-4** shows examples of the different conditions for crosswalks.

Ramps in good condition are new or like new and appear to meet ADA standards based on a visual inspection. No repair or replacement is expected to be needed within the next five years for good ramps. Ramps identified as acceptable provide a path that may not necessarily be ADA-compliant. Detailed inspection, repair, or replacement is recommended within five years, making sure that ramps are ADA compliant. Poor ramps are those that do not provide an accessible route between the sidewalk and crosswalk, and immediate repair or replacement is recommended. Ramps identified as missing are locations where a crosswalk is provided but there is no ramp to the adjacent sidewalk. Ramp installation is recommended at these locations. **Table 4-5** shows examples of the different ramp conditions.





For sidewalks, each corridor was divided into segments based on cross street locations. The segment was given a condition rating based on visual observations and photos taken during field visits. The segments were categorized based on overall condition, but extreme exceptions such as upheaval due to roots or settling were noted and identified on the summary figures.

Crosswalks and ramps were categorized based on visual observation from field visits and photos taken during the field visits.

A list was then developed for the priority segments in each major thoroughfare corridor that need sidewalk, crosswalk, or ramp repair immediately. The priorities for each corridor were then combined into an overall priority list for the District relative to sidewalk, crosswalk, or ramp repair.

Good	Acceptable	Poor
New or like new, no repair or replacement expected to be needed within the next 5 years	Normal wear and tear, repair or replacement expected to be needed within 5 years	Improperly identified or extremely worn, immediate repair or replacement recommended
		

**Table 4-5
Ramp Condition Criteria**

Good	Acceptable	Poor	Missing
New or like new and appear to meet ADA standards, no repair or replacement expected to be needed within the next 5 years	Provides a path that may not be ADA compliant, repair or replacement expected to be needed within 5 years	Insufficient ramps, immediate repair or replacement recommended	Locations where a crosswalk or sidewalk is provided but there is no ramp, ramp installation recommended
			

4.5 CUT-THROUGH TRAFFIC

There are several areas in the Montrose Management District that have been identified as experiencing cut-through traffic. As part of this phase of the District-wide mobility study, a cut-through traffic evaluation was completed for the major thoroughfares in the District.

The review of cut-through traffic within the District included the following steps:

- Review existing signs prohibiting turns at several intersections during specified times of day.
- Observe traffic operations to see if signs are being observed.
- Determine if there are easy cut-through routes in the District.
- Identify location where additional signs need to be installed.
- Identify alternative measures to reduce cut-through traffic.

Cut-through traffic was not reviewed on a corridor by corridor basis. Rather, the District as a whole was reviewed for routes that could be considered “easy cut-through” routes. This information was used to identify alternative measures to further reduce cut-through traffic in the District.

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SECTION 5: RICHMOND AVENUE

Richmond Avenue is a major east-west thoroughfare in the Houston area. It begins just west of Highway 6 at Westheimer Road and continues east into the southern end of Downtown. In Downtown, Richmond becomes Wheeler Avenue, and continues to its eastern terminus at Spur 5 near the University of Houston Main. Between Graustark and Milam, also known as Spur 527, Richmond has two lanes in each direction with left turn bays at several of the intersections. The lanes of travel are divided by a concrete median west of Kyle and a landscaped median east of Kyle. There are seven signalized intersections.

- Richmond at Shepherd
- Richmond at Hazard
- Richmond at Woodhead
- Richmond at Dunlavy
- Richmond at Mandell
- Richmond at Montrose
- Richmond at Milam

Figure 5-1 shows the lane configurations for this segment of Richmond.



Figure 5-1
Richmond Avenue Lane Configurations

The Richmond corridor is primarily used by vehicular traffic with relatively little pedestrian activity except at the intersections of Richmond at Shepherd and Richmond at Montrose. There are five METRO bus routes that operate on or intersect with Richmond.

Route 25: Richmond is a local route. It travels along Richmond between the Mission Bend Park and Ride out west to the Wheeler Light Rail Station south of Downtown.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.

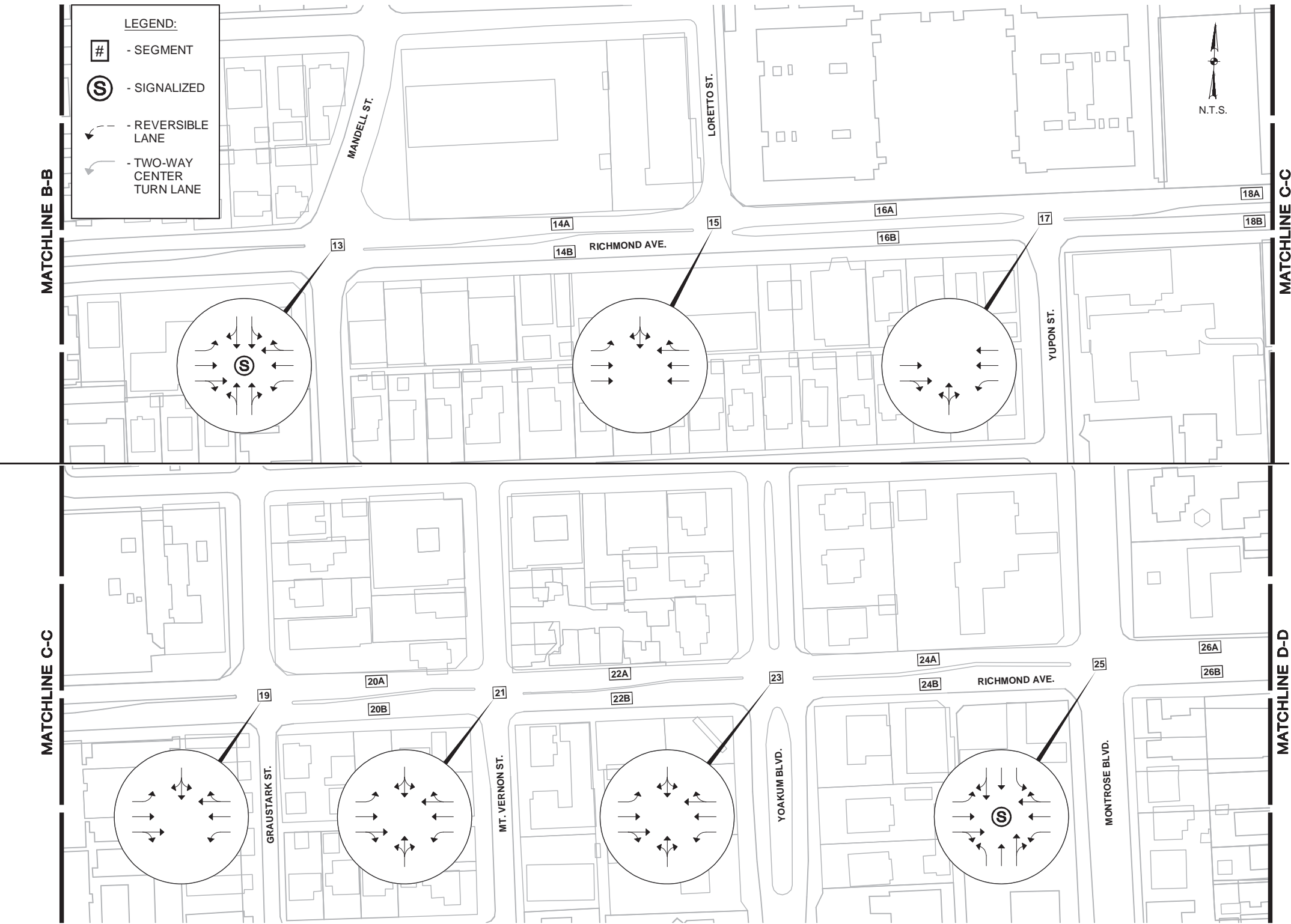


Figure 5-1 (continued)
Richmond Avenue Lane Configurations



Figure 5-1 (continued)
Richmond Avenue Lane Configurations

5.1 PARKING EVALUATION

In the District, there is no parking allowed along Richmond. On-street parking is allowed along several of the smaller cross streets and most of the businesses have their own parking lots. This portion of Richmond is primarily commercial with areas of residential development as can be seen in **Figure 5-2**. Between Graustark and Yoakum, the primary land use north of Richmond is the University of St. Thomas.

A visual inspection of parking lots along Richmond throughout the week revealed that there are two locations where available parking was full and began to spill out in the neighborhood (**Table 5-1**). The first was an apartment complex in the northwest corner of the intersection of Richmond and McDuffie. The second was at 24-hour Chapultepec Lupita Restaurant on the southern side of segment 30B between Roseland and Stanford. The restaurant overfills its small parking lot during the evening dining hours. Patrons also park in the nearby neighborhoods. Parking across the street at the convenience store or in the office parking lot across Stanford on the southern side of segment 30B should be considered, as these businesses are closed when Chapultepec is most busy.

There are several blocks of Richmond that do not appear to have sufficient parking. Some vacant parcels serve as overflow parking. This situation will change when vacant lots develop in the future.

Due to the nature of the businesses located in this section of Richmond, there are no locations that currently lend themselves to being potential public parking lot locations.



Figure 5-2
Richmond Avenue Parking and Land Use



Figure 5-2 (continued)
Richmond Avenue Parking and Land Use



Figure 5-2 (continued)
Richmond Avenue Parking and Land Use

**Table 5-1
Richmond Avenue Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	McDuffie	Commercial/Residential	No
2B			Commercial/Residential	No
4A	McDuffie	Hazard	Residential	Yes
4B			Residential	No
6A	Hazard	Driscoll	Commercial/Residential	No
6B			Commercial/Residential	No
8A	Driscoll	Woodhead	Residential/Vacant/Commercial	No
8B			Commercial/Residential	No
10A	Woodhead	Dunlavy	Commercial/Residential/Vacant	No
10B			Commercial/Vacant	No (nearby vacant lot)
12A	Dunlavy	Mandell	Residential/Commercial	No
12B			Vacant/Commercial/Residential	Maybe
14A	Mandell	Loretto	Commercial/Vacant	No
14B			Vacant/Commercial	No
16A	Loretto	Yupon	Residential	No
16B			Commercial	No
18A	Yupon	Graustark	Residential/Intitutional	No
18B			Commercial/Residential	No
20A	Graustark	Mt. Vernon	Institutional/Vacant	No
20B			Vacant/Commercial	No (vacant lot)
22A	Mt. Vernon	Yoakum	Institutional	No
22B			Residential/Vacant	No (vacant lot)
24A	Yoakum	Montrose	Institutional/Commercial	No
24B			Commercial	No
26A	Montrose	Kyle	Commercial	No
26B			Commercial	No
28A	Kyle	Roseland	Commercial	No
28B			Commercial	Maybe
30A	Roseland	Stanford	Residential/Commercial	No
30B			Commercial	Yes
32A	Stanford	Greeley	Residential/Commercial	No
32B			Commercial	No
34A	Greeley	Jack	Residential	No
34B			Commercial/Residential	No (vacant lot)
36A	Jack	Milam	Vacant	No (vacant lot)
36B			Commercial/Vacant	No (vacant lot)



**Photo 5-1, Segment 4A
Richmond between McDuffie and Hazard**
Shows cracks and general deterioration which create an uneven riding surface



**Photo 5-2, Segment 4A
Richmond between McDuffie and Hazard**
Shows a close up of the cracks and general deterioration which create an uneven riding surface

5.2 PAVEMENT AND MEDIAN EVALUATION

Within the study area, Richmond has two lanes in each direction, divided by a median. The pavement is concrete with curb and gutter, and the medians are concrete with landscaping in some areas. Richmond pavement conditions between Shepherd and Spur 527 were studied by means of visual observations and photos. In general, the pavement conditions along Richmond were found to be good to acceptable with a few exceptions.

Table 5-2 summarizes the results of the pavement and median review. **Figure 5-3** graphically depicts the pavement conditions observed along Richmond. **Photos 5-1** through **5-9** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 5-3, Segment 12A
Richmond between Dunlavy and Mandell

There is a section of the road that is raised similar to a speed bump or road hump due to what appears to be natural causes.

Table 5-2
Richmond Avenue Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Richmond at Shepherd			Poor		
2A		Shepherd	McDuffie	Acceptable/Poor	Acceptable	
2B				Good	Acceptable	
3	Richmond at McDuffie			Good		
4A		McDuffie	Hazard	Poor	Good	
4B				Good	Good	
5	Richmond at Hazard			Good		
6A		Hazard	Driscoll	Acceptable	Good	
6B				Good	Good	
7	Richmond at Driscoll			Good		
8A		Driscoll	Woodhead	Good/Acceptable	Good	
8B				Good/Acceptable	Good	
9	Richmond at Woodhead			Acceptable		
10A		Woodhead	Dunlavy	Acceptable	Acceptable	
10B				Acceptable	Acceptable	
11	Richmond at Dunlavy			Acceptable		
12A		Dunlavy	Mandell	Acceptable	Good	Large section raised
12B				Good	Good	
13	Richmond at Mandell			Acceptable/Poor		
14A		Mandell	Loretto	Good	Good	
14B				Good/Poor	Good	
15	Richmond at Loretto			Good/ Acceptable		
16A		Loretto	Yupon	Good	Good	
16B				Acceptable/Poor	Good	
17	Richmond at Yupon			Acceptable/Poor		
18A		Yupon	Graustark	Good	Good	
18B				Acceptable	Good	
19	Richmond at Graustark			Acceptable		
20A		Graustark	Mt. Vernon	Acceptable	Poor	Damaged median
20B				Acceptable	Poor	Damaged median
21	Richmond at Mt. Vernon			Acceptable		
22A		Mt. Vernon	Yoakum	Acceptable	Poor	Damaged median
22B				Acceptable	Poor	Damaged median
23	Richmond at Yoakum			Good		
24A		Yoakum	Montrose	Acceptable	Poor	Damaged median
24B				Acceptable	Poor	Damaged median

Table 5-2 (continued)
Richmond Avenue Pavement and Median Condition Inventory

25	Richmond at Montrose			Poor		Cracks, potholes and patching
26A		Montrose	Kyle	Acceptable	Poor	Damaged median
26B				Acceptable	Poor	Damaged median
27	Richmond at Kyle			Acceptable		
28A		Kyle	Roseland	Acceptable	Good	
28B				Acceptable	Good	
29	Richmond at Roseland			Acceptable		
30A		Roseland	Stanford	Acceptable	Good	
30B				Acceptable	Good	
31	Richmond at Stanford			Acceptable		
32A		Stanford	Greeley	Acceptable	Good	
32B				Acceptable	Good	
33	Richmond at Greeley			Acceptable		
34A		Greeley	Jack	Acceptable	Good	
34B				Acceptable	Good	
35	Richmond at Jack			Acceptable		
36A		Jack	Milam	Poor	Good	Excessive cracks, potholes
36B				Acceptable/Poor	Good	Excessive cracks near the intersection
37	Richmond at Milam			Acceptable		

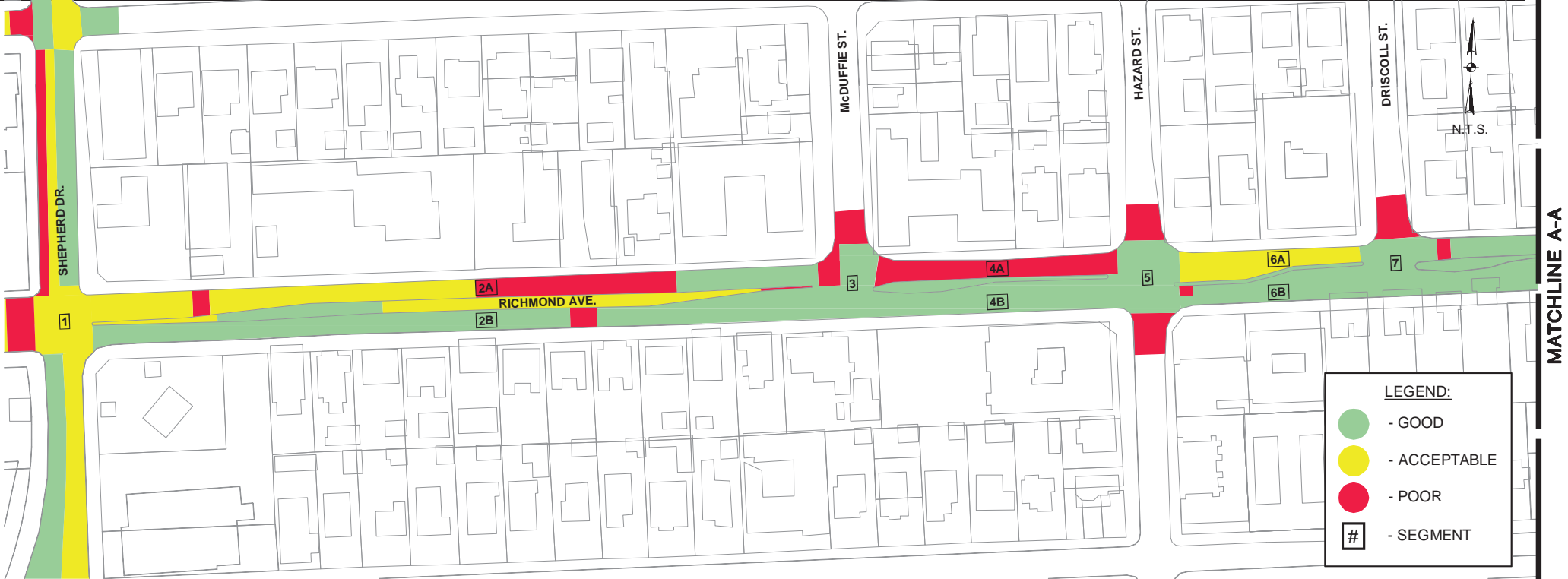


Figure 5-3
Richmond Avenue Pavement Conditions



Photo 5-4, Segment 12B
Richmond between Dunlavy and Mandell
 This section of the road appears to have been previously patched, but the patch is no longer flush with the road and there are sections missing.



Photo 5-5, Segment 16B
Richmond between Loretto and Yupon
 Pavement separation



Photo 5-6, Segment 24A & 24B
Richmond between Yoakum and Montrose
 Median damage



Photo 5-7, Segment 25
Richmond at Montrose
 Cracks, potholes, and patching creates an uneven riding surface.



Figure 5-3 (continued)
Richmond Avenue Pavement Conditions



Figure 5-3 (continued)
Richmond Avenue Pavement Conditions



Photo 5-8, Segment 36A
WB Richmond near Milam
Asphalt surface overlay is worn and needs repair/
replacement.



Photo 5-9, Segment 37
Richmond at Milam
Multiple cracks , poor riding experience

5.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 5-4** this section of Richmond Avenue is primarily free flowing with traffic signals at the major intersections. All other intersections are two-way stop controlled on the minor approaches.

As previously discussed, there is no parking along Richmond between Shepherd and Spur 527. This allows better sight distances for vehicles trying to turn on to Richmond from the side streets. Generally sight distances appear sufficient; however, there are a few instances east of Montrose where sight distances are impeded by vegetation growing on adjacent properties. Vegetation is currently blocking drivers' view of westbound traffic when traveling southbound on Roseland, Stanford and Greeley. Trimming vegetation within the public right of way is recommended. It was also observed that the northbound vehicles on Yupon have sight distance issues as they turn onto Richmond, due to the large tree in the southwest corner of this intersection. The tree may need to be trimmed to create a higher canopy.

While there were several locations where pavement markings were in good condition, in general they were either in poor condition or acceptable condition due to extreme wear and tear. In particular, lane markings are very worn and barely visible in some locations. It is our recommendation that all Richmond pavement markings (lane markings, stop bars, and crosswalks) be either refreshed or completely redone.



Figure 5-4
Richmond Avenue Signs and Intersection Control



Figure 5-4 (continued)
Richmond Avenue Signs and Intersection Control



Photo 5-10, Segment 2B
Between Richmond and McDuffie
 Trees block pedestrian path.

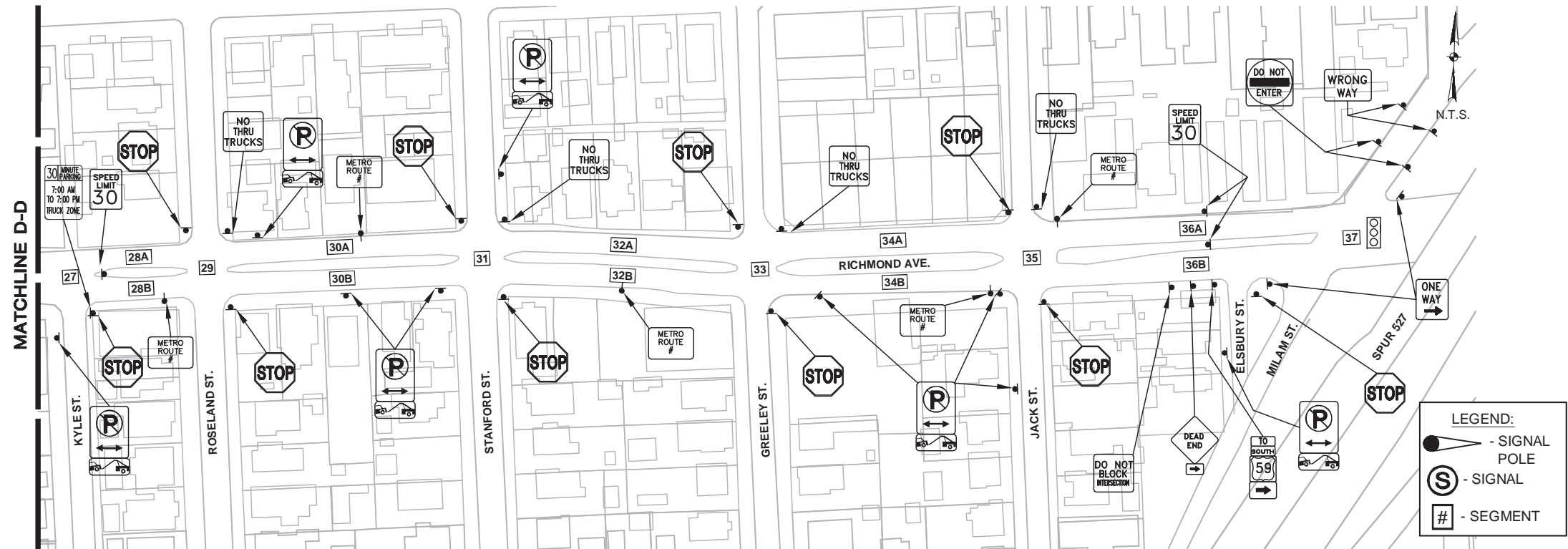


Figure 5-4 (continued)
Richmond Avenue Signs and Intersection Control



Photo 5-11, Segment 8A
Between Driscoll and Woodhead
 Pavers are uneven and create tripping hazards.



Photo 5-12, Segment 10B
Between Woodhead and Dunlavy
 Pavers and curb are missing or broken creating a tripping hazard .



Photo 5-13, Segment 14A
Between Mandell and Loretto
 Pavers are uneven and create tripping hazards. Passage widths are too narrow.

5.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on Richmond between Shepherd and Spur 527 were studied by means of visual observation and photos. **Table 5-3** summarizes sidewalk conditions, **Table 5-4** summarizes ramp conditions, and **Table 5-5** summarizes crosswalk conditions along Richmond. **Figure 5-5** graphically depicts the results of the sidewalk, ramp, and crosswalk evaluation along Richmond. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and sidewalks, lack of access to ramps, and/or presence of grass, dirt, and absence of ramps. Issues observed with crosswalks were absence of crosswalks, wear and tear of crosswalk pavement markings, and use of non-standard method of crosswalk delineation. **Photos 5-10** through **5-19** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 5-14, Segment 14B
Between Mandell and Loretto
Narrow width as well as path obstruction inhibit pedestrian activity.



Figure 5-5
Richmond Avenue Sidewalk and Ramp Conditions



**Photo 5-15, Segment 16B
Between Loretto and Yupon**

Pavers are uneven and create tripping hazards. Narrow passage does not meet current standard.



**Photo 5-16, Segment 19
Richmond at Graustark**

The presence of dirt and grass on the sidewalk makes it difficult for pedestrians to access the ramp in the southeast corner of the intersection of Richmond at Graustark.



**Figure 5-5 (continued)
Richmond Avenue Sidewalk and Ramp Conditions**

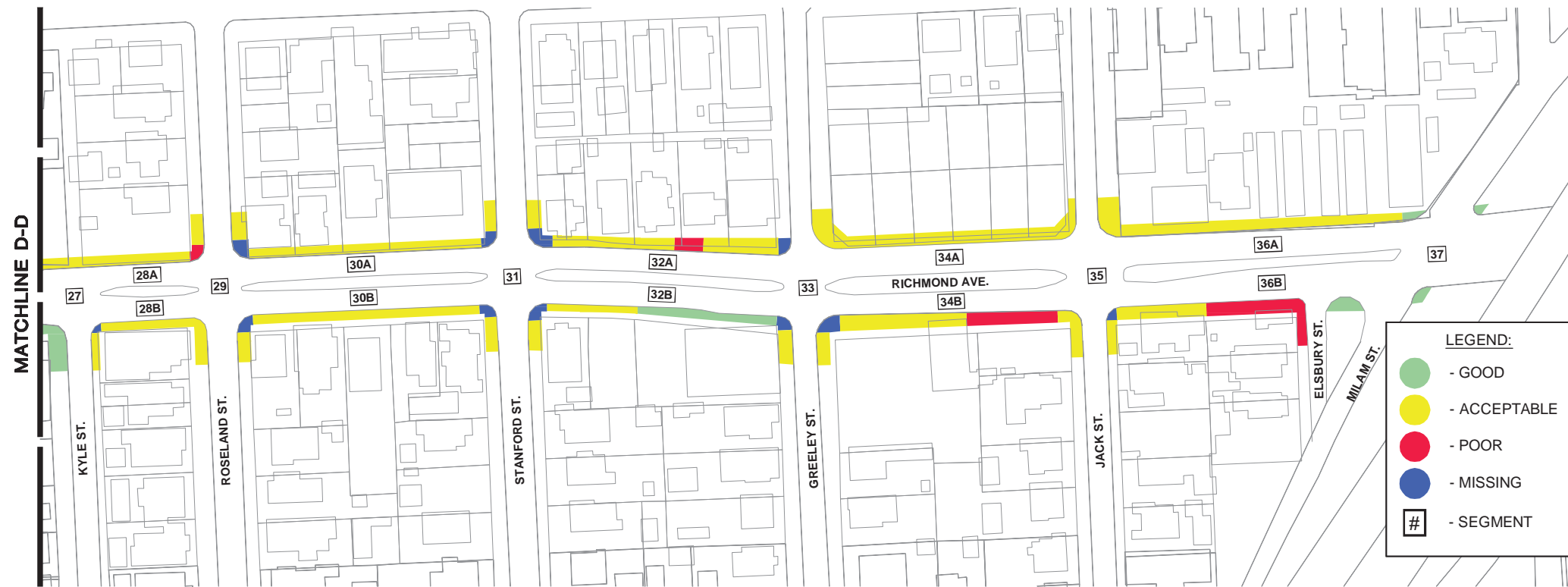


Figure 5-5 (continued)
Richmond Avenue Sidewalk and Ramp Conditions



Photo 5-17, Segment 20A
Richmond between Graustark and Mt. Vernon
 Missing pavers create uneven surface. Obstructions in the pedestrian path make it difficult for pedestrians to travel on the sidewalk.

**Table 5-3
Richmond Avenue Sidewalk Condition Inventory**

Segment	From	To	Condition	Comments
2A	Shepherd	McDuffie	Poor/Acceptable	
2B			Poor/ Acceptable/Missing	
4A	McDuffie	Hazard	Poor	
4B			Poor	
6A	Hazard	Driscoll	Poor	
6B			Poor	
8A	Driscoll	Woodhead	Poor/Missing	
8B			Poor	
10A	Woodhead	Dunlavy	Poor	
10B			Poor	
12A	Dunlavy	Mandell	Poor	
12B			Poor	
14A	Mandell	Loretto	Poor	
14B			Good/Poor/ Acceptable	
16A	Loretto	Yupon	Acceptable/Missing	
16B			Poor/ Acceptable	
18A	Yupon	Graustark	Acceptable/Poor	
18B			Poor/Good	
20A	Graustark	Mt. Vernon	Poor	Uneven sidewalk, Pavers absent
20B			Acceptable/Poor	Dirt on sidewalk/ Obstructions on sidewalk
22A	Mt. Vernon	Yoakum	Acceptable	Depressed pavers
22B			Acceptable/Poor	Dirt on sidewalk
24A	Yoakum	Montrose	Good/Acceptable	Plant obstruction on sidewalk
24B			Acceptable/Poor	Uneven sidewalk
26A	Montrose	Kyle	Acceptable	Cracks on sidewalk
26B			Good	
28A	Kyle	Roseland	Acceptable	Cracks on sidewalk
28B			Acceptable/Good	Obstruction on sidewalk
30A	Roseland	Stanford	Acceptable	Uneven sidewalk
30B			Acceptable	Grass, Cracking
32A	Stanford	Greeley	Acceptable/Poor	Uneven sidewalk, Cracks on sidewalk
32B			Good/ Acceptable	Cracks on sidewalk
34A	Greeley	Jack	Acceptable	Plant obstruction on sidewalk
34B			Acceptable/Poor	Narrow sidewalk/ Obstruction on sidewalk
36A	Jack	Milam	Acceptable	Dirt, Grass on sidewalk
36B			Acceptable/Poor	Narrow sidewalk, Grass on sidewalk



**Photo 5-18, Segment 21
Richmond at Mt. Vernon**

The connection between the northeast ramp and sidewalk is uneven which makes it difficult for pedestrians to access the ramp.



**Photo 5-19, Segment 24B
Richmond between Yoakum and Montrose**

Unevenness of the sidewalk makes it difficult for pedestrians to travel on the sidewalk.

Table 5-4
Richmond Avenue Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Richmond at Shepherd	Poor	Good	Poor	Acceptable
3	Richmond at McDuffie	Poor	Poor	N/A	N/A
5	Richmond at Hazard	Poor	Poor	Poor	Poor
7	Richmond at Driscoll	Poor	Poor	N/A	N/A
9	Richmond at Woodhead	Acceptable	Acceptable	Acceptable	Good
11	Richmond at Dunlavy	Good	Poor	Acceptable	Good
13	Richmond at Mandell	Poor	Good	Good	Acceptable
15	Richmond at Loretto	Poor	Poor	N/A	N/A
17	Richmond at Yupon	N/A	N/A	Poor	Acceptable
19	Richmond at Graustark	Acceptable	Good	Acceptable	Poor
21	Richmond at Mt. Vernon	Acceptable	Poor	Acceptable	Acceptable
23	Richmond at Yoakum	Good	Poor	Acceptable	Acceptable
25	Richmond at Montrose	Poor	Acceptable	Acceptable	Good
27	Richmond at Kyle	N/A	N/A	Good	Missing
29	Richmond at Roseland	Poor	Missing	Acceptable	Missing
31	Richmond at Stanford	Missing	Missing	Missing	Missing
33	Richmond at Greeley	Missing	Acceptable	Missing	Missing
35	Richmond at Jack	Acceptable	Acceptable	Acceptable	Missing
37	Richmond at Milam	Good	Good	Good	Good

Table 5-5
Richmond Avenue Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Richmond at Shepherd	Acceptable	Good	Good	Good
3	Richmond at McDuffie	N/A	N/A	Good	N/A
5	Richmond at Hazard	Acceptable	Acceptable	Poor	Acceptable
7	Richmond at Driscoll	N/A	N/A	Poor	N/A
9	Richmond at Woodhead	Acceptable	Acceptable	Good	Good
11	Richmond at Dunlavy	Acceptable	Acceptable	Good	Acceptable
13	Richmond at Mandell	Acceptable	Acceptable	Good	Poor
15	Richmond at Loretto	N/A	N/A	Missing	N/A
17	Richmond at Yupon	N/A	N/A	N/A	Missing
19	Richmond at Graustark	N/A	N/A	Poor	Poor
21	Richmond at Mt. Vernon	N/A	N/A	Acceptable	Acceptable
23	Richmond at Yoakum	N/A	N/A	Poor	Poor
25	Richmond at Montrose	Acceptable	Acceptable	Acceptable	Acceptable
27	Richmond at Kyle	N/A	N/A	N/A	Poor
29	Richmond at Roseland	N/A	N/A	Poor	Poor
31	Richmond at Stanford	N/A	N/A	Poor	Poor
33	Richmond at Greeley	N/A	N/A	Poor	Poor
35	Richmond at Jack	N/A	N/A	Poor	Poor
37	Richmond at Milam	Acceptable	N/A	Acceptable	Acceptable

5.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects were prioritized based on safety having the highest priority followed by mobility. The projects are listed below in the order of priority.

- **Prune Vegetation:**
 - Minor street approaches to Richmond
 - Sidewalks along Richmond
- **Pavement Reconstruction:**
 - Richmond westbound lanes from Hazard to Shepherd
 - Richmond between Woodhead and Dunlavy
 - Richmond between Jack and Milam
 - Intersection of Richmond and Montrose
- **Refresh Pavement Markings:**
 - Richmond between Graustark and Milam
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Construct missing ramps
 - Richmond at Stanford
 - Richmond at Greeley
 - Richmond at Roseland
 - Reconstruct ramps
 - Richmond at Mt. Vernon
 - Richmond at Yoakum
 - Richmond at Montrose
 - Reconstruct sidewalk at buckled locations
 - South side of Richmond between Mt. Vernon and Yoakum
 - South side of Richmond between Yoakum and Montrose
 - North side of Richmond between Stanford and Greeley
 - Reconstruct sidewalk and ramps
 - Both sides of Richmond between Shepherd and Graustark
 - Intersection of Richmond at Graustark
 - Both sides of Richmond between Graustark and Mt. Vernon
 - South side of Richmond from mid-block between Greeley and Jack, to Elsbury Street

- **Medians:** Repairing the medians enhances safety for drivers but the needed repairs are relatively minor and can be reconstructed as parts of other reconstruction projects on the adjacent sidewalks and ramps.
 - Richmond between Graustark and Jack

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

SECTION 6: W. ALABAMA STREET

W. Alabama Street is an east-west major collector in the Houston area. It begins just east of Chimney Rock Road in the Uptown area, with a break at IH 610 West Loop, continuing eastward through Montrose and Midtown, under US 59 to Scott Street where it dead ends at the University of Houston campus. In the study area, between Shepherd and Spur 527, W. Alabama is one lane in each direction with a reversible center lane. The reversible lane, which runs from Shepherd to Spur 527, is eastbound during the morning rush hours and westbound during the evening rush hour with no left turns allowed at signalized intersections. During all other hours, the center lane is a two-way left turn lane with permitted left turns at signals. There are six signalized intersections.

- W. Alabama at Shepherd
- W. Alabama at Woodhead
- W. Alabama at Dunlavy
- W. Alabama at Mandell
- W. Alabama at Montrose
- W. Alabama at Stanford

Figure 6-1 shows the lane configurations for this segment of W. Alabama.



Figure 6-1
W. Alabama Street Lane Configurations

The W. Alabama corridor is primarily used by vehicular traffic with relatively little pedestrian activity. There are five METRO bus routes that operate on or intersect with W. Alabama.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, the North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 78: Alabama/Irvington is a local route. It starts in the north at Little York, travels south through Downtown and Midtown before taking W. Alabama through the study area to the Greenway Plaza area.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.



Figure 6-1 (continued)
W. Alabama Street Lane Configurations



Figure 6-1 (continued)
W. Alabama Street Lane Configurations

6.1 PARKING EVALUATION

In the District, there is no parking allowed along W. Alabama. On-street parking is allowed along several of the smaller cross streets and most of the businesses have their own parking lots. The western portion of W. Alabama is primarily commercial with areas of single and multi-family residential, the eastern portion of W. Alabama is primarily residential with areas of commercial development as can be seen in **Figure 6-2**.

A visual inspection of parking lots along W. Alabama throughout the week revealed that there were a few locations where available parking was full and began to spill out in the neighborhood (**Table 6-1**). The first is near between McDuffie and Hazard where parking for the bar at the corner spills out onto McDuffie and creates narrow passage for vehicles trying to travel down McDuffie. The second is where parking for the restaurant at the corner of W. Alabama and Driscoll spills out into the neighborhood.

Due to the nature of the businesses located in this section of W. Alabama, there are no locations that currently lend themselves to being potential public parking lot locations.



Figure 6-2
W. Alabama Street Parking and Land Use



Figure 6-2 (continued)
W. Alabama Street Parking and Land Use



Photo 6-1, Segment 2B
W. Alabama between Shepherd and Huldy
 A section of the asphalt is missing near the Shepherd intersection.



Figure 6-2 (continued)
W. Alabama Street Parking and Land Use

**Table 6-1
W. Alabama Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	Huldy	Commercial	No
2B			Commercial	No
4A	Huldy	McDuffie	Commercial/Residential	No
4B			Commercial	No
6A	McDuffie	Hazard	Residential/Commercial	No
6B			Commercial	Yes
8A	Hazard	Driscoll	Commercial/Residential	No
8B			Commercial	No
10A	Driscoll	Woodhead	Commercial/Residential/Vacant	No
10B			Commercial/Institutional	Yes
12A	Woodhead	Dunlavy	Commercial/Residential/Vacant	No
12B			Commercial/Residential	No
14A	Dunlavy	Mandell	Residential/Commercial	No
14B			Commercial/Residential/Vacant	No
16A	Mandell	Mulberry	Vacant/Commercial/Residential	No
16B			Vacant/Residential	No
18A	Mulberry	Yupon	Residential/Commercial	No
18B			Residential/Commercial/Vacant	No
20A	Yupon	Graustark	Commercial/Residential	No
20B			Commercial/Residential	No
22A	Graustark	Mt. Vernon	Residential	No
22B			Institutional	No
24A	Mt. Vernon	Yoakum	Institutional	No
24B			Institutional	No
26A	Yoakum	Montrose	Commercial/Residential/Institutional	No
26B			Institutional	No
28A	Montrose	Roseland	Commercial	No
28B			Commercial	No
30A	Roseland	Stanford	Residential/ Commercial	No
30B			Residential	No
32A	Stanford	Greeley	Residential/ Commercial	No
32B			Residential/ Commercial	No

**Table 6-1 (continued)
W. Alabama Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
34A	Greeley	Jack	Residential/ Commercial	No
34B			Commercial	No
36A	Jack	Audubon	Commercial	No
36B			Residential	No
38A	Audubon	Garrott	Residential	No
38B			Commercial/ Residential	No
40A	Garrott	Bute	Residential	No
40B			Residential/ Commercial	No
42A	Bute	Flora	Residential	No
42B			Commercial	No
44A	Flora	Brandt	Residential	No
44B			Commercial	No
46A	Brandt	Day	Residential/ Vacant	No
46B			Residential	No
48A	Day	Milam	Vacant	No
48B			Vacant	No



**Photo 6-2, Segment 6B
W. Alabama between McDuffie and Hazard**

There is a large crack down the middle of the eastbound lane. It appears to have been patched in the past.



**Photo 6-3, Segment 12B
W. Alabama between Woodhead and Dunlavy**
Near the intersection with Dunlavy, there is exposed rebar.

6.2 PAVEMENT AND MEDIAN EVALUATION

W. Alabama is in general, a three lane roadway with a center reversible lane in the Montrose Management District. However, it becomes a four lane roadway with a median, to the east of Brandt Street. The pavement is asphalt with concrete curb and gutter on either side. W. Alabama pavement conditions between Shepherd and Spur 527 were studied by means of visual observations and photos. In general, the pavement conditions along W. Alabama were found to be acceptable or good, with a few exceptions. **Table 6-2** summarizes the results of the pavement and median review. **Figure 6-3** graphically depicts the pavement conditions observed along W. Alabama. **Photos 6-1** through **6-13** illustrate some of the poor pavement segments which suggest immediate repair/replacement.

Vehicles tend to shift toward the center lane, which can be a potential hazard if other vehicles are traveling in that lane during the peak hours when it is a through travel lane.



Photo 6-4, Segment 12B
W. Alabama between Woodhead and Dunlavy
A section of the roadway has sunken, creating a pothole.



Figure 6-3
W. Alabama Street Pavement Conditions



Photo 6-5, Segment 14B
W. Alabama between Dunlavy and Mandell
 One of the manholes is significantly lower in relation to both the roadway and the other manhole.



Photo 6-6, Segment 16A
W. Alabama between Mandell and Mulberry
 There is a drop in the elevation of the pavement near the curb. The pavement is also cracking from the related stress.



Figure 6-3 (continued)
W. Alabama Street Pavement Conditions



Photo 6-7, Segment 16B
W. Alabama between Mandell and Mulberry
 The pavement has settled unevenly, creating a small drop off or fault in the center of the lane.



Photo 6-8, Segment 20A
W. Alabama between Yupon and Graustark
 The pavement has settled unevenly, creating a small drop off or fault in the center of the lane.

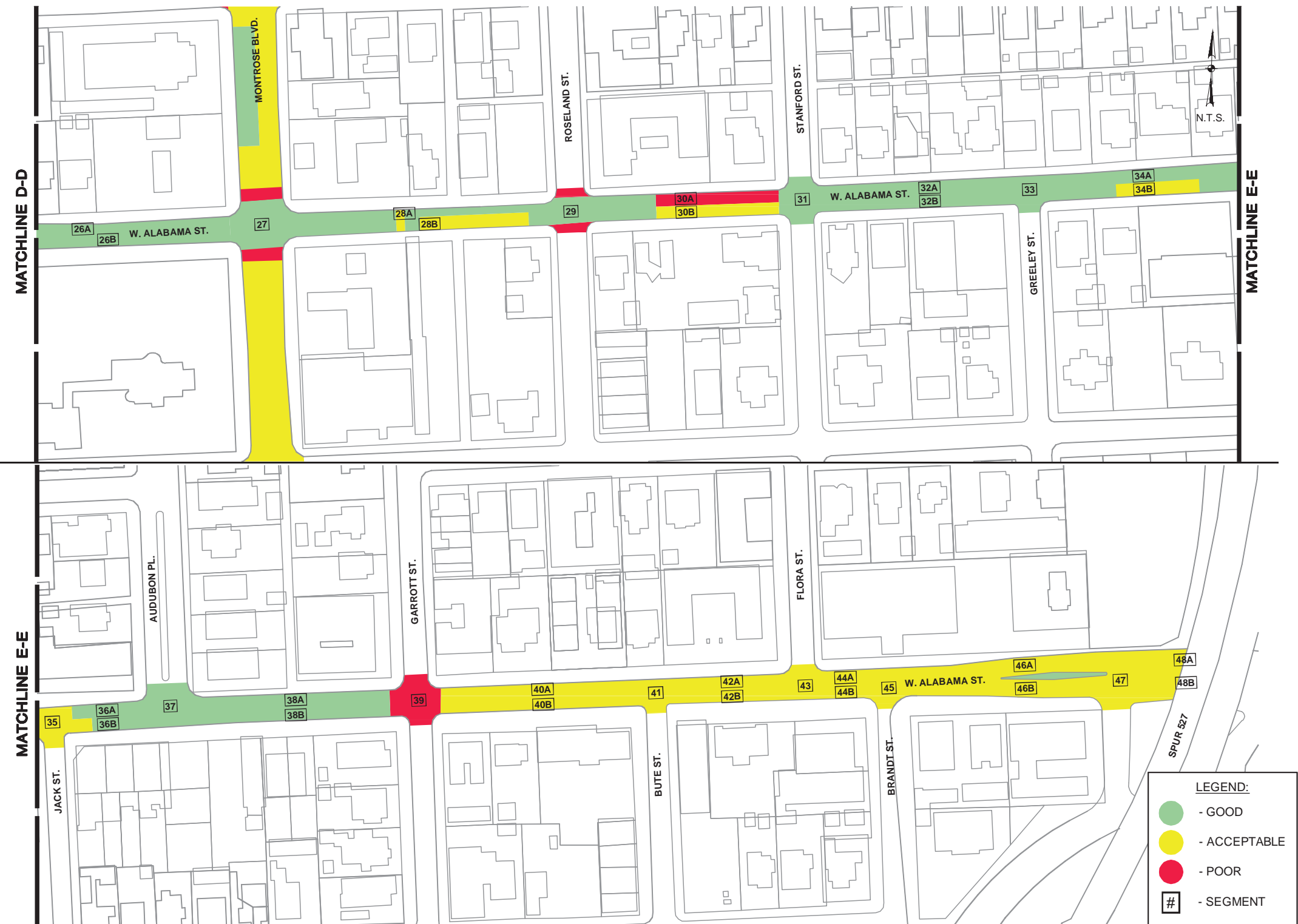


Figure 6-3 (continued)
W. Alabama Street Pavement Conditions



Photo 6-9, Segment 24A

W. Alabama between Mt. Vernon and Yoakum

The pavement has settled unevenly, creating an uneven riding surface. It appears to have been patched, but the patch is not even with the existing road and is chipping off.



Photo 6-10, Segment 29

W. Alabama at Roseland

There are cracks and patching at the southwest corner of the intersection which creates an uneven riding surface.

**Table 6-2
W. Alabama Street Pavement and Median Condition Inventory**

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	W. Alabama at Shepherd			Acceptable	N/A	
2A		Shepherd	Huldy	Good	N/A	
2B				Good	N/A	
3	W. Alabama at Huldy			Good	N/A	
4A		Huldy	McDuffie	Good	N/A	with small section of poor
4B				Good	N/A	
5	W. Alabama at McDuffie			Good	N/A	
6A		McDuffie	Hazard	Good	N/A	
6B				Acceptable/ Poor	N/A	
7	W. Alabama at Hazard			Acceptable	N/A	
8A		Hazard	Driscoll	Acceptable	N/A	
8B				Good	N/A	
9	W. Alabama at Driscoll			Good	N/A	
10A		Driscoll	Woodhead	Acceptable/ Good	N/A	
10B				Good/ Acceptable/ Poor	N/A	
11	W. Alabama at Woodhead			Good	N/A	
12A		Woodhead	Dunlavy	Good/ Acceptable	N/A	
12B				Good/ Acceptable	N/A	
13	W. Alabama at Dunlavy			Good/ Poor	N/A	
14A		Dunlavy	Mandell	Good	N/A	with section of acceptable
14B				Good	N/A	with sections of poor and acceptable
15	W. Alabama at Mandell			Good/ Poor	N/A	
16A		Mandell	Mulberry	Good/ Acceptable/ Poor	N/A	
16B				Good/ Acceptable/ Poor	N/A	
17	W. Alabama at Mulberry			Good	N/A	
18A		Mulberry	Yupon	Acceptable/ Good	N/A	
18B				Good/ Acceptable	N/A	
19	W. Alabama at Yupon			Acceptable	N/A	
20A		Yupon	Graustark	Acceptable/ Poor	N/A	
20B				Acceptable/ Poor	N/A	
21	W. Alabama at Graustark			Good	N/A	
22A		Graustark	Mt. Vernon	Acceptable	N/A	
22B				Good	N/A	
23	W. Alabama at Mt. Vernon			Good	N/A	
24A		Mt. Vernon	Yoakum	Poor/ Acceptable	N/A	
24B				Acceptable	N/A	
25	W. Alabama at Yoakum			Acceptable	N/A	

Table 6-2 (continued)
W. Alabama Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
26A		Yoakum	Montrose	Good	N/A	
26B				Good	N/A	
27	W. Alabama at Montrose			Good	N/A	
28A		Montrose	Roseland	Good/ Acceptable	N/A	
28B				Good/ Acceptable	N/A	
29	W. Alabama at Roseland			Acceptable/ Poor	N/A	Cracks and unevenness
30A		Roseland	Stanford	Good/ Poor	N/A	Cracks and unevenness
30B				Good/ Acceptable	N/A	
31	W. Alabama at Stanford			Good	N/A	
32A		Stanford	Greeley	Good	N/A	
32B				Good	N/A	
33	W. Alabama at Greeley			Good	N/A	
34A		Greeley	Jack	Good	N/A	
34B				Good/ Acceptable	N/A	
35	W. Alabama at Jack			Acceptable	N/A	
36A		Jack	Audubon	Good	N/A	
36B				Good/ Acceptable	N/A	
37	W. Alabama at Audubon			Good	N/A	
38A		Audubon	Garrott	Good	N/A	
38B				Good	N/A	
39	W. Alabama at Garrott			Poor	N/A	Cracks and unevenness
40A		Garrott	Bute	Acceptable	N/A	
40B				Acceptable	N/A	
41	W. Alabama at Bute			Acceptable	N/A	
42A		Bute	Flora	Acceptable	N/A	
42B				Acceptable	N/A	
43	W. Alabama at Flora			Acceptable	N/A	
44A		Flora	Brandt	Acceptable	N/A	
44B				Acceptable	N/A	
45	W. Alabama at Brandt			Acceptable	N/A	
46A		Brandt	Day	Acceptable	Good	
46B				Acceptable	Good	
47	W. Alabama at Day			Acceptable	N/A	
48A		Day	Milam	Acceptable	N/A	
48B				Acceptable	N/A	



Photo 6-11, Segment 30A
W. Alabama between Roseland and Stanford
The cracking creates an uneven riding surface and may widen or propagate creating additional problems.



Photo 6-12, Segment 30A
W. Alabama between Roseland and Stanford
The cracking creates an uneven riding surface and may widen or propagate creating additional problems.

6.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 6-4**, this section of W. Alabama is primarily free flowing with traffic signals at the major intersections. All other intersections are two-way stop controlled on the minor approaches.

As previously discussed, there is no parking along W. Alabama between Shepherd and Milam. This is because the outer lane is the primary travel lane at all times, with a reversible center lane. The reversible center lane is controlled by overhead lane control signals throughout the day. The center lane is designated as eastbound during the AM peak hour and westbound during the PM peak hour with no left turns allowed during peak periods. The center lane is designated as a two-way left turn lane at all other times. The overhead lane designations are not common on arterial roads in Houston, and cars often try to make left turns from the center lane when it is designated for through traffic only. It is recommended that additional signage be considered to notify drivers of the changing lane operations.

The overall condition of the pavement markings was good and not showing signs of significant wear. The reversible center lane provides great flexibility but is often misunderstood by the general public.

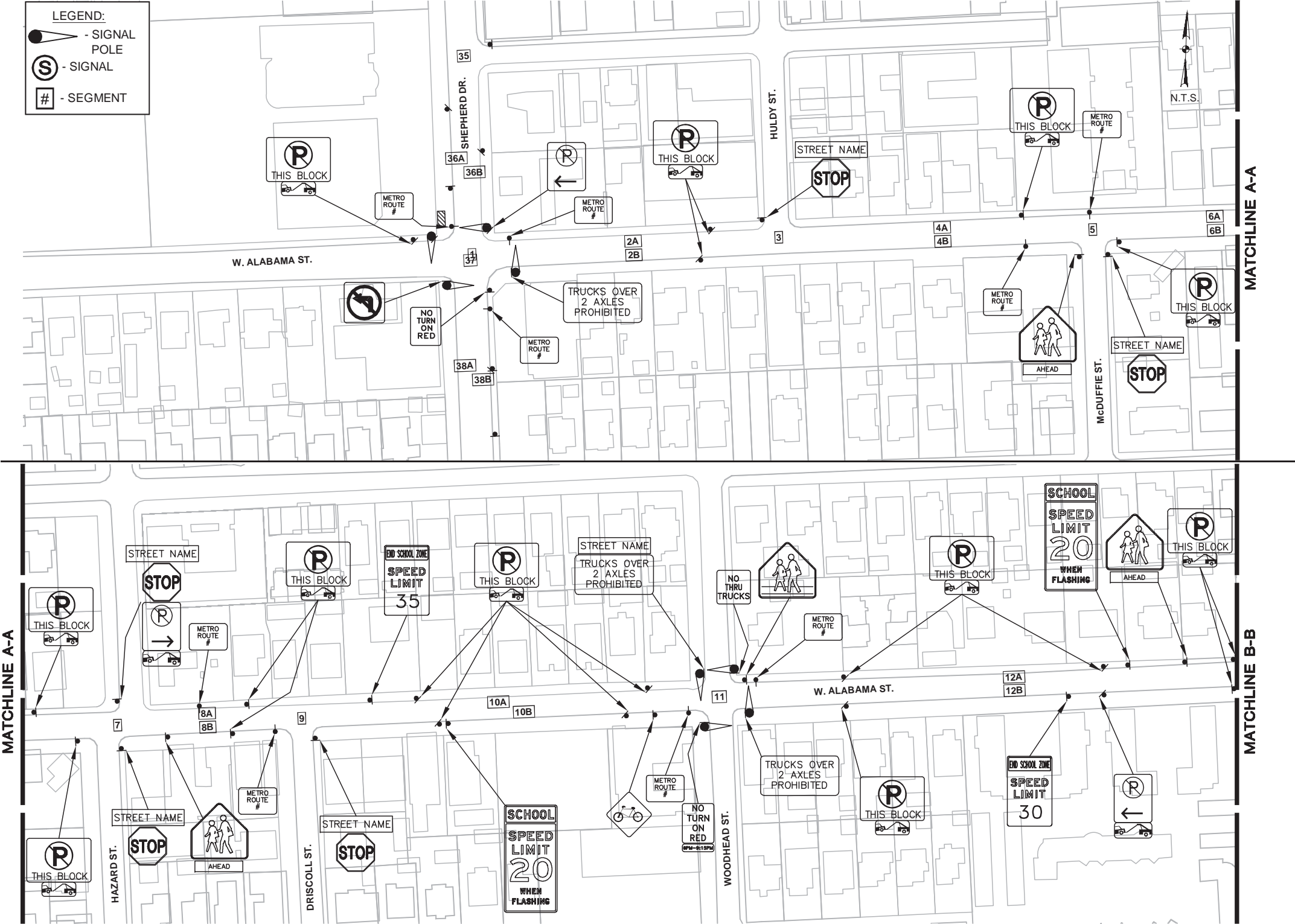


Figure 6-4
W. Alabama Street Signs and Intersection Control



Photo 6-13, Segment 39
W. Alabama at Garrett

The cracks , grooves, and upheaval seen in the photo creates a poor riding experience.



Photo 6-14, Segment 2B
W. Alabama between Shepherd and Huld

Cracking and uneven settling along pedestrian path.

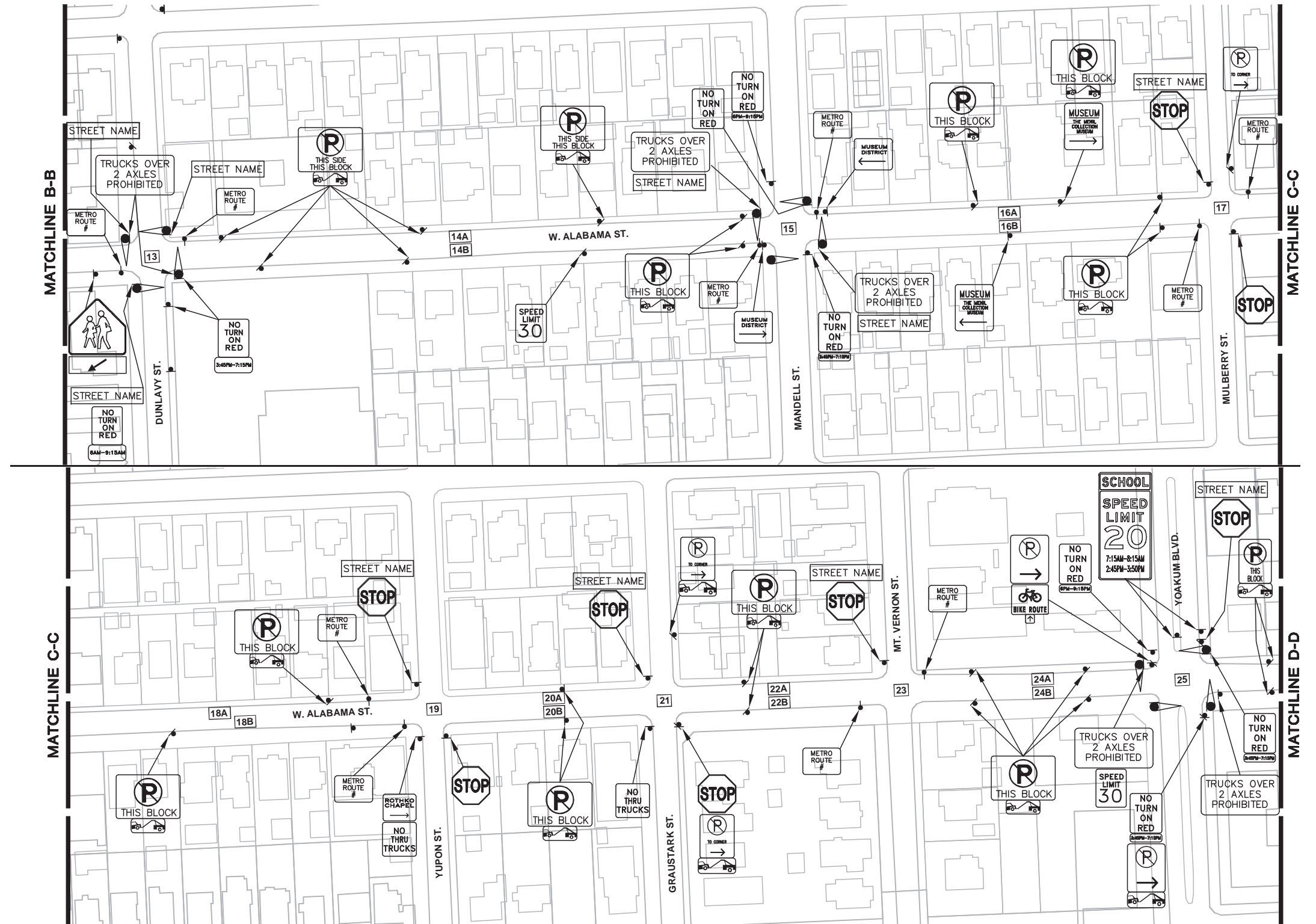


Figure 6-4 (continued)
W. Alabama Street Signs and Intersection Control

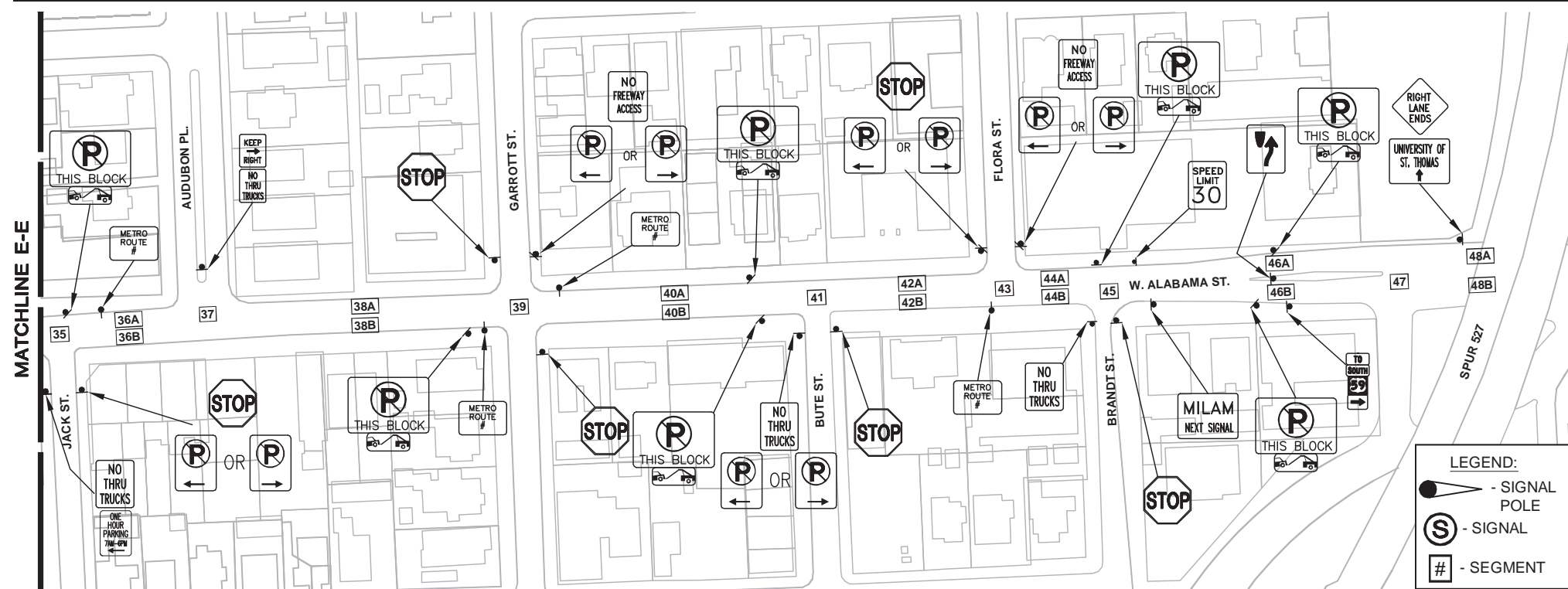
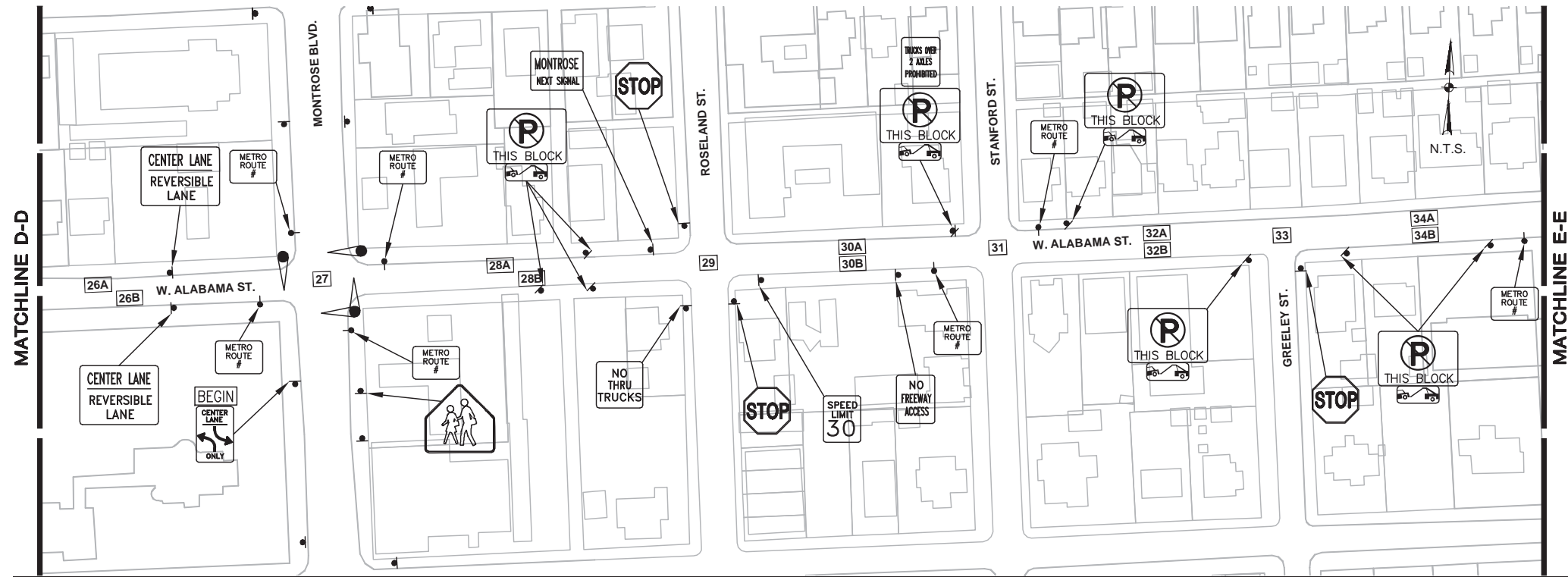


Figure 6-4 (continued)
W. Alabama Street Signs and Intersection Control



Photo 6-15, Segment 7
W. Alabama at Hazard
Road resurfacing has made ramps difficult to traverse.



Photo 6-16, Segment 12B
W. Alabama between Woodhead and Dunlavy
Missing sections, cracking, and uneven settling create tripping hazards.

6.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on W. Alabama between Shepherd and Spur 527 were studied by means of visual observation and photos. **Table 6-3** summarizes sidewalk conditions, **Table 6-4** summarizes ramp conditions, and **Table 6-5** summarizes crosswalk conditions along W. Alabama. **Figure 6-5** graphically depicts the results of the sidewalk and ramp evaluation along Richmond. Some of the common issues seen with sidewalks were cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Ramps on W. Alabama are a mix of poor, acceptable, and good. Issues observed with crosswalks were absence of crosswalks, and/or wear and tear of crosswalk pavement markings. **Photos 6-14** through **6-26** illustrate examples of poor sidewalks which suggest immediate repair/replacement.



Photo 6-17, Segment 14B
W. Alabama between Dunlavy and Mandell
Untrimmed vegetation and missing section.



Figure 6-5
W. Alabama Street Sidewalk and Ramp Conditions



Figure 6-5 (continued)
W. Alabama Street Sidewalk and Ramp Conditions



Photo 6-18, Segment 16A
W. Alabama between Mandell and Mulberry
Ground movement has caused whole sidewalk sections to shift, creating tripping hazards.



Photo 6-19, Segment 18A
W. Alabama between Mulberry and Yupon
Sections have broken off, creating tripping hazards.



Photo 6-20, Segment 18B
W. Alabama between Mulberry and Yupon
 Sidewalk is cracked, missing, and covered in dirt, making it difficult to traverse.



Photo 6-21, Segment 20B
W. Alabama between Yupon and Graustark
 Broken pieces of the sidewalk create tripping hazards.



Figure 6-5 (continued)
W. Alabama Street Sidewalk and Ramp Conditions

Table 6-3
W. Alabama Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	Shepherd	Huldy	Good	
2B			Acceptable/Poor	
4A	Huldy	McDuffie	Good	
4B			Poor	
6A	McDuffie	Hazard	Good	
6B			Acceptable/Poor	
8A	Hazard	Driscoll	Acceptable/Poor	
8B			Good	
10A	Driscoll	Woodhead	Acceptable/Good/Poor	
10B			Acceptable/Poor	
12A	Woodhead	Dunlavy	Acceptable/Good	
12B			Acceptable/Poor	
14A	Dunlavy	Mandell	Good/ Acceptable/Poor	
14B			Acceptable/Poor/Good	
16A	Mandell	Mulberry	Poor/ Acceptable	
16B			Poor/ Acceptable	
18A	Mulberry	Yupon	Poor/ Acceptable	
18B			Good/Poor/ Acceptable	
20A	Yupon	Graustark	Acceptable/Good	
20B			Poor/Missing/ Acceptable	
22A	Graustark	Mt. Vernon	Acceptable/Good/Poor	
22B			Good	
24A	Mt. Vernon	Yoakum	Good	With section of poor
24B			Good	
26A	Yoakum	Montrose	Good	
26B			Acceptable/Good	
28A	Montrose	Roseland	Good	
28B			Good/ Poor	Cracked and broken sidewalk
30A	Roseland	Stanford	Good/ Poor	Upheaval on sidewalk
30B			Poor	Cracked and broken sidewalk with upheaval
32A	Stanford	Greeley	Good	
32B			Good	
34A	Greeley	Jack	Good/ Acceptable	
34B			Good	
36A	Jack	Audubon	Acceptable	
36B			Good	

Table 6-3 (continued)
W. Alabama Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
38A	Audubon	Garrott	Acceptable/ Poor	Cracked sidewalk with missing pavers and upheaval
38B			Good/ Acceptable	
40A	Garrott	Bute	Good/ Poor	Cracked sidewalk with upheaval
40B			Good/ Poor	Upheaval on sidewalk
42A	Bute	Flora	Good/ Poor	Cracked sidewalk with upheaval
42B			Acceptable/ Poor	Cracked and broken sidewalk
44A	Flora	Brandt	Acceptable	
44B			Acceptable/ Poor	Uneven sidewalk, missing pavers
46A	Brandt	Milam	Good/ Acceptable/ Poor	Upheaval in sidewalk
46B			Good/ Poor	Cracked and uneven sidewalk
48A	Day	Milam	Acceptable	
48B			Good	



Photo 6-22, Segment 20A
W. Alabama between Yupon and Graustark
Missing and/or buried sidewalk.



Photo 6-23, Segment 26A
W. Alabama between Yoakum and Montrose
This section is suitable for now, but should be monitored to make sure future tree root growth does not displace metal plate and create tripping hazard.



Photo 6-23, Segment 28B
W. Alabama between Montrose and Roseland
 Portions of the sidewalk have cracks and upheaval, and some portion is missing.



Photo 6-25, Segment 38A
W. Alabama between Audubon and Garrott
 There is substantial cracking.



Photo 6-24, Segment 40B
W. Alabama Between Garrott and Bute
 There is substantial upheaval at the sidewalk joint.



Photo 6-26, Segment 42B
W. Alabama between Bute and Flora
 A section of the sidewalk has broken pieces which might create tripping hazards.

Table 6-4
W. Alabama Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	W. Alabama at Shepherd	Acceptable	Poor	Acceptable	Poor
3	W. Alabama at Huldry	Acceptable	Acceptable	N/A	N/A
5	W. Alabama at McDuffie	N/A	N/A	Poor	Acceptable
7	W. Alabama at Hazard	Acceptable	Poor	Acceptable	Acceptable
9	W. Alabama at Driscoll	N/A	N/A	Acceptable	Poor
11	W. Alabama at Woodhead	Acceptable	Poor	Acceptable	Acceptable
13	W. Alabama at Dunlavy	Good	Good	Poor	Poor
15	W. Alabama at Mandell	Acceptable	Acceptable	Acceptable	Poor
17	W. Alabama at Mulberry	Good	Acceptable	Poor	Poor
19	W. Alabama at Yupon	Acceptable	Acceptable	Poor	Poor
21	W. Alabama at Graustark	Good	Good	Good	Good
23	W. Alabama at Mt. Vernon	Good	Good	N/A	N/A
25	W. Alabama at Yoakum	Acceptable	Good	Good	Good
27	W. Alabama at Montrose	Acceptable	Acceptable	Acceptable	Acceptable
29	W. Alabama at Roseland	Acceptable	Acceptable	Acceptable	Acceptable
31	W. Alabama at Stanford	Good	Good	Good	Good
33	W. Alabama at Greeley	N/A	N/A	Acceptable	Acceptable
35	W. Alabama at Jack	N/A	N/A	Acceptable	Acceptable
37	W. Alabama at Audubon	Missing	Acceptable	N/A	N/A
39	W. Alabama at Garrott	Acceptable	Acceptable	Acceptable	Good
41	W. Alabama at Bute	N/A	N/A	Acceptable	Acceptable
43	W. Alabama at Flora	Acceptable	Acceptable	N/A	N/A
45	W. Alabama at Brandt	N/A	N/A	Acceptable	Acceptable
47	W. Alabama at Day	N/A	N/A	Acceptable	Good

**Table 6-5
W. Alabama Street Crosswalk Condition Inventory**

Segment	Intersection	East	West	North	South
1	W. Alabama at Shepherd	Good	Good	Good	Good
3	W. Alabama at Huldry	N/A	N/A	Missing	N/A
5	W. Alabama at McDuffie	N/A	N/A	N/A	Missing
7	W. Alabama at Hazard	N/A	N/A	Missing	Missing
9	W. Alabama at Driscoll	N/A	N/A	N/A	Missing
11	W. Alabama at Woodhead	Good	Good	Good	Good
13	W. Alabama at Dunlavy	Good	Good	Good	Good
15	W. Alabama at Mandell	Good	Good	Good	Good
17	W. Alabama at Mulberry	N/A	N/A	Missing	Missing
19	W. Alabama at Yupon	N/A	N/A	Missing	Missing
21	W. Alabama at Graustark	N/A	N/A	Missing	Missing
23	W. Alabama at Mt. Vernon	N/A	N/A	Missing	N/A
25	W. Alabama at Yoakum	Acceptable	Poor	Acceptable	Acceptable
27	W. Alabama at Montrose	Acceptable	Acceptable	Poor	Acceptable
29	W. Alabama at Roseland	N/A	N/A	Missing	Missing
31	W. Alabama at Stanford	Good	Good	Good	Good
33	W. Alabama at Greeley	N/A	N/A	N/A	Missing
35	W. Alabama at Jack	N/A	N/A	N/A	Missing
37	W. Alabama at Audubon	N/A	N/A	Missing	N/A
39	W. Alabama at Garrott	N/A	N/A	Missing	Missing
41	W. Alabama at Bute	N/A	N/A	N/A	Missing
43	W. Alabama at Flora	N/A	N/A	Missing	N/A
45	W. Alabama at Brandt	N/A	N/A	N/A	Missing
47	W. Alabama at Day	N/A	N/A	N/A	Good

6.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Prune Vegetation:**
 - The length of the W. Alabama corridor to improve sight distances on minor streets and to clear sidewalk passage.
- **Pavement Reconstruction:**
 - Eastbound lanes from Huldry to Hazard
 - W. Alabama from McDuffie to Dunlavy
 - W. Alabama from Mandell to Yoakum
 - W. Alabama between Roseland and Stanford
 - Intersection of W. Alabama and Garrott
 - W. Alabama between Garrott and Milam
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Reconstruct ramps
 - W. Alabama at Shepherd
 - W. Alabama at Huldry
 - W. Alabama at McDuffie
 - W. Alabama at Hazard
 - W. Alabama at Driscoll
 - W. Alabama at Woodhead
 - W. Alabama at Dunlavy
 - W. Alabama at Mandell
 - W. Alabama at Mulberry
 - W. Alabama at Yupon
 - W. Alabama at Roseland
 - W. Alabama at Jack
 - W. Alabama at Garrott
 - W. Alabama at Bute
 - W. Alabama at Flora
 - W. Alabama at Brandt
- Reconstruct sidewalk
 - South side of W. Alabama between Shepherd and Hazard
 - South side of W. Alabama between Driscoll and Graustark
 - South side of W. Alabama between Roseland and Stanford
 - South side of W. Alabama between Bute and Brandt
 - North side of W. Alabama between Hazard and Woodhead
 - North side of W. Alabama between Woodhead and Mt. Vernon
 - North side of W. Alabama between Audubon and Garrott
 - North side of W. Alabama between Flora and Milam
- Reconstruct sidewalk at buckled locations
 - North side of W. Alabama between Mt. Vernon and Yoakum
 - South side of W. Alabama between Montrose and Roseland
 - North side of W. Alabama between Roseland and Stanford
 - South side of W. Alabama between Garrott and Bute
 - North side of W. Alabama between Garrott and Flora
 - South side of W. Alabama between Brandt and Milam
- **Safety and Mobility:** Remove or better identify/enforce times and restrictions on reversible center lane.

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

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SECTION 7: WESTHEIMER ROAD

Westheimer Road is an east-west major thoroughfare in the Houston area. It begins west of town at FM 1093 and continues eastward into Downtown where it becomes Elgin Street. Elgin Street runs through Downtown, past the University of Houston Campus to its terminus at Spur 5. In the study area, between Shepherd and Bagby Street, Westheimer is two lanes in each direction, with left turn bays at the intersection of Westheimer and Montrose. There are ten signalized intersections.

- Westheimer at Shepherd
- Westheimer at Hazard
- Westheimer at Woodhead
- Westheimer at Dunlavy
- Westheimer at Mandell
- Westheimer at Commonwealth
- Westheimer at Waugh
- Westheimer at Montrose
- Westheimer at Taft
- Westheimer at Bagby

Figure 7-1 shows the lane configurations for this segment of Westheimer.



Figure 7-1
Westheimer Avenue Lane Configurations

The Westheimer corridor is home to many shops and restaurants and is used by both vehicles as well as pedestrians. There are seven METRO bus routes that operate on or intersect with Westheimer.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 42: Holman Crosstown is a local route. It connects the Montrose area with the Eastwood, Magnolia and Fifth Ward/Denver Harbor Transit Centers, traveling along Westheimer and Montrose in the study area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.



Figure 7-1 (continued)
Westheimer Avenue Lane Configurations

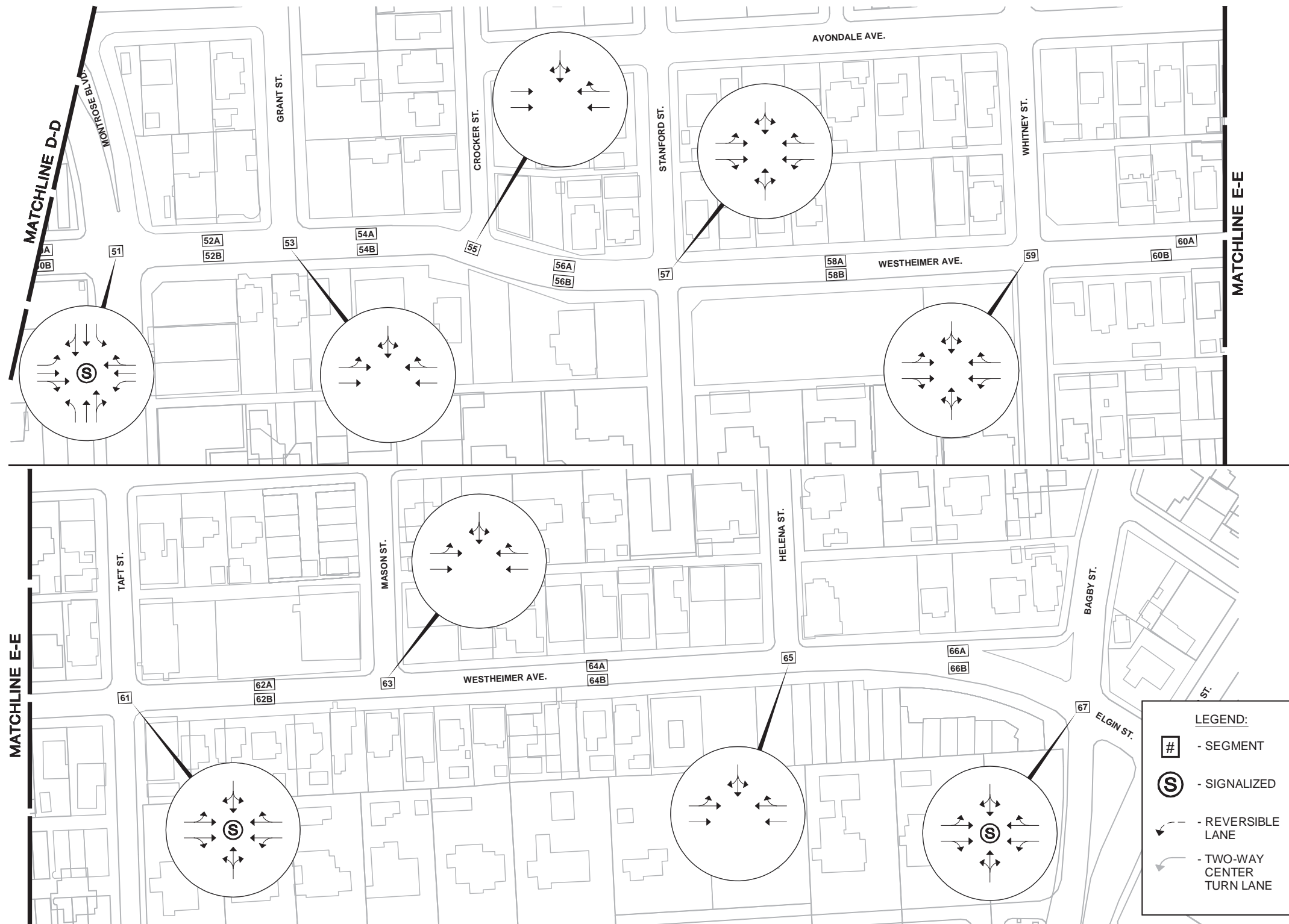


Figure 7-1 (continued)
Westheimer Avenue Lane Configurations

7.1 PARKING EVALUATION

Parking is allowed along the southern side Westheimer between Elmen and Ralph during certain hours of the day. Otherwise it is prohibited along Westheimer within the study area. On-street parking is allowed along several of the smaller cross streets and most of the businesses have their own parking lots. This portion of Westheimer is primarily commercial with areas of residential development as can be seen in **Figure 7-2**.

A visual inspection of parking lots along Westheimer throughout the week revealed that there were several locations where available parking was full and began to spill out in the neighborhood. This was particularly noticeable on Westheimer near Montrose where there are several late night restaurants, bars, and clubs north of Westheimer in the neighborhood. **Table 7-1** shows the type of land use and observed parking by segment of Westheimer.

There are many businesses located in this section of Westheimer and in the neighborhood just north of Westheimer, as a result the potential for a public parking garage exists. Based on current development, a potential location for a garage would be just south of segment 55 at the intersection of Westheimer and Crocker where there is currently a parking lot used by Katz Deli and the Women’s Home. Another possible garage location would be north of Westheimer between Ralph and Kuester (segment 24A), which is currently a vacant lot, but is close to several restaurants and retail shops.



Figure 7-2
Westheimer Avenue Parking and Land Use



Figure 7-2 (continued)
Westheimer Avenue Parking and Land Use



Figure 7-2 (continued)
Westheimer Avenue Parking and Land Use

**Table 7-1
Westheimer Avenue Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	Huldy	Commercial	No
2B			Commercial	No
4A	Huldy	Brun	Commercial	No
4B			Commercial	No
6A	Brun	McDuffie	Commercial	No
6B			Residential/ Commercial	No
8A	McDuffie	Hazard	Commercial	No
8B			Commercial	No
10A	Hazard	Driscoll	Commercial/Residential	No
10B			Institutional	No
12A	Driscoll	Morse	Commercial	No
12B			Institutional	No
14A	Morse	Woodhead	Commercial	No
14B			Institutional	No
16A	Woodhead	Elmen	Commercial	No
16B			Commercial	No
18A	Elmen	Park	Commercial	No
18B			Commercial	No
20A	Park	Dunlavy	Commercial	No
20B			Commercial	No
22A	Dunlavy	Ralph	Commercial	No
22B			Commercial/Vacant	No
24A	Ralph	Kueter	Commercial/Vacant	No
24B			Commercial	No
26A	Kueter	Mandell	Commercial	No
26B			Commercial	No
28A	Mandell	California	Commercial	No
28B			Commercial/Residential	No
30A	California	Ridgewood	Vacant	No
30B			Commercial	No
32A	Ridgewood	Mulberry	Commercial	No
32B			Commercial	No
34A	Mulberry	Windsor	Commercial	No
34B			Commercial	No

**Table 7-1 (continued)
Westheimer Avenue Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
36A	Windsor	Yupon	Commercial/Vacant	Yes
36B			Residential/ Commercial	No
38A	Yupon	Graustark	Commercial	No
38B			Commercial	No
40A	Graustark	Commonwealth	Commercial	No
40B			Commercial	No
42A	Commonwealth	Mt. Vernon	Commercial	No
42B			Commercial	No
44A	Mt. Vernon	Waughcrest	Commercial	No
44B			Commercial	No
46A	Waughcrest	Waugh/Yoakum	Commercial	No
46B			Commercial	No
48A	Waugh/Yoakum	Lincoln	Commercial/Vacant	No
48B			Commercial	No
50A	Lincoln	Montrose	Commercial	No
50B			Commercial	No
52A	Montrose	Grant	Commercial	Yes
52B			Commercial	No
54A	Grant	Crocker	Commercial	No
54B			Commercial	Yes
56A	Crocker	Stanford	Commercial	No
56B			Commercial	No
58A	Stanford	Whitney	Commercial/ Vacant	No
58B			Commercial	No
60A	Whitney	Taft	Commercial/ Residential	No
60B			Commercial	No
62A	Taft	Mason	Commercial	No
62B			Commercial/ Residential	No
64A	Mason	Helena	Commercial/ Residential/ Vacant	No
64B			Commercial/ Residential	No
66A	Helena	Bagby	Vacant/ Residential/ Commercial	No
66B			Residential	No

7.2 PAVEMENT AND MEDIAN EVALUATION

Westheimer is a four lane undivided street in the Montrose Management District. The pavement is asphalt with curb and gutter on each side. Westheimer pavement conditions were studied by means of visual observations and photos. In general, the pavement conditions along Westheimer were found to be acceptable or poor with the ends being the exception as they were generally in good condition. **Table 7-2** summarizes the results of the pavement and median review. **Figure 7-3** graphically depicts the pavement conditions observed along Westheimer. **Photos 7-1** through **7-10** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 7-1, Segment 4B
Westheimer between Huldy and Brun
Patched pavement has settled close to the curb and created an uneven riding surface.



Figure 7-3
Westheimer Avenue Pavement Conditions

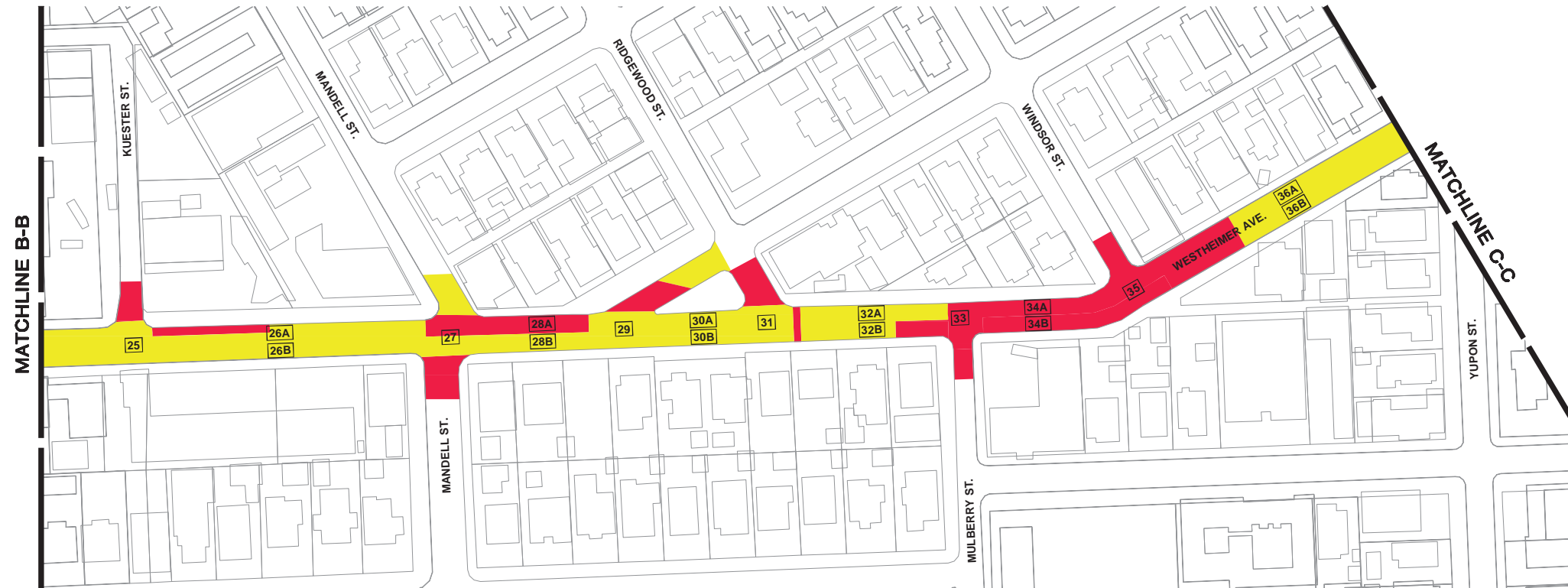


Photo 7-2, Segment 6A
Westheimer between Brun and McDuffie
 Pavement around the patch is crumbling and coming up, additionally the roadway is uneven and has visible ruts where tires traditionally travel.

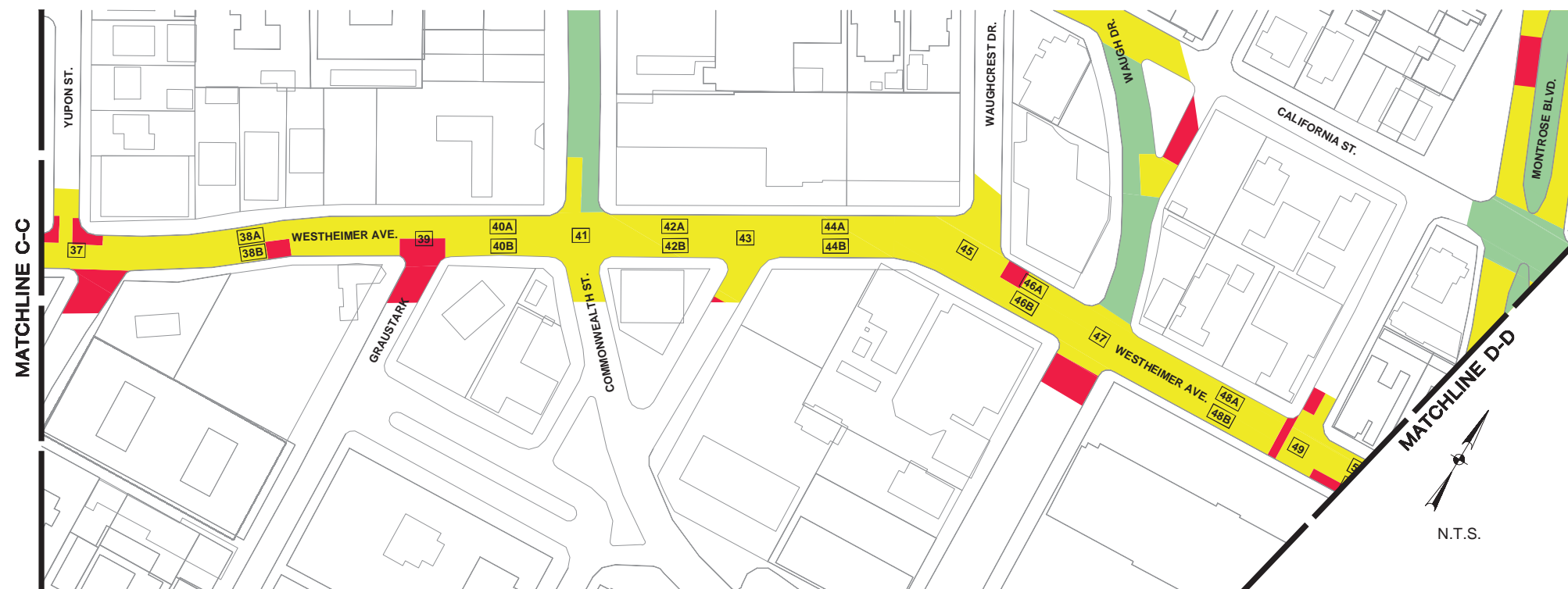


Photo 7-3, Segment 9
Westheimer at Hazard
 Pavement at the corner is cracked and uneven.

Figure 7-3 (continued)
Westheimer Avenue Pavement Conditions



Photo 7-4, Segment 40B
Westheimer between Graustark and Commonwealth
 Large crack across the width of the lanes



Photo 7-5, Segment 46A
Westheimer between Waughcrest and Waugh
 Missing layer of pavement at corner



Figure 7-3 (continued)
Westheimer Avenue Pavement Conditions

**Table 7-2
Westheimer Avenue Pavement and Median Condition Inventory**

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Westheimer at Shepherd			Acceptable	N/A	
2A		Shepherd	Huldy	Poor	N/A	
2B				Good/Poor	N/A	
3	Westheimer at Huldy			Good	N/A	
4A		Huldy	Brun	Poor	N/A	
4B				Good	N/A	
5	Westheimer at Brun			Good	N/A	
6A		Brun	McDuffie	Poor	N/A	
6B				Good/ Acceptable	N/A	
7	Westheimer at McDuffie			Good / Acceptable/ Poor	N/A	
8A		McDuffie	Hazard	Good	N/A	
8B				Acceptable	N/A	
9	Westheimer at Hazard			Poor/Good	N/A	
10A		Hazard	Driscoll	Good	N/A	
10B				Good	N/A	
11	Westheimer at Driscoll			Good	N/A	
12A		Driscoll	Morse	Acceptable	N/A	
12B				Acceptable	N/A	
13	Westheimer at Morse			Acceptable	N/A	
14A		Morse	Woodhead	Acceptable	N/A	
14B				Acceptable	N/A	
15	Westheimer at Woodhead			Acceptable	N/A	
16A		Woodhead	Elmen	Acceptable/ Poor	N/A	
16B				Acceptable	N/A	
17	Westheimer at Elmen			Acceptable	N/A	
18A		Elmen	Park	Poor	N/A	
18B				Acceptable	N/A	
19	Westheimer at Park			Acceptable/ Poor	N/A	
20A		Park	Dunlavy	Acceptable	N/A	
20B				Acceptable	N/A	
21	Westheimer at Dunlavy			Good	N/A	
22A		Dunlavy	Ralph	Acceptable/Poor	N/A	
22B				Acceptable	N/A	
23	Westheimer at Ralph			Acceptable	N/A	



**Photo 7-6, Segment 49
Westheimer at Lincoln**
Pavement patch uneven with the original surface



**Photo 7-7, Segment 52B
Westheimer between Montrose and Grant**
Alligator cracks along the outside lane



Photo 7-8, Segment 54B
Westheimer between Grant and Crocker
 Alligator cracks along the outside lane



Photo 7-9, Segment 60B
Westheimer between Whitney and Taft
 Severe cracking can be seen in the pavement and gutter sections.

Table 7-2 (continued)
Westheimer Avenue Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
24A		Ralph	Kueter	Acceptable	N/A	
24B				Acceptable	N/A	
25	Westheimer at Kueter			Acceptable	N/A	
26A		Kueter	Mandell	Poor/ Acceptable	N/A	
26B				Acceptable	N/A	
27	Westheimer at Mandell			Acceptable	N/A	
28A		Mandell	California	Poor	N/A	
28B				Acceptable	N/A	
29	Westheimer at California			Acceptable	N/A	
30A		California	Ridgewood	Acceptable	N/A	
30B				Acceptable	N/A	
31	Westheimer at Ridgewood			Acceptable	N/A	
32A		Ridgewood	Mulberry	Acceptable	N/A	
32B				Acceptable/ Poor	N/A	
33	Westheimer at Mulberry			Poor	N/A	
34A		Mulberry	Windsor	Poor	N/A	Narrow Lanes
34B				Poor	N/A	Narrow Lanes
35	Westheimer at Windsor			Poor	N/A	
36A		Windsor	Yupon	Acceptable/Poor	N/A	
36B				Acceptable/Poor	N/A	
37	Westheimer at Yupon			Acceptable	N/A	
38A		Yupon	Graustark	Acceptable	N/A	
38B				Acceptable	N/A	
39	Westheimer at Graustark			Acceptable/Poor	N/A	
40A		Graustark	Commonwealth	Acceptable	N/A	
40B				Acceptable	N/A	
41	Westheimer at Commonwealth			Acceptable	N/A	
42A		Commonwealth	Mt. Vernon	Acceptable	N/A	
42B				Acceptable	N/A	
43	Westheimer at Mt. Vernon			Acceptable	N/A	
44A		Mt. Vernon	Waugh	Acceptable	N/A	
44B				Acceptable	N/A	
45	Westheimer at Waughcrest			Acceptable	N/A	
46A		Waugh	Yoakum	Acceptable	N/A	
46B				Acceptable	N/A	
47	Westheimer at Waugh/Yoakum			Acceptable	N/A	

Table 7-2 (continued)
Westheimer Avenue Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
48A		Yoakum	Lincoln	Acceptable	N/A	
48B				Acceptable	N/A	
49	Westheimer at Lincoln			Acceptable	N/A	
50A		Lincoln	Westheimer	Acceptable	N/A	
50B				Poor	N/A	
51	Westheimer at Montrose			Acceptable	N/A	
52A		Montrose	Grant	Good/ Poor	N/A	Cracks and unevenness
52B				Good/ Poor	N/A	Cracks and unevenness
53	Westheimer at Grant			Good	N/A	
54A		Grant	Crocker	Good	N/A	
54B				Good/ Poor	N/A	Cracks and unevenness
55	Westheimer at Crocker			Good/ Poor	N/A	Cracks and unevenness
56A		Crocker	Stanford	Good	N/A	
56B				Good	N/A	
57	Westheimer at Stanford			Acceptable	N/A	
58A		Stanford	Whitney	Good	N/A	
58B				Good	N/A	
59	Westheimer at Whitney			Good	N/A	
60A		Whitney	Taft	Good/ Acceptable	N/A	
60B				Good/ Acceptable/ Poor	N/A	Cracks and unevenness
61	Westheimer at Taft			Good	N/A	
62A		Taft	Mason	Good	N/A	
62B				Good/ Acceptable	N/A	
63	Westheimer at Mason			Good	N/A	
64A		Mason	Helena	Acceptable/ Poor	N/A	Cracks, potholes and unevenness
64B				Good/ Acceptable	N/A	
65	Westheimer at Helena			Good/ Poor	N/A	Cracks and unevenness
66A		Helena	Bagby	Good/ Acceptable	Acceptable	
66B				Good	Acceptable	
67	Westheimer at Bagby			Good	N/A	



Photo 7-10, Segment 64A
Westheimer between Mason and Helena
Patched pavement section has cracks, and concrete in the gutter section is broken and steel is exposed.

7.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 7-4**, this section of Westheimer Avenue has ten traffic signals, located throughout the length of Westheimer. All other intersections are two-way stop controlled on the minor approaches.

Parking is not allowed along the majority of Westheimer. This allows better sight distances for vehicles trying to turn onto Westheimer from the side streets. There are several locations where turns are not allowed onto, or off of Westheimer:

- Eastbound left turn onto Crocker are prohibited at all times
- Southbound left turn from Crocker are prohibited at all times
- Northbound and Southbound left turns from Stanford are prohibited between 7 pm and 6 am
- Northbound and Southbound left turns from Whitney are prohibited between 7 pm and 6 am

In general, pavement markings along Westheimer were in good condition, and it is not recommended that they be refreshed or replaced immediately. However, due to the poor pavement conditions of the outside lanes, vehicles shift toward inner lanes which might contribute to a faster than normal wear on the pavement markings. Pavement Markings should be refreshed when pavement is upgraded. Narrow lanes combined with the tight curvature along Westheimer (in particular near the intersection with Windsor, segment 35) effectively narrow the roadway down to one lane in each direction. Vehicles often straddle both lanes while maneuvering through these narrow sections.

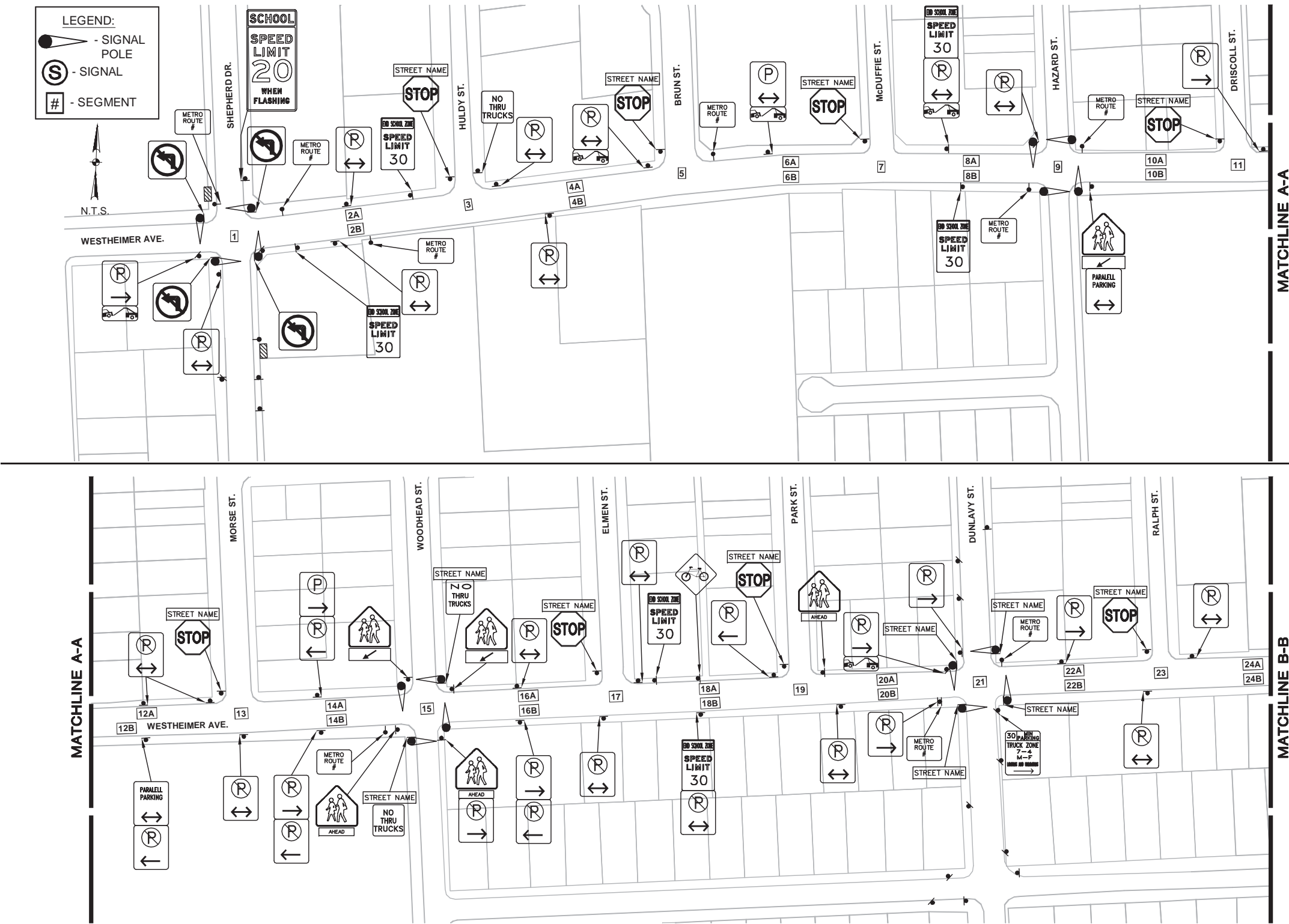


Figure 7-4
Westheimer Avenue Signs and Intersection Control

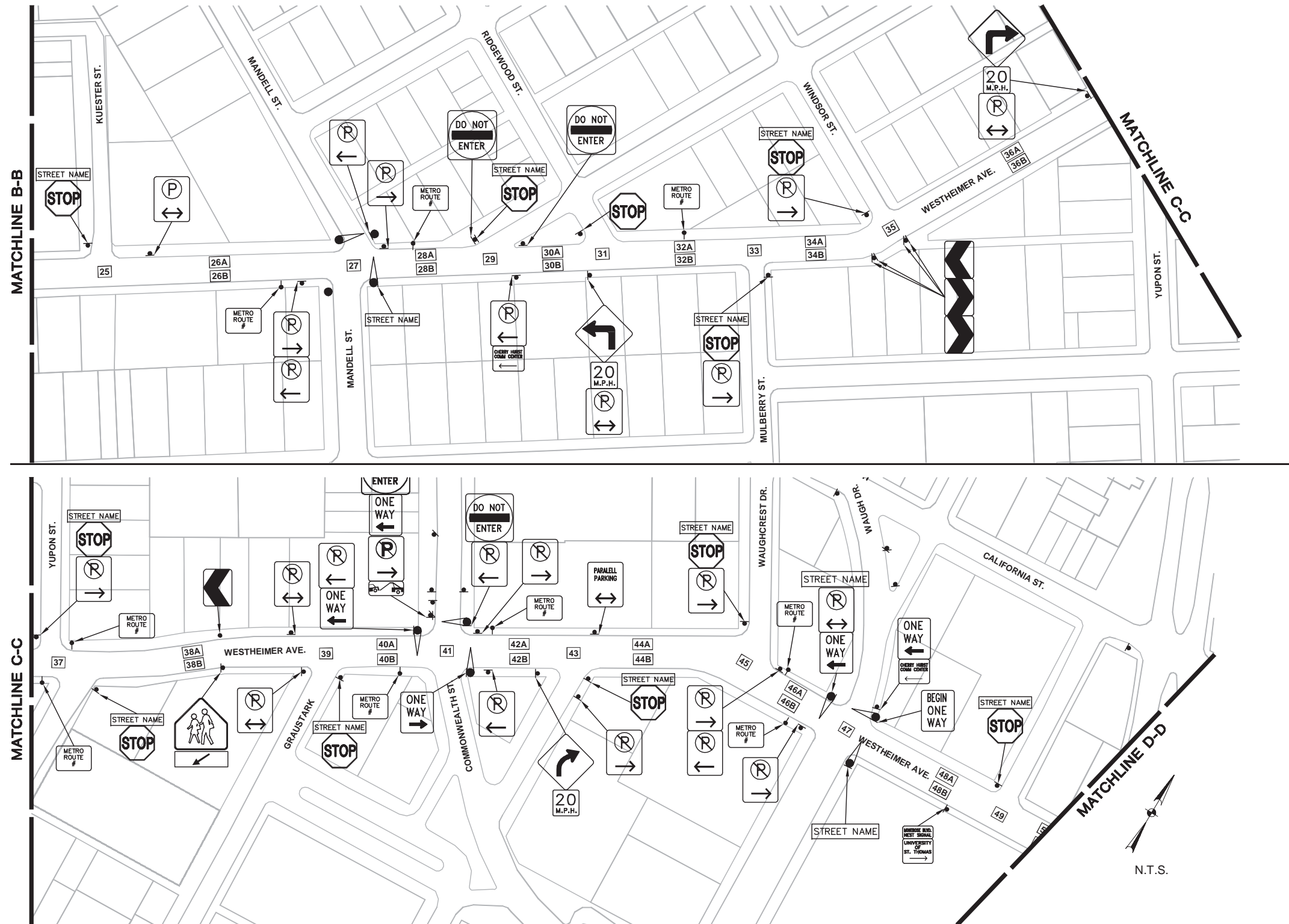


Figure 7-4 (continued)
Westheimer Avenue Signs and Intersection Control



Photo 7-11, Segment 4A
Westheimer between Huldy and Brun
Sidewalk is cracked and has settled, creating tripping hazards.



Photo 7-12, Segment 4A
Westheimer between Huldy and Brun
Sidewalk is cracked and has settled, creating tripping hazards.



Photo 7-13, Segment 8A
Westheimer between McDuffie and Hazard
 Missing sections of sidewalk periodically through out the block



Photo 7-14, Segment 18B
Westheimer between Elmen and Park
 Missing section of sidewalk

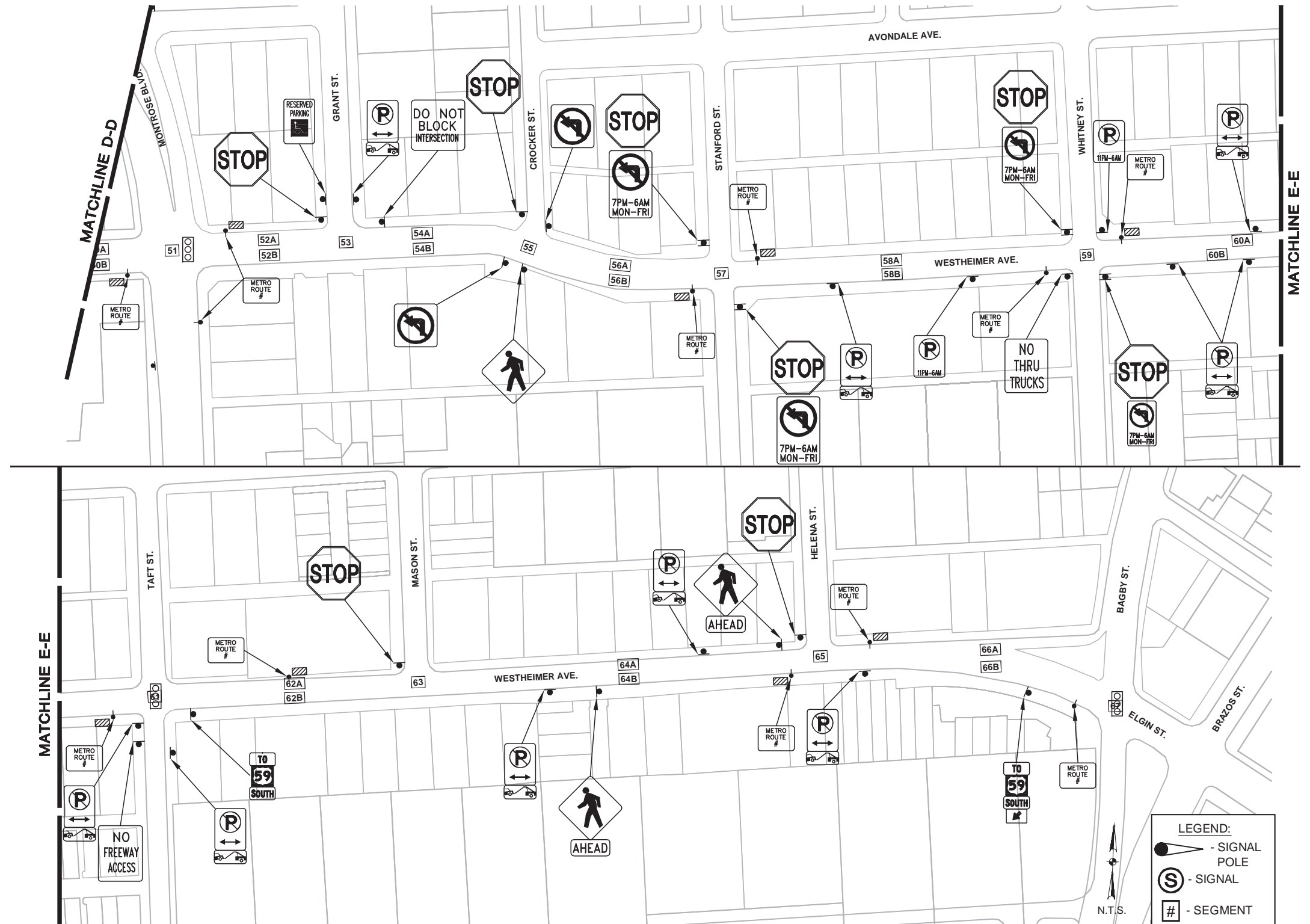


Figure 7-4 (continued)
Westheimer Avenue Signs and Intersection Control

7.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on Westheimer between Shepherd and Brazos were studied by means of visual observation and photos. **Table 7-3** summarizes sidewalk conditions, **Table 7-4** summarizes ramp conditions, and **Table 7-5** summarizes crosswalk conditions along Westheimer. **Figure 7-5** graphically depicts the results of the sidewalk and ramp evaluation along Westheimer. Some of the common issues seen with sidewalks were cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Many of the ramps along Westheimer were found to be in at least acceptable condition. However, the following intersections all have at least two ramps in poor condition.

- Westheimer at Shepherd
- Westheimer at Dunlavy
- Westheimer at Ralph
- Westheimer at Kuester

No marked crosswalks were found across Westheimer at the minor street intersections with Westheimer. Crosswalks at the signalized intersections were generally found to be acceptable. **Photos 7-11** through **7-23** illustrate some of the poor sidewalks and ramps which suggest immediate repair/replacement.



Figure 7-5
Westheimer Avenue Sidewalk and Ramp Conditions



Photo 7-15, Segment 23
Westheimer at Ralph

Sidewalk is cracked and starting to separate.



Photo 7-16, Segment 26B
Westheimer between Kuester and Mandell

Sidewalk is covered in so much dust and debris that it is barely discernible. Obstructions block clear path.

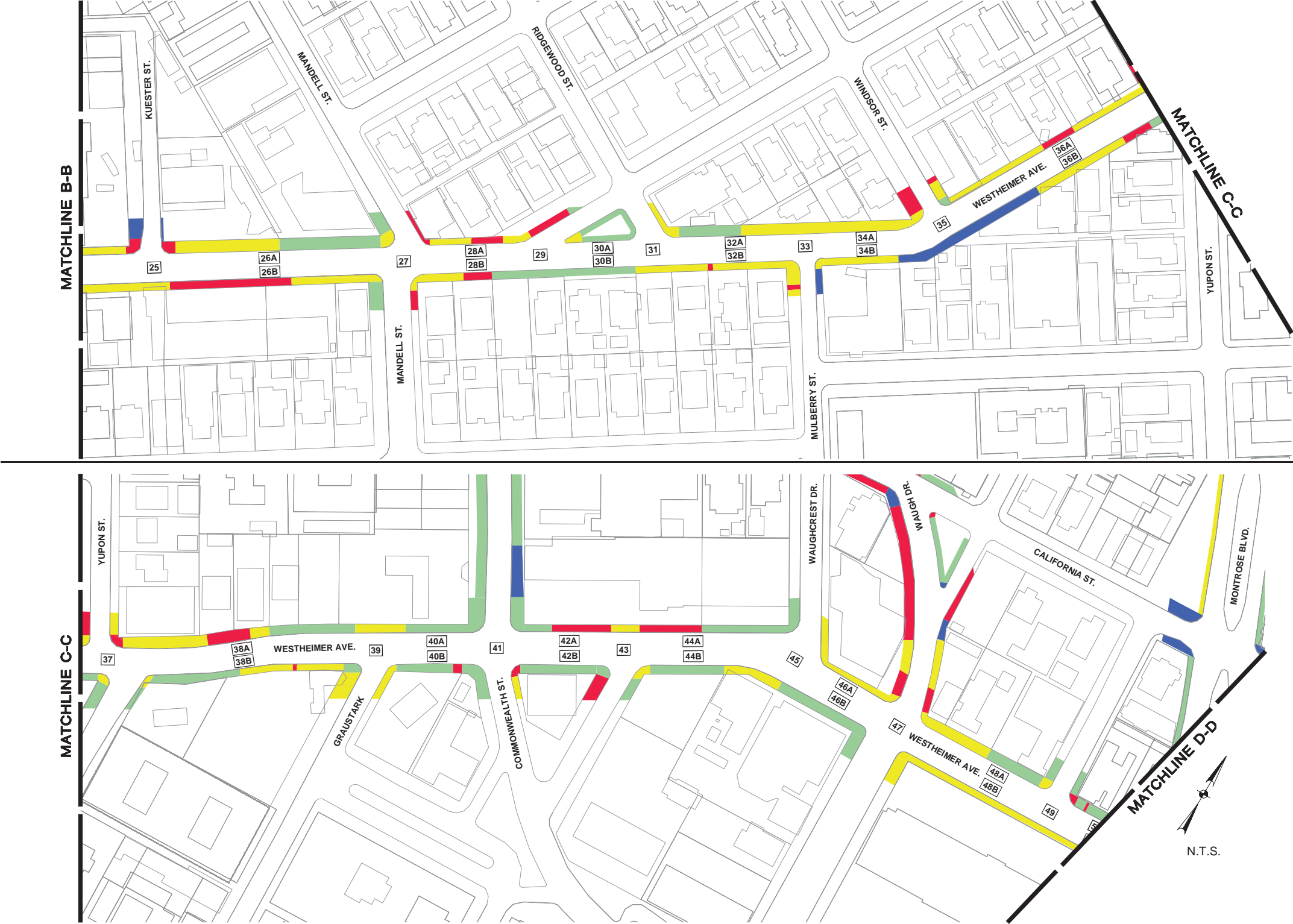


Figure 7-5 (continued)
Westheimer Avenue Sidewalk and Ramp Conditions



Figure 7-5 (continued)
Westheimer Avenue Sidewalk and Ramp Conditions



Photo 7-17, Segment 35
Westheimer at Windsor
Sidewalk not well defined and used for parking.



Photo 7-18, Segment 38A
Westheimer between Yupon and Graustark
Sidewalk is broken and edges are starting to settle away from the main walkway.

**Table 7-3
Westheimer Road Sidewalk Condition Inventory**

Segment	From	To	Condition	Comments
2A	Shepherd	Hudley	Poor/Acceptable	
2B			Good	
4A	Hudley	Brun	Poor/ Acceptable	
4B			Good	
6A	Brun	McDuffie	Good	
6B			Acceptable/Good	
8A	McDuffie	Hazard	Poor/ Acceptable/Good	
8B			Good	
10A	Hazard	Driscoll	Acceptable/Poor	
10B			Acceptable	
12A	Driscoll	Morse	Acceptable	
12B			Acceptable	
14A	Morse	Woodhead	Acceptable	
14B			Acceptable	with patch of poor
16A	Woodhead	Elmen	Good	
16B			Poor/ Acceptable	
18A	Elmen	Park	Good/ Acceptable	
18B			Good	
20A	Park	Dunlavy	Good/Poor	
20B			Acceptable/Poor	
22A	Dunlavy	Ralph	Acceptable/Good	
22B			Acceptable	
24A	Ralph	Kueter	Acceptable/Poor	
24B			Acceptable/Poor	
26A	Kueter	Mandell	Poor/ Acceptable	
26B			Poor/ Acceptable	
28A	Mandell	California	Acceptable/ Poor	
28B			Acceptable/ Good/ Poor	
30A	California	Ridgewood	Good	
30B			Good	
32A	Ridgewood	Mulberry	Good/ Acceptable	
32B			Acceptable	with patch of poor
34A	Mulberry	Windsor	Acceptable	
34B			Acceptable	

**Table 7-3 (continued)
Westheimer Road Sidewalk Condition Inventory**

Segment	From	To	Condition	Comments
36A	Windsor	Yupon	Acceptable/Poor	
36B			Missing/ Acceptable/Poor/ Good	
38A	Yupon	Graustark	Acceptable/Good/Poor	
38B			Acceptable/Good	with patch of poor
40A	Graustark	Commonwealth	Good/ Acceptable	
40B			Good	with patch of poor
42A	Commonwealth	Mt. Vernon	Poor/Good	
42B			Good	
44A	Mt. Vernon	Waughcrest	Good/Poor	
44B			Good/Acceptable	
46A	Waughcrest	Waugh/Yoakum	Acceptable	
46B			Good	
48A	Waugh/Yoakum	Lincoln	Acceptable/Good	
48B			Acceptable	
50A	Lincoln	Montrose	Good	with patch of poor
50B			Acceptable	
52A	Montrose	Grant	Acceptable	
52B			Acceptable	
54A	Grant	Crocker	Good	
54B			Acceptable/ Poor	Cracks, upheaval and grass
56A	Crocker	Stanford	Acceptable	
56B			Good/ Poor	Cracks and unevenness
58A	Stanford	Whitney	Good/ Acceptable/ Poor	Cracks and unevenness
58B			Good	
60A	Whitney	Taft	Acceptable/ Poor	Cracks
60B			Good	
62A	Taft	Mason	Good/ Poor	Cracks, grass, dirt, narrowness
62B			Good/ Poor	Cracks, grass, unevenness
64A	Mason	Helena	Good/ Acceptable/ Poor	Cracks and upheaval
64B			Good/ Acceptable/ Poor	Cracks
66A	Helena	Bagby	Good/ Poor/ Missing	Cracks, broken and missing pavers, dirt and grass
66B			Good	



Photo 7-19, Segment 44A
Westheimer between Mt. Vernon and Waughcrest
 Excess asphalt on top of existing sidewalk creates tripping hazards.



Photo 7-21, Segment 62A
Westheimer between Taft and Mason
 Cracks in the sidewalk and grass growth in the cracks



Photo 7-20, Segment 60A
Westheimer between Whitney and Taft
 Severe cracks have formed in the sidewalk.



Photo 7-22, Segment 66A
Westheimer between Helena and Bagby
 Cracks and missing section of sidewalk, with upheaval between broken sections of the sidewalk.

Table 7-4
Westheimer Road Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Westheimer at Shepherd	Acceptable	Poor	Acceptable	Acceptable
3	Westheimer at Huldry	Poor	Acceptable	N/A	N/A
5	Westheimer at Brun	Acceptable	Acceptable	N/A	N/A
7	Westheimer at McDuffie	Acceptable	Poor	N/A	N/A
9	Westheimer at Hazard	Good	Poor	Good	Acceptable
11	Westheimer at Driscoll	Poor	Poor	N/A	N/A
13	Westheimer at Morse	Poor	Acceptable	N/A	N/A
15	Westheimer at Woodhead	Acceptable	Good	Good	Poor
17	Westheimer at Elmen	Acceptable	Acceptable	N/A	N/A
19	Westheimer at Park	Acceptable	Poor	N/A	N/A
21	Westheimer at Dunlavy	Good	Poor	Acceptable	Acceptable
23	Westheimer at Ralph	Poor	Poor	N/A	N/A
25	Westheimer at Kueter	Poor	Poor	N/A	N/A
27	Westheimer at Mandell	Acceptable	Poor	Acceptable	Acceptable
29	Westheimer at California	Acceptable	Acceptable	N/A	N/A
31	Westheimer at Ridgewood	Good	Acceptable	N/A	N/A
33	Westheimer at Mulberry	N/A	N/A	Acceptable	Acceptable
35	Westheimer at Windsor	Acceptable	Good	Missing	Missing
37	Westheimer at Yupon	Acceptable	Poor	Acceptable	Acceptable
39	Westheimer at Graustark	N/A	N/A	Good	Acceptable
41	Westheimer at Commonwealth	Good	Good	Good	Poor
43	Westheimer at Mt. Vernon	N/A	N/A	Good	Acceptable
45	Westheimer at Waughcrest	Good	Acceptable	N/A	N/A
47	Westheimer at Waugh/Yoakum	Acceptable	Acceptable	Good	Acceptable
49	Westheimer at Lincoln	Acceptable	Poor	N/A	N/A
51	Westheimer at Montrose	Acceptable	Acceptable	Acceptable	Acceptable
53	Westheimer at Grant	Acceptable	Acceptable	N/A	N/A
55	Westheimer at Crocker	Acceptable	Acceptable	N/A	N/A
57	Westheimer at Stanford	Acceptable	Acceptable	Acceptable	Acceptable
59	Westheimer at Whitney	Acceptable	Acceptable	Acceptable	Acceptable
61	Westheimer at Taft	Acceptable	Good	Poor	Good
63	Westheimer at Mason	Acceptable	Acceptable	N/A	N/A
65	Westheimer at Helena	Acceptable	Acceptable	N/A	N/A
67	Westheimer at Bagby	Acceptable	Acceptable	Acceptable	Acceptable

Table 7-5
Westheimer Road Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Westheimer at Shepherd	Acceptable	Acceptable	Acceptable	Acceptable
3	Westheimer at Huldry	N/A	N/A	Missing	N/A
5	Westheimer at Brun	N/A	N/A	Missing	N/A
7	Westheimer at McDuffie	N/A	N/A	Missing	N/A
9	Westheimer at Hazard	Acceptable	Acceptable	Poor	Acceptable
11	Westheimer at Driscoll	N/A	N/A	Missing	N/A
13	Westheimer at Morse	N/A	N/A	Missing	N/A
15	Westheimer at Woodhead	Acceptable	Acceptable	Acceptable	Acceptable
17	Westheimer at Elmen	N/A	N/A	Missing	N/A
19	Westheimer at Park	N/A	N/A	Missing	N/A
21	Westheimer at Dunlavy	Acceptable	Good	Good	Good
23	Westheimer at Ralph	N/A	N/A	Missing	N/A
25	Westheimer at Kueter	N/A	N/A	Missing	N/A
27	Westheimer at Mandell	Good	Good	Good	Good
29	Westheimer at California	N/A	N/A	Missing	N/A
31	Westheimer at Ridgewood	N/A	N/A	Missing	N/A
33	Westheimer at Mulberry	N/A	N/A	N/A	Missing
35	Westheimer at Windsor	N/A	N/A	Missing	N/A
37	Westheimer at Yupon	N/A	N/A	Missing	Missing
39	Westheimer at Graustark	N/A	N/A	N/A	Missing
41	Westheimer at Commonwealth	Good	Good	Good	Good
43	Westheimer at Mt. Vernon	N/A	N/A	N/A	Missing
45	Westheimer at Waughcrest	N/A	N/A	Missing	N/A
47	Westheimer at Waugh/Yoakum	-	-	Good	-
49	Westheimer at Lincoln	N/A	N/A	Missing	N/A
51	Westheimer at Montrose	Good	Good	Good	Good
53	Westheimer at Grant	N/A	N/A	Missing	N/A
55	Westheimer at Crocker	N/A	N/A	Missing	N/A
57	Westheimer at Stanford	N/A	N/A	Missing	Missing
59	Westheimer at Whitney	N/A	N/A	Missing	Missing
61	Westheimer at Taft	Poor	Poor	Poor	Missing
63	Westheimer at Mason	N/A	N/A	Missing	N/A
65	Westheimer at Helena	N/A	N/A	Missing	N/A
67	Westheimer at Bagby	Acceptable	N/A	Acceptable	Acceptable

7.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Pavement Reconstruction:**
 - Pavement reconstruction
 - Westheimer between Driscoll and Grant
 - Westheimer west of Taft
 - Westheimer between Mason and Bagby
 - Intersection of Westheimer and Stanford
 - Pavement patch
 - Westheimer westbound lanes between Shepherd and McDuffie
 - Westheimer at Hazard Intersection
 - Westheimer eastbound lanes between Grant and Crocker
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Reconstruct ramps
 - Westheimer at all intersections
 - Reconstruct sidewalk
 - North side of Westheimer between Shepherd and Brun
 - South side of Westheimer west of McDuffie
 - North side of Westheimer between McDuffie and Hazard
 - Westheimer between Hazard and Morse
 - South side of Westheimer between Morse and Yupon
 - North side of Westheimer east of Elman
 - North side of Westheimer from west of Dunlavy to east of Kueter
 - North side of Westheimer between Mandell and California
 - North side of Westheimer between Ridgewood and Graustark
 - South side of Westheimer west of Graustark
 - North side of Westheimer from Commonwealth to east of Waugh
 - South side of Westheimer between Waugh and Crocker
 - North side of Westheimer west of Mason
 - North side of Westheimer west of Helena

- North side of Westheimer west of Taft
- North side of Westheimer between Montrose and Grant
- North side of Westheimer between Crocker and Stanford
- North of Westheimer between Helena and Bagby
- Reconstruct sidewalk at buckled locations
 - North side of Westheimer east of Park
 - South side of Westheimer west of Commonwealth
 - North side of Westheimer east of Lincoln
 - North side of Westheimer between Stanford and Whitney
 - South side of Westheimer between Taft and Helena

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.



Photo 7-23, Segment 66A
Westheimer between Helena and Bagby
Missing section of sidewalk and ramp on the approach to bus shelter.

SECTION 8: FAIRVIEW STREET

Fairview Street is an east-west local street in the Montrose area. It begins just west of S. Shepherd as Reba Dr. and continues to just east of the study area where it becomes Tuam St. Between Shepherd and Genesee, Fairview has one lane in each direction. There are five signalized intersections.

- Fairview at Shepherd
- Fairview at Dunlavy
- Fairview at Commonwealth
- Fairview at Waugh
- Fairview at Montrose

Figure 8-1 shows the lane configurations for this segment of Fairview.



Figure 8-1
Fairview Street Lane Configurations

The Fairview corridor is primarily used by vehicular traffic with pedestrian activity during the evenings. There are five METRO bus routes that operate on or intersect with Fairview.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 35: Fairview is a local route. It runs from the south end of Downtown along Fairview out to the Tanglewood area west of IH 610 West Loop.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.



Figure 8-1 (continued)
Fairview Street Lane Configurations



Figure 8-1 (continued)
Fairview Street Lane Configurations

8.1 PARKING EVALUATION

In the District, generally there is no parking allowed along Fairview, except on select blocks east of Yoakum. On-street parking is allowed at most of the smaller cross streets. West of Montrose, Fairview is primarily residential with a mix of commercial. East of Montrose, Fairview is a mix of commercial and residential land use. **Figure 8-2** shows the observed land use along Fairview.

A visual inspection of parking lots along Fairview throughout the week revealed that there were many locations east of Montrose where available parking was full and spilled out in the neighborhood. In particular, parking demand was high near the restaurants and bars, many of which have only minimal parking directly in front of their establishments. **Table 8-1** shows the development and observed parking by segment of Fairview. West of Montrose there did not appear to be spill over from the businesses into the neighborhood.

Due to the nature of the businesses located in this section of Fairview, the only locations that currently lend themselves to potential public parking lot locations are the parking lots directly south of segment 44B and 46B, between Montrose and Converse.



Figure 8-2
Fairview Street Parking and Land Use

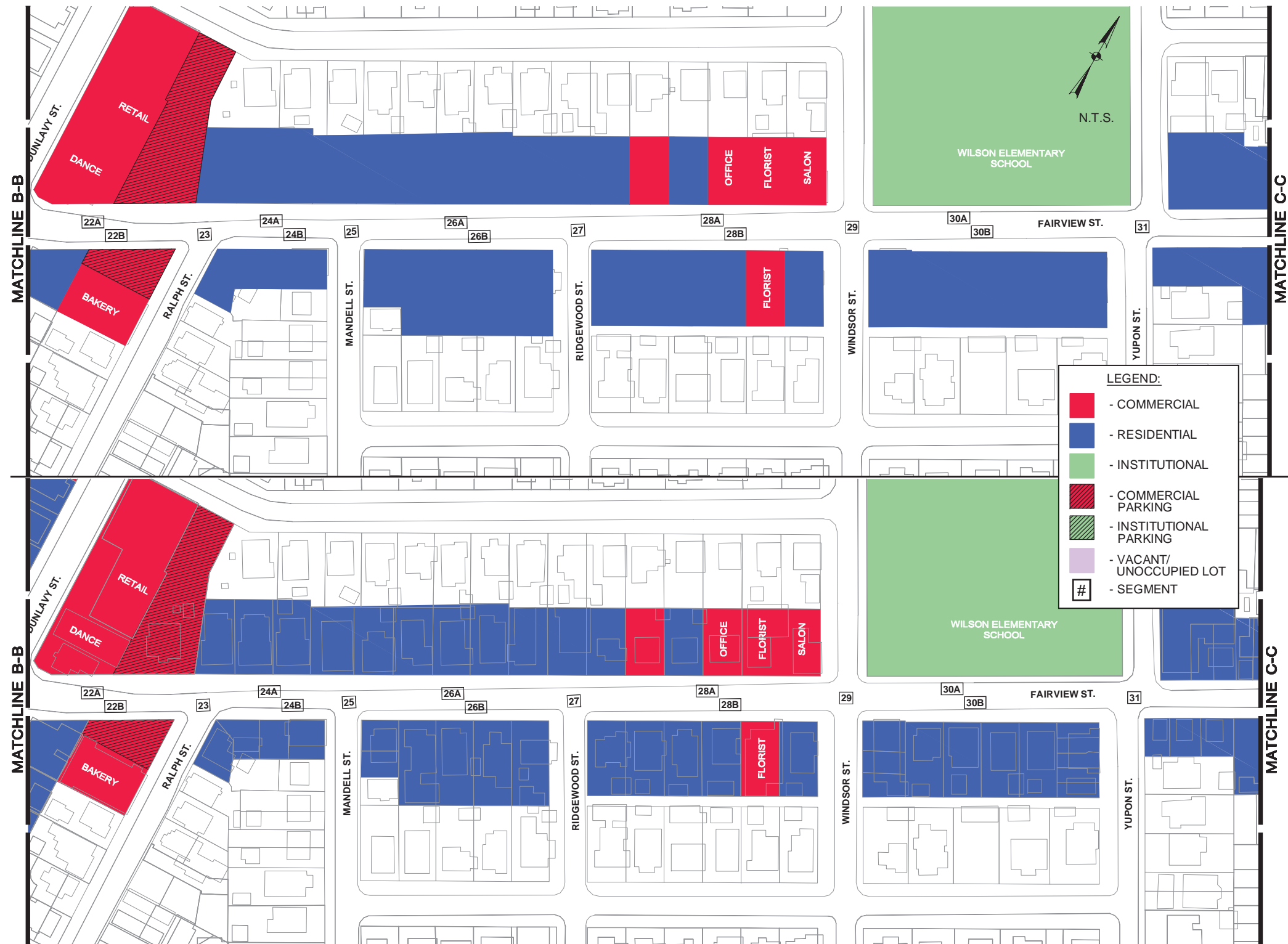


Figure 8-2 (continued)
Fairview Street Parking and Land Use



Photo 8-1, Segment 2A
Fairview between Shepherd and Huld
 Patched pavement with cracks and missing sections just before Shepherd.



Photo 8-2, Segment 12B
Fairview between Driscoll and Morse
 Alligator cracks where tires traditionally travel.



Figure 8-2 (continued)
Fairview Street Parking and Land Use

**Table 8-1
Fairview Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	Huldy	Commercial/ Residential	No
2B			Commercial/ Residential	No
4A	Huldy	Brun	Residential	No
4B			Commercial/ Residential	No
6A	Brun	McDuffie	Residential	No
6B			Residential	No
8A	McDuffie	Hazard	Residential/ Commercial	No
8B			Residential	No
10A	Hazard	Driscoll	Residential	No
10B			Residential	No
12A	Driscoll	Morse	Residential	No
12B			Residential/ Commercial	No
14A	Morse	Woodhead	Commercial/ Residential	No
14B			Residential/ Commercial	No
16A	Woodhead	Elmen	Commercial/ Residential	No
16B			Residential	No
18A	Elmen	Park	Residential	No
18B			Residential	No
20A	Park	Dunlavy	Residential	No
20B			Residential/ Commercial	No
22A	Dunlavy	Ralph	Commercial	No
22B			Residential/ Commercial	No
24A	Ralph	Mandell	Residential	No
24B			Residential	No
26A	Mandell	Ridgewood	Residential	No
26B			Residential	No
28A	Ridgewood	Windsor	Commercial/ Residential	No
28B			Residential/ Commercial	No
30A	Windsor	Yupon	Institutional	No
30B			Residential	No
32A	Yupon	Commonwealth	Residential	No
32B			Residential/Commercial/Vacant	No

**Table 8-1 (continued)
Fairview Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
34A	Commonwealth	Waugh	Residential/Commercial	No
34B			Residential/Vacant	No
36A	Waugh	Upas	Residential	No
36B			Residential/ Commercial	No
38A	Upas	Van Buren	Residential	No
38B			Commercial/ Residential	No
40A	Van Buren	Yoakum	Residential/ Vacant	No
40B			Residential	No
42A	Yoakum	Montrose	Residential/ Commercial	No
42B			Residential/ Commercial	No
44A	Montrose	Grant	Commercial	Yes
44B			Commercial	Yes
46A	Grant	Converse	Commercial/ Residential	No
46B			Commercial	Yes
48A	Converse	Crocker	Commercial	Yes
48B			Commercial/ Residential	No
50A	Crocker	Stanford	Commercial/ Residential	No
50B			Commercial	Yes
52A	Stanford	Hopkins	Residential/ Commercial	No
52B			Commercial/ Residential	No
54A	Hopkins	Whitney	Residential	No
54B			Commercial	Yes
56A	Whitney	Morgan	Residential/ Commercial	No
56B			Residential	Yes
58A	Morgan	Taft	Commercial	No
58B			Commercial/ Residential	No
60A	Taft	Mason	Commercial/ Residential	Yes
60B			Commercial/ Vacant/ Residential	Yes
62A	Mason	Genesee	Commercial	No
62B			Commercial	No

8.2 PAVEMENT AND MEDIAN EVALUATION

Fairview has one lane in each direction in the Montrose Management District. The pavement is concrete with sporadic curb and gutter. Fairview pavement conditions were studied by means of visual observations and photos. The pavement conditions along Fairview were found to be in varied states depending on the block. **Table 8-2** summarizes the results of the pavement and median review. **Figure 8-3** graphically depicts the pavement conditions observed along Fairview. **Photos 8-1** through **8-11** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 8-3, Segment 13
Fairview at Morse

There is no defined curb at corner and sections of asphalt have broken off.



Figure 8-3
Fairview Street Pavement Conditions



Figure 8-3 (continued)
Fairview Street Pavement Conditions



Photo 8-4, Segment 19
Fairview at Park

Alligator cracking and settling of the pavement, creating an uneven riding surface



Photo 8-5, Segment 36A
Fairview between Vaughn and Upas

Visible settling of the pavement near the curb are worn, exposing previous asphalt overlays



Photo 8-6, Segment 38B
Fairview between Upas and Van Buren
 Sections of a previous patch have begun to come up and create pot holes.



Photo 8-7, Segment 42B
Fairview between Yoakum and Montrose
 Roadway settling that has been previously patched is uneven with remaining roadway.

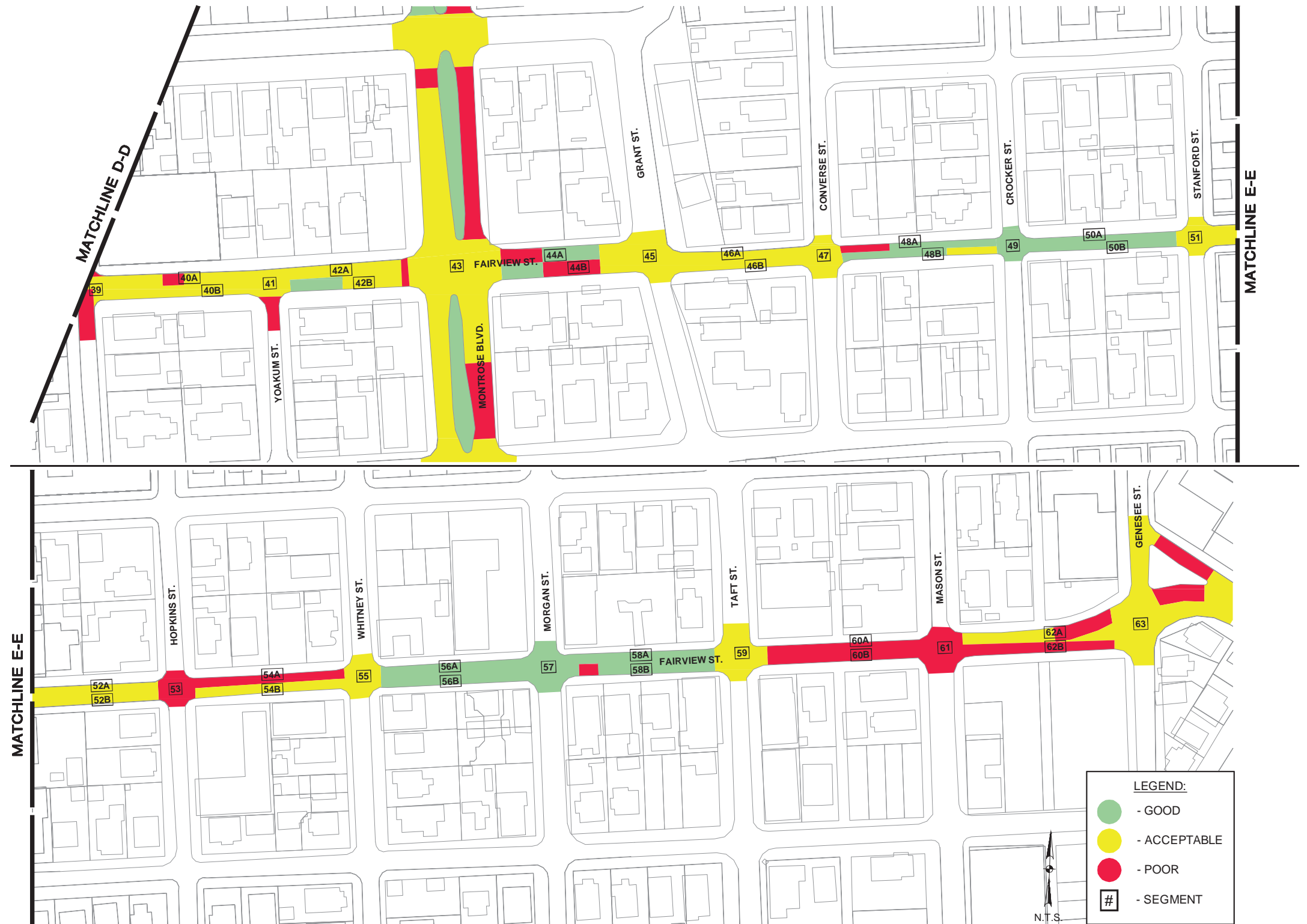


Figure 8-3 (continued)
Fairview Street Pavement Conditions

**Table 8-2
Fairview Street Pavement and Median Condition Inventory**

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Fairview at Shepherd			Good	N/A	
2A		Shepherd	Huldy	Good/Poor	N/A	
2B				Good	N/A	
3	Fairview at Huldy			Good	N/A	
4A		Huldy	Brun	Good	N/A	
4B				Good	N/A	
5	Fairview at Brun			Good	N/A	
6A		Brun	McDuffie	Acceptable	N/A	
6B				Good	N/A	
7	Fairview at McDuffie			Good/ Acceptable	N/A	
8A		McDuffie	Hazard	Good	N/A	
8B				Good	N/A	
9	Fairview at Hazard			Acceptable	N/A	
10A		Hazard	Driscoll	Acceptable	N/A	
10B				Acceptable	N/A	
11	Fairview at Driscoll			Good	N/A	
12A		Driscoll	Morse	Good	N/A	
12B				Good	N/A	
13	Fairview at Morse			Poor	N/A	
14A		Morse	Woodhead	Acceptable	N/A	
14B				Acceptable/ Good	N/A	
15	Fairview at Woodhead			Acceptable	N/A	
16A		Woodhead	Elmen	Good	N/A	
16B				Acceptable	N/A	
17	Fairview at Elmen			Good	N/A	
18A		Elmen	Park	Good/ Acceptable	N/A	
18B				Acceptable/ Good	N/A	
19	Fairview at Park			Good	N/A	
20A		Park	Dunlavy	Acceptable	N/A	
20B				Acceptable	N/A	
21	Fairview at Dunlavy			Good	N/A	
22A		Dunlavy	Ralph	Acceptable	N/A	
22B				Acceptable	N/A	
23	Fairview at Ralph			Good/Poor	N/A	
24A		Ralph	Mandell	Good	N/A	
24B				Good	N/A	



**Photo 8-8, Segment 48A
Fairview between Converse and Crocker**
Several cracks and a pothole have formed in this section of the pavement.



**Photo 8-9, Segments 60A & 60B
Fairview between Taft and Mason**
Eastbound lanes are weathered forming cracks.
Westbound section has multiple potholes.

Table 8-2 (continued)
Fairview Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
25	Fairview at Mandell			Good/ Poor	N/A	
26A		Mandell	Ridgewood	Acceptable	N/A	
26B				Good	N/A	
27	Fairview at Ridgewood			Acceptable/ Good	N/A	
28A		Ridgewood	Windsor	Good	N/A	
28B				Good/ Acceptable	N/A	
29	Fairview at Windsor			Acceptable	N/A	
30A		Windsor	Yupon	Acceptable	N/A	
30B				Acceptable	N/A	
31	Fairview at Yupon			Acceptable	N/A	
32A		Yupon	Commonwealth	Acceptable	N/A	
32B				Acceptable	N/A	
33	Fairview at Commonwealth			Acceptable	N/A	
34A		Commonwealth	Waugh	Acceptable/Poor	N/A	
34B				Acceptable/Poor	N/A	
35	Fairview at Waugh			Good	N/A	
36A		Waugh	Upas	Good/ Acceptable	N/A	
36B				Acceptable	N/A	
37	Fairview at Upas			Good	N/A	
38A		Upas	Van Buren	Acceptable	N/A	
38B				Acceptable	N/A	
39	Fairview at van Buren			Acceptable/ Poor	N/A	
40A		Van Buren	Yoakum	Acceptable	N/A	
40B				Acceptable	N/A	
41	Fairview at Yoakum		-	Acceptable	N/A	
42A		Yoakum	Montrose	Acceptable	N/A	
42B				Good/ Acceptable	N/A	
43	Fairview at Montrose	-	-	Acceptable	N/A	
44A	-	Montrose	Grant	Good/ Poor	N/A	Cracks and unevenness
44B	-			Good/ Poor	N/A	Cracks and unevenness
45	Fairview at Grant	-	-	Acceptable	N/A	
46A	-	Grant	Converse	Acceptable	N/A	
46B	-			Acceptable	N/A	
47	Fairview at Converse	-	-	Acceptable	N/A	
48A	-	Converse	Crocker	Good/ Poor	N/A	Cracks and potholes
48B	-			Good/ Acceptable	N/A	



Photo 8-10, Segment 61
Fairview at Mason

Cracks and potholes can be seen in the middle of the intersection which create uneven riding surface.



Photo 8-11, Segment 63
Fairview at Genesee

Several potholes exist on this section of the pavement creating uneven riding surface.

Table 8-2 (continued)
Fairview Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
49	Fairview at Crocker	-	-	Good	N/A	
50A	-	Crocker	Stanford	Good	N/A	
50B	-			Good	N/A	
51	Fairview at Stanford	-	-	Acceptable	N/A	
52A	-	Stanford	Hopkins	Acceptable	N/A	
52B	-			Acceptable	N/A	
53	Fairview at Hopkins	-	-	Poor	N/A	Cracks and unevenness
54A	-	Hopkins	Whitney	Poor	N/A	Cracks and unevenness
54B	-			Acceptable	N/A	
55	Fairview at Whitney	-	-	Acceptable	N/A	
56A	-	Whitney	Morgan	Good	N/A	
56B	-			Good	N/A	
57	Fairview at Morgan	-	-	Good	N/A	
58A	-	Morgan	Taft	Good	N/A	
58B	-			Good/ Poor	N/A	Cracks and unevenness
59	Fairview at Taft	-	-	Acceptable	N/A	
60A	-	Taft	Mason	Poor	N/A	Cracks, unevenness and potholes
60B	-			Poor	N/A	Cracks, unevenness and potholes
61	Fairview at Mason	-	-	Poor	N/A	Cracks, unevenness and potholes
62A	-	Mason	Genesee	Acceptable/ Poor	N/A	Cracks and unevenness
62B	-			Poor	N/A	Unevenness and potholes
63	Fairview at Genesee	-	-	Acceptable	Poor	Cracks and potholes



Photo 8-12, Segment 57
Fairview at Morgan
 Power pole obstructing view looking eastbound



Photo 8-13, Segment 10B
Fairview between Hazard and Driscoll
 Missing section of sidewalk

8.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 8-4**, this section of Fairview has only five traffic signals. The intersections of Fairview/Woodhead, Fairview/Dunlavy, Fairview/Windsor, Fairview/Yupon, and Fairview/Taft are all four-way stops, All remaining intersections are two-way stop controlled on the minor approaches.

Parking along Fairview is generally not allowed. Traffic trying to turn onto or cross Fairview has limited sight distances because there are large concrete power poles running the length of Fairview east of Montrose on the south side of the street.

Despite being a very popular pedestrian zone east of Montrose, particularly at night, sidewalk sections are missing or in poor condition for much of the length of the Fairview corridor, particularly near Montrose. It is recommended f that the roadway be reconstructed with curb and gutter and sidewalks for the full length of Fairview.

Pavement markings on Fairview are in poor condition or acceptable condition due to extreme wear and tear. In particular, lane markings are very worn and barely visible in some locations. It is recommended that all pavement markings (lane markings, stop bars, and crosswalks) be either refreshed or completely redone, and coordinated with street reconstruction.

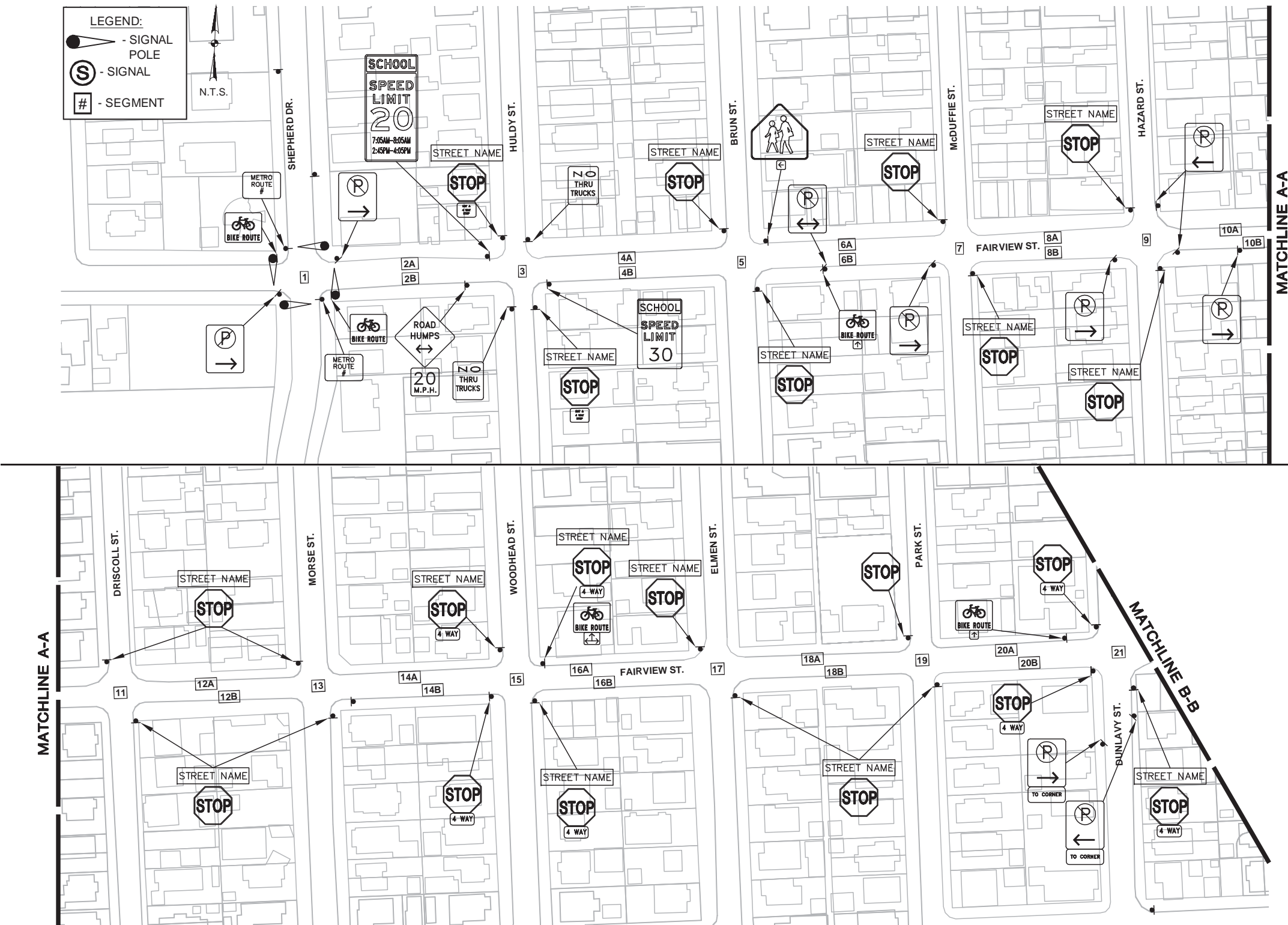


Figure 8-4
Fairview Street Signs and Intersection Control

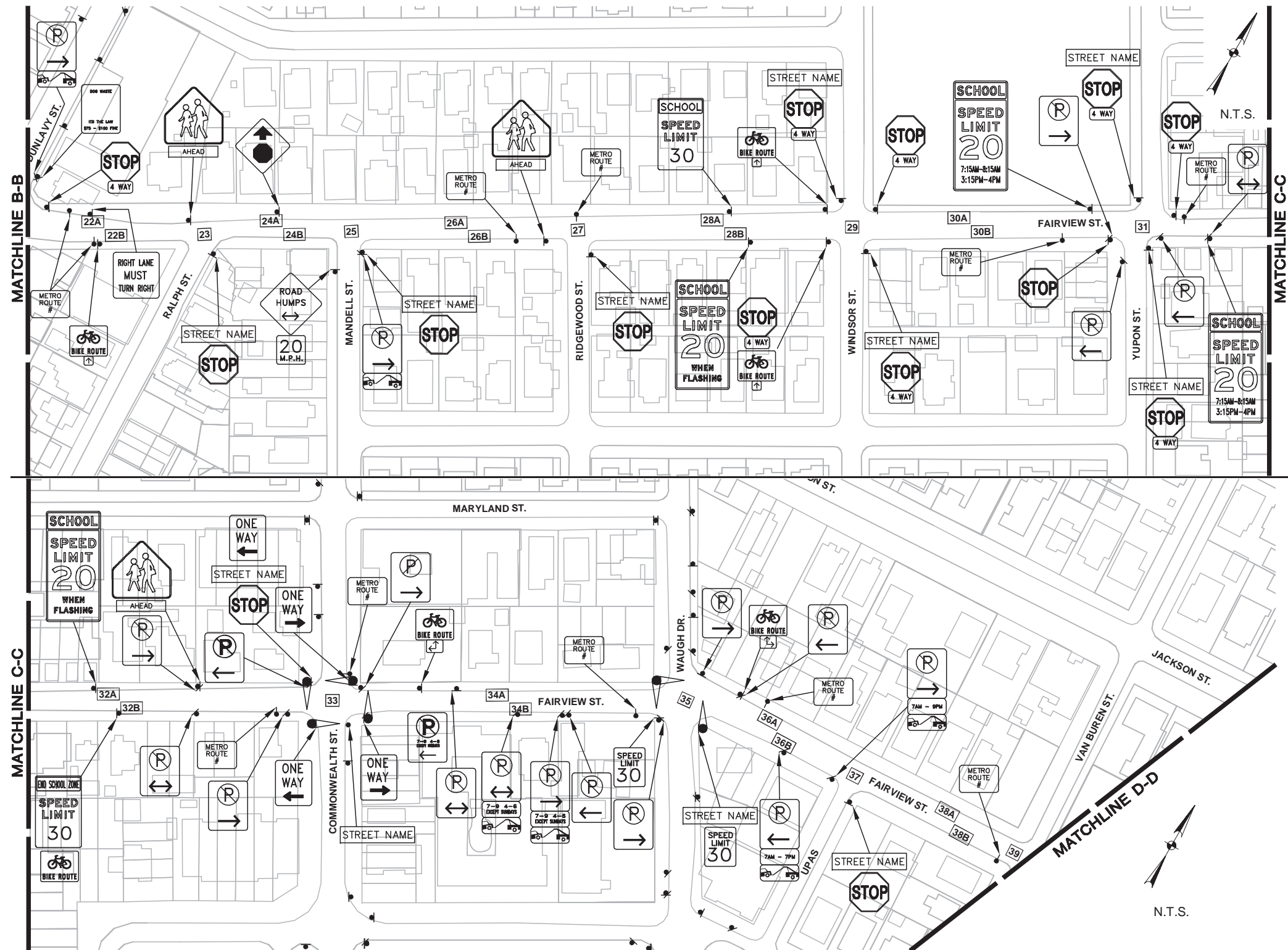


Figure 8-4 (continued)
Fairview Street Signs and Intersection Control



Photo 8-14, Segment 14A
Fairview between Morse and Woodhead
Sidewalk upheaval has created a tripping hazard.



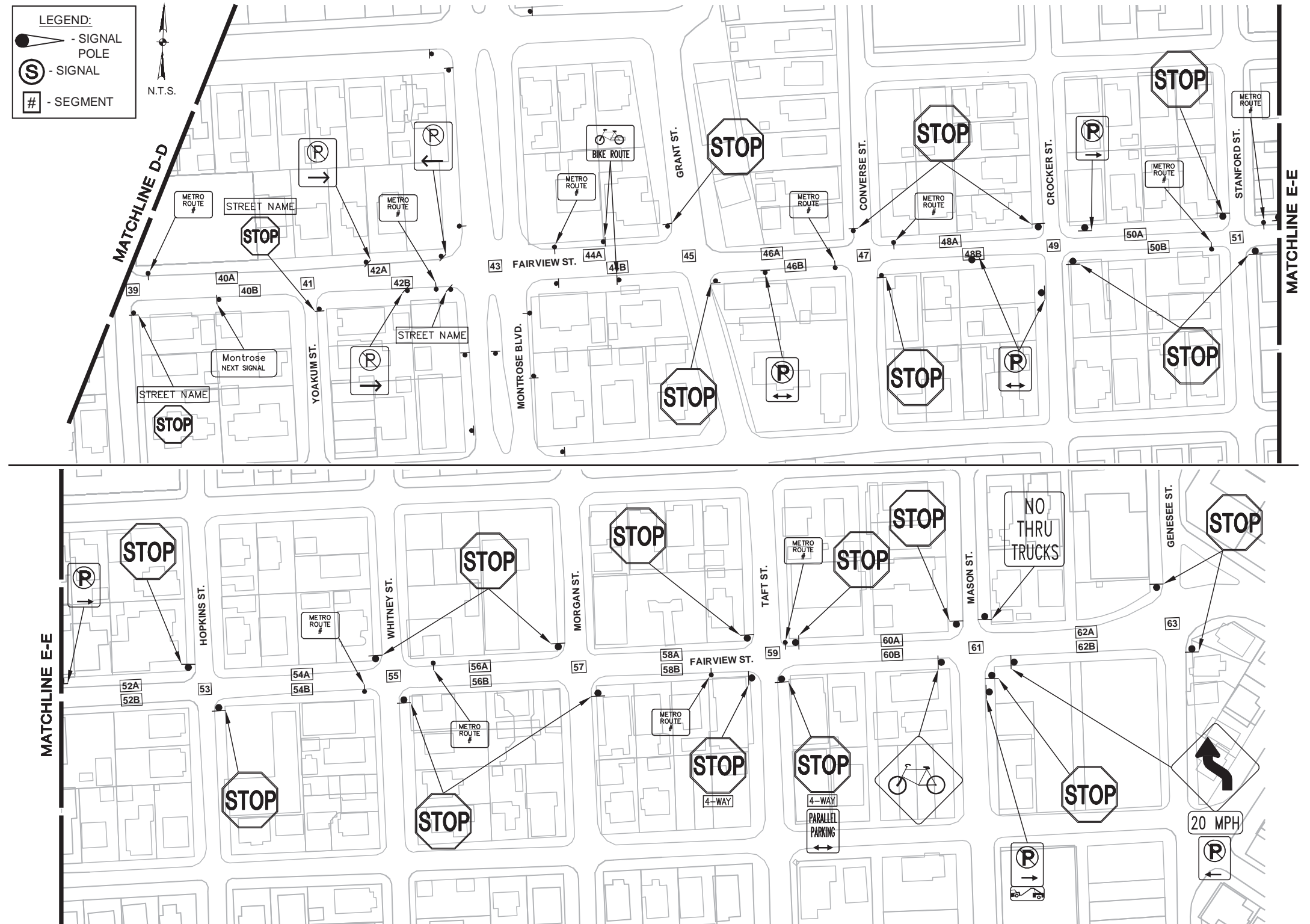
Photo 8-15, Segment 21
Fairview at Dunlavy
Settling of the sidewalk at the ramp and drain has created a tripping hazard.



Photo 8-16, Segment 22A
Fairview between Dunlavy and Ralph
 Broken and missing section of sidewalk creates a section that is challenging to traverse.



Photo 8-17, Segments 24A and 25
Fairview from Ralph to Mandell
 Uneven settling of the brick sidewalk have created a surface with many tripping hazards.



8.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on Fairview between Shepherd and Genesee were studied by means of visual observation and photos. **Table 8-3** summarizes sidewalk conditions, **Table 8-4** summarizes ramp conditions, and **Table 8-5** summarizes crosswalk conditions along Fairview. **Figure 8-5** graphically depicts the results of the sidewalk, ramp, and crosswalk evaluation along Fairview. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were presence of grass and dirt, broken ramps, and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, wear and tear of crosswalk pavement markings, and/or use of non-standard method of crosswalk delineation. **Photos 8-13** through **8-26** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 8-18, Segment 26B
Fairview between Mandell and Ridgewood
Sidewalk is cracked with sections missing and loose.



Figure 8-5
Fairview Street Sidewalk and Ramp Conditions



Photo 8-19, Segment 30B
Fairview between Windsor and Yupon
 Tree root growth has shifted whole section of the sidewalk, creating a tripping hazard.



Photo 8-20, Segment 32B
Fairview between Yupon and Commonwealth
 Sidewalk is cracked, and adjacent landscaping has started to overtake the sidewalk, narrowing the passable area.

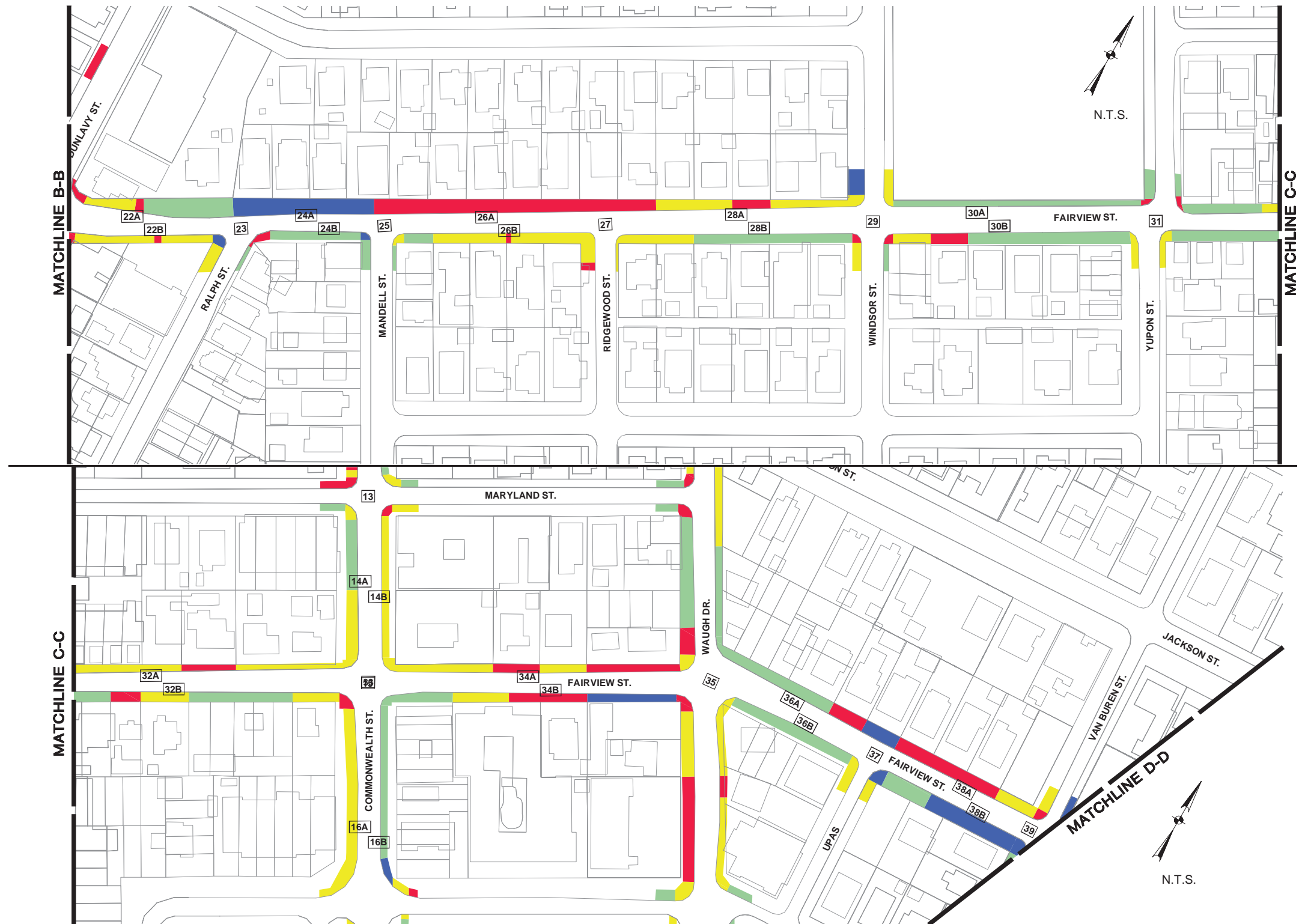


Figure 8-5 (continued)
Fairview Street Sidewalk and Ramp Conditions

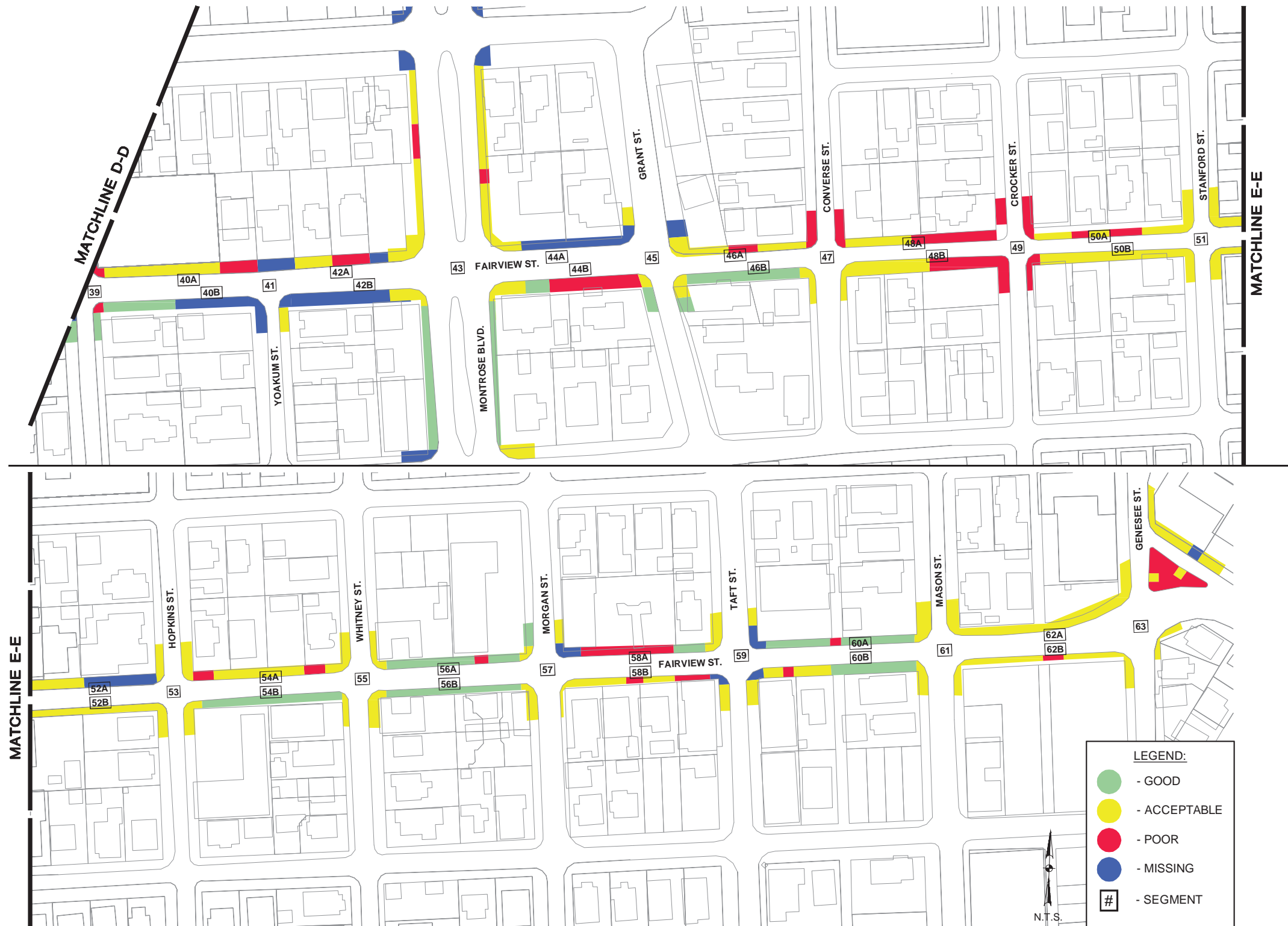


Figure 8-5 (continued)
Fairview Street Sidewalk and Ramp Conditions



Photo 8-21, Segment 32B
Fairview between Yupon and Commonwealth
 Sidewalk is cracked and sections are missing.



Photo 8-22, Segment 42A
Fairview between Yoakum and Montrose
 Missing sidewalk

Table 8-3
Fairview Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	Shepherd	Huldy	Good	
2B			Acceptable	with two poor sections
4A	Huldy	Brun	Good	
4B			Good	with acceptable section
6A	Brun	McDuffie	Acceptable	
6B			Acceptable/Poor	
8A	McDuffie	Hazard	Acceptable	
8B			Acceptable	
10A	Hazard	Driscoll	Acceptable	
10B			Acceptable/Poor	
12A	Driscoll	Morse	Good	
12B			Acceptable/ Poor	with missing section
14A	Morse	Woodhead	Poor/Good	
14B			Good	
16A	Woodhead	Elmen	Acceptable/Good	
16B			Good	
18A	Elmen	Park	Acceptable/ Good	
18B			Acceptable	
20A	Park	Dunlavy	Poor	
20B			Poor	
22A	Dunlavy	Ralph	Good/ Acceptable	with poor section
22B			Acceptable	with poor section
24A	Ralph	Mandell	Missing	
24B			Good	
26A	Mandell	Ridgewood	Poor	
26B			Acceptable/ Good	with poor section
28A	Ridgewood	Windsor	Acceptable/ Poor	
28B			Good/ Acceptable	
30A	Windsor	Yupon	Good	fronts a school
30B			Good/ Acceptable/ Poor	
32A	Yupon	Commonwealth	Acceptable/ Good/ Poor	
32B			Good/ Acceptable/Poor	
34A	Commonwealth	Waugh	Acceptable/ Poor	
34B			Missing/ Poor/ Acceptable/ Good	
36A	Waugh	Upas	Good/Poor	
36B			Good	

Table 8-3 (continued)
Fairview Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
38A	Upas	Van Buren	Missing/Poor/ Acceptable	
38B			Missing/ Good	
40A	Van Buren	Yoakum	Acceptable/Poor	
40B			Missing/ Good	
42A	Yoakum	Montrose	Poor/ Missing/ Acceptable	
42B			Missing	
44A	Montrose	Grant	Missing	
44B			Good/ Poor	Grass and dirt
46A	Grant	Converse	Acceptable/ Poor	Vegetation obstruction
46B			Good	
48A	Converse	Crocker	Acceptable/ Poor	Dirt and grass
48B			Acceptable/ Poor	Dirt, unevenness, pothole
50A	Crocker	Stanford	Acceptable/ Poor	Dirt, pothole
50B			Acceptable	
52A	Stanford	Hopkins	Acceptable/ Missing	
52B			Acceptable	
54A	Hopkins	Whitney	Acceptable/ Poor	Dirt and vegetation obstruction
54B			Good	
56A	Whitney	Morgan	Good/ Poor	Vegetation obstruction
56B			Good	
58A	Morgan	Taft	Good/ Poor	Cracks
58B			Acceptable/ Poor	Dirt, upheaval, missing pavers
60A	Taft	Mason	Good/ Poor	Light pole, grass
60B			Good/ Acceptable/ Poor	Cracks, debris
62A	Mason	Genesee	Acceptable	
62B			Acceptable/ Poor	Light pole

Table 8-4
Fairview Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Fairview at Shepherd	Good	Poor	Acceptable	Good
3	Fairview at Huldry	Good	Acceptable	Poor	Acceptable
5	Fairview at Brun	Good	Acceptable	Poor	Acceptable
7	Fairview at McDuffie	Poor	Good	Acceptable	Acceptable
9	Fairview at Hazard	Acceptable	Acceptable	Acceptable	Acceptable
11	Fairview at Driscoll	Poor	Good	Acceptable	Poor
13	Fairview at Morse	Acceptable	Good	Acceptable	Acceptable
15	Fairview at Woodhead	Poor	Acceptable	Poor	Acceptable
17	Fairview at Elmen	Acceptable	Poor	Good	Poor
19	Fairview at Park	Acceptable	Poor	Good	Acceptable
21	Fairview at Dunlavy	Missing	Poor	Good	Acceptable
23	Fairview at Ralph	N/A	N/A	Missing	Poor
25	Fairview at Mandell	N/A	N/A	Missing	Acceptable
27	Fairview at Ridgewood	N/A	N/A	Acceptable	Acceptable
29	Fairview at Windsor	Acceptable	Acceptable	Poor	Poor
31	Fairview at Yupon	Poor	Poor	Acceptable	Acceptable
33	Fairview at Commonwealth	Acceptable	Acceptable	Poor	Good
35	Fairview at Waugh	Acceptable	Good	Poor	Acceptable
37	Fairview at Upas	N/A	N/A	Acceptable	Missing
39	Fairview at Van Buren	Poor	Poor	Missing	Poor
41	Fairview at Yoakum	N/A	N/A	Missing	Missing
43	Fairview at Montrose	Acceptable	Acceptable	Acceptable	Acceptable
45	Fairview at Grant	Missing	Acceptable	Acceptable	Acceptable
47	Fairview at Converse	Poor	Poor	Acceptable	Acceptable
49	Fairview at Crocker	Missing	Poor	Poor	Poor
51	Fairview at Stanford	Acceptable	Acceptable	Acceptable	Acceptable
53	Fairview at Hopkins	Acceptable	Acceptable	Acceptable	Acceptable
55	Fairview at Whitney	Acceptable	Acceptable	Acceptable	Acceptable
57	Fairview at Morgan	Acceptable	Missing	Acceptable	Acceptable
59	Fairview at Taft	Acceptable	Missing	Missing	Missing
61	Fairview at Mason	Acceptable	Acceptable	Acceptable	Acceptable
63	Fairview at Genesee	Acceptable	Acceptable	Acceptable	Acceptable

Table 8-5
Fairview Street Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Fairview at Shepherd	Acceptable	Acceptable	Acceptable	Acceptable
3	Fairview at Huldry	N/A	N/A	Missing	Missing
5	Fairview at Brun	N/A	N/A	Missing	Missing
7	Fairview at McDuffie	N/A	N/A	Missing	Missing
9	Fairview at Hazard	N/A	N/A	Missing	Missing
11	Fairview at Driscoll	N/A	N/A	Missing	Missing
13	Fairview at Morse	N/A	N/A	Missing	Missing
15	Fairview at Woodhead	Missing	Missing	Missing	Missing
17	Fairview at Elmen	N/A	N/A	Missing	Missing
19	Fairview at Park	N/A	N/A	Missing	Missing
21	Fairview at Dunlavy	Good	Acceptable	Good	Good
23	Fairview at Ralph	N/A	N/A	N/A	Good
25	Fairview at Mandell	N/A	N/A	N/A	Missing
27	Fairview at Ridgewood	N/A	N/A	N/A	Missing
29	Fairview at Windsor	Acceptable	Acceptable	Acceptable	Acceptable
31	Fairview at Yupon	Acceptable	Acceptable	Acceptable	Acceptable
33	Fairview at Commonwealth	Poor	Poor	Poor	Acceptable
35	Fairview at Waugh	Poor	Acceptable	Acceptable	Poor
37	Fairview at Upas	N/A	N/A	N/A	Missing
39	Fairview at Van Buren	Missing	Missing	Missing	Poor
41	Fairview at Yoakum	N/A	N/A	N/A	Missing
43	Fairview at Montrose	Good	Good	Good	Good
45	Fairview at Grant	N/A	N/A	Good	Good
47	Fairview at Converse	N/A	N/A	Good	Good
49	Fairview at Crocker	N/A	N/A	Missing	Missing
51	Fairview at Stanford	N/A	N/A	Missing	Missing
53	Fairview at Hopkins	N/A	N/A	Missing	Missing
55	Fairview at Whitney	N/A	N/A	Poor	Poor
57	Fairview at Morgan	N/A	N/A	Poor	Poor
59	Fairview at Taft	Good	Good	Good	Good
61	Fairview at Mason	N/A	N/A	Missing	Missing
63	Fairview at Genesee	N/A	N/A	Missing	Missing



Photo 8-23, Segment 48A
Fairview between Converse and Crocker
 Sidewalk is missing. Vegetation growth in the sidewalk which makes it difficult for pedestrians to use the sidewalk.



Photo 8-24, Segment 49
Fairview at Crocker
 Missing intersection ramps



Photo 8-25, Segment 54B
Fairview between Hopkins and Whitney
 Parking in front of the auto shop extends through the sidewalk space, leaving pedestrians minimal space to walk on the south side of the street.



Photo 8-26, Segment 58B
Fairview between Morgan and Taft
 Narrow and uneven sidewalk with inconsistent use of materials

8.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility. The projects are listed below:

- **Remove Power Poles:** Limited sight distance is a safety hazard and as such it should have a high priority. Power could be run underground if funds allow.
 - Fairview between Montrose and Genesee to improve sight distances on minor streets and to clear sidewalks for easier passage.
- **Pavement Reconstruction:**
 - Pavement reconstruction
 - Fairview eastbound lanes between Brun and McDuffie
 - Fairview between Hazard and Driscoll
 - Fairview between Morse and Ralph
 - Fairview between Mandell and Converse
 - Fairview between Stanford and Whitney
 - Fairview between Taft and Genesee
 - Pavement Patch
 - Fairview eastbound lanes east of Shepherd
 - Fairview eastbound lanes east of Morgan
 - Fairview eastbound lanes west of Crocker
- **Refresh Pavement Markings:**
 - Fairview between Montrose and Genesee
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Reconstruct ramps
 - Fairview at all intersections
 - Reconstruct sidewalks
 - South side of Fairview between Shepherd and Huldy
 - Fairview between Brun and Driscoll
 - South side of Fairview between Driscoll and Morse
 - North side of Fairview either side of Woodhead
 - North side of Fairview east of Elmen
 - South side of Fairview from Elmen to east of Park
 - North side of Fairview between Park and Windsor

- South side of Fairview between Dunlavy and Ralph
- South side of Fairview from east of Mandell to east of Ridgewood
- South side of Fairview east of Windsor
- North side of Fairview between Yupon and Waugh
- South side of Fairview between Commonwealth and Waugh
- Fairview between Upas and Grant
- North side of Fairview from Grant to Converse
- Fairview between Converse and Hopkins
- North side of Fairview between Hopkins and Whitney
- Fairview between Morgan and Taft
- South side of Fairview east of Taft
- Fairview between Mason and Genesee
- Reconstruct sidewalk at buckled locations
 - South side of Fairview between Huldy and Brun
 - South side of Fairview between Yupon and Commonwealth
 - North side of Fairview between Whitney and Morgan
 - North side of Fairview between Taft and Mason

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

SECTION 9: W. GRAY STREET

W. Gray Street is an east-west major thoroughfare in the Houston area. It begins as Inwood Drive just east of IH 610 West Loop in the River Oaks neighborhood. At Shepherd Drive it becomes W. Gray. W. Gray then continues through Midtown under US 59 to its terminus at Nettleton Street near IH 45. In the study area, between Shepherd and Taft, W. Gray is two lanes in each direction. There are five signalized intersections.

- W. Gray at Shepherd
- W. Gray at Dunlavy
- W. Gray at Waugh
- W. Gray at Montrose
- W. Gray at Taft

Figure 9-1 shows the lane configurations for this segment of W. Gray.



Figure 9-1
W. Gray Street Lane Configurations

The W. Gray corridor is primarily used by vehicular traffic with relatively little pedestrian activity. There are six METRO bus routes that operate on or intersect with W. Gray.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 35: Fairview is a local route. It runs from the south end of Downtown along Fairview out to the Tanglewood area west of IH 610 West Loop.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.

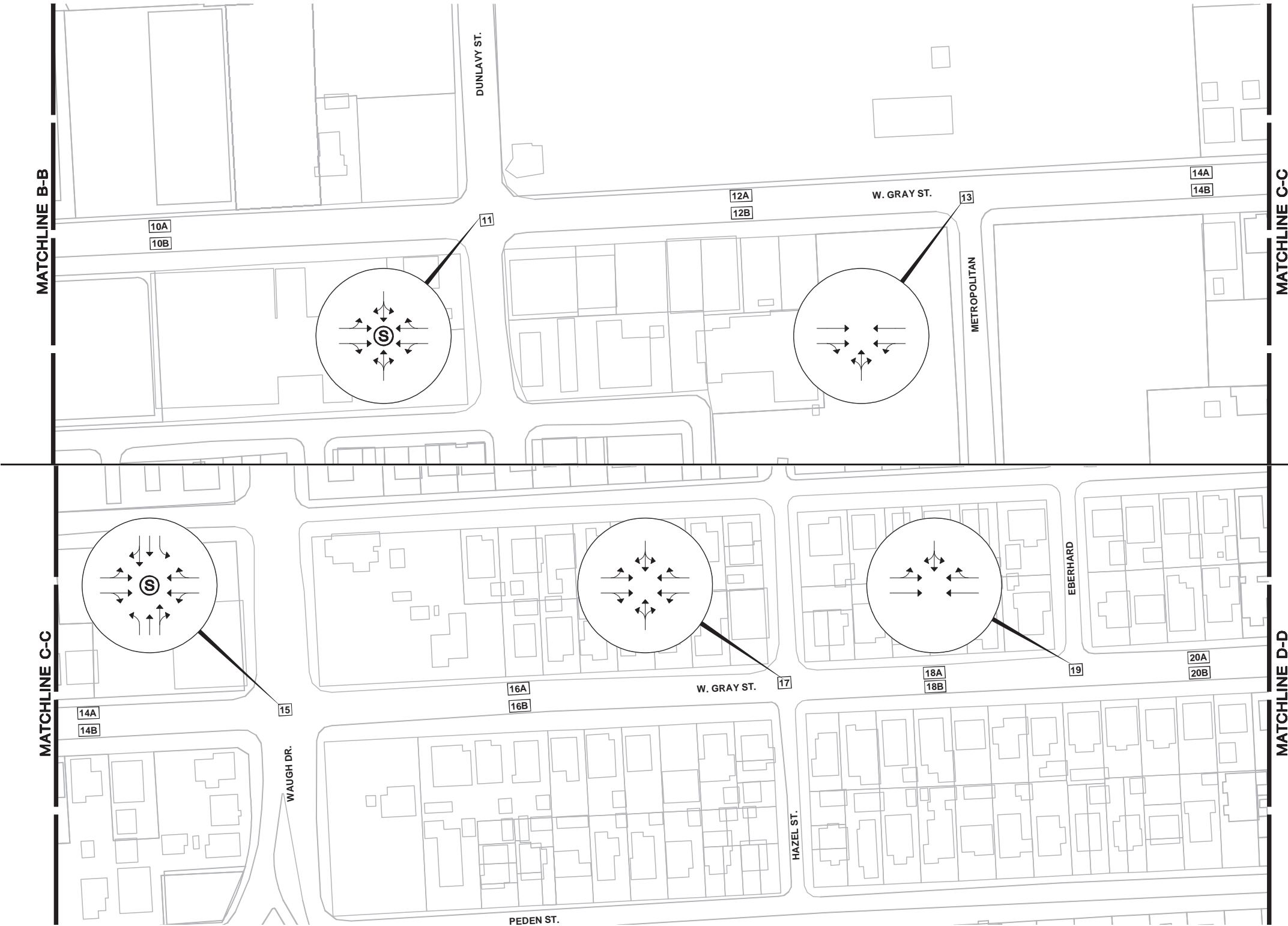


Figure 9-1 (continued)
W. Gray Street Lane Configurations



Figure 9-1 (continued)
W. Gray Street Lane Configurations

9.1 PARKING EVALUATION

In the District, parking is allowed along most segments of W. Gray with restrictions during peak periods. Parking is also allowed along several of the smaller cross streets. Most of the businesses have their own parking lots. This portion of W. Gray is a mix of commercial and residential development as can be seen in **Figure 9-2**. Wharton Elementary School is located between Columbus and Crocker on the north side of W. Gray (segment 28A). It has several parallel parking spaces along the road.

A visual inspection of parking lots along W. Gray throughout the week revealed no locations where available parking lots were full and parking began to spilling out in the surrounding neighborhood (**Table 9-1**).

At this time, there does not appear to be the need to establish potential public parking garage locations due to adequate existing parking.



Figure 9-2
W. Gray Street Parking and Land Use



Figure 9-2 (continued)
W. Gray Street Parking and Land Use



Figure 9-2 (continued)
W. Gray Street Parking and Land Use

**Table 9-1
W. Gray Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	Driveway	Commercial	Maybe
2B			Commercial	Maybe
4A	Driveway	McDuffie	Commercial	Maybe
4B			Commercial	Maybe
6A	McDuffie	Driscoll	Commercial	Maybe
6B			Commercial	No
8A	Driscoll	Woodhead	Commercial	No
8B			Commercial	No
10A	Woodhead	Dunlavy	Commercial/Residential/Institutional	No
10B			Commercial	No
12A	Dunlavy	Metropolitan	Commercial	No
12B			Residential/Institutional	No
14A	Metropolitan	Waugh	Commercial	No
14B			Institutional/ Commercial	No
16A	Waugh	Hazel	Commercial/ Residential	No
16B			Residential/ Commercial	No
18A	Hazel	Eberhard	Residential/Vacant	No
18B			Residential	No
20A	Eberhard	Van Buren	Commercial/ Residential/ Vacant	No
20B			Residential	No
22A	Van Buren	Marconi	Commercial/Residential	No
22B			Residential	No
24A	Marconi	Montrose	Commercial	No
24B			Commercial	No
26A	Montrose	Columbus	Commercial	No
26B			Residential/ Commercial	No
28A	Columbus	Crocker	Institutional/ Commercial	No
28B			Vacant/ Residential/ Commercial	No
30A	Crocker	Stanford	Commercial	No
30B			Commercial/ Residential	No
32A	Stanford	Taft	Commercial/ Residential/ Vacant	No
32B			Commercial/ Residential/ Vacant	No

9.2 PAVEMENT AND MEDIAN EVALUATION

W. Gray is a four lane undivided street with two lanes in each direction in the Montrose Management District. The pavement is concrete with curb and gutter. W. Gray pavement conditions were studied by means of visual observations and photos. Pavement conditions along W. Gray were mostly found to be good with a couple of exceptions, where pavement conditions were acceptable or poor. **Table 9-2** summarizes the results of the pavement and median review. **Figure 9-3** graphically depicts the pavement conditions observed along W. Gray. **Photos 9-1** through **9-7** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 9-1, Segment 4B
W. Gray between Driveway and McDuffie
Pavement settling has created an uneven riding surface.

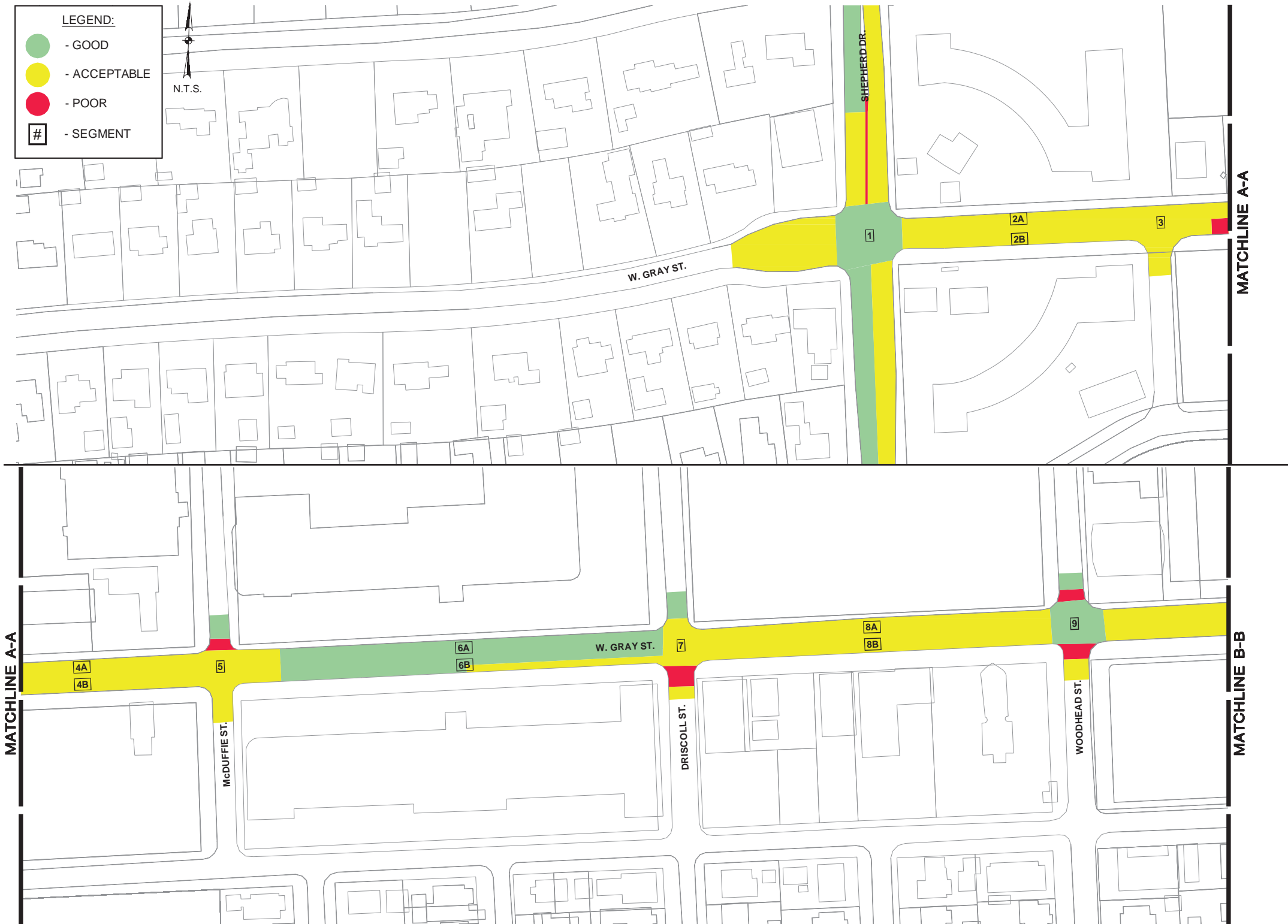


Figure 9-3
W. Gray Street Pavement Conditions



Figure 9-3 (continued)
W. Gray Street Pavement Conditions



Photo 9-2, Segment 7
W. Gray at Driscoll
 Previous patch is coming up in sections, creating potholes and an uneven riding surface.



Photo 9-3, Segment 10B
W. Gray between Woodhead and Dunlavy
 Cracking near the curb has begun to create section that have been kicked up and create potholes.



Photo 9-4, Segment 11
W. Gray at Dunlavy

There are cracks and sections missing near the pavement joints.



Photo 9-5, Segment 12B
W. Gray between Dunlavy and Metropolitan
Settlement has created alligator cracking.

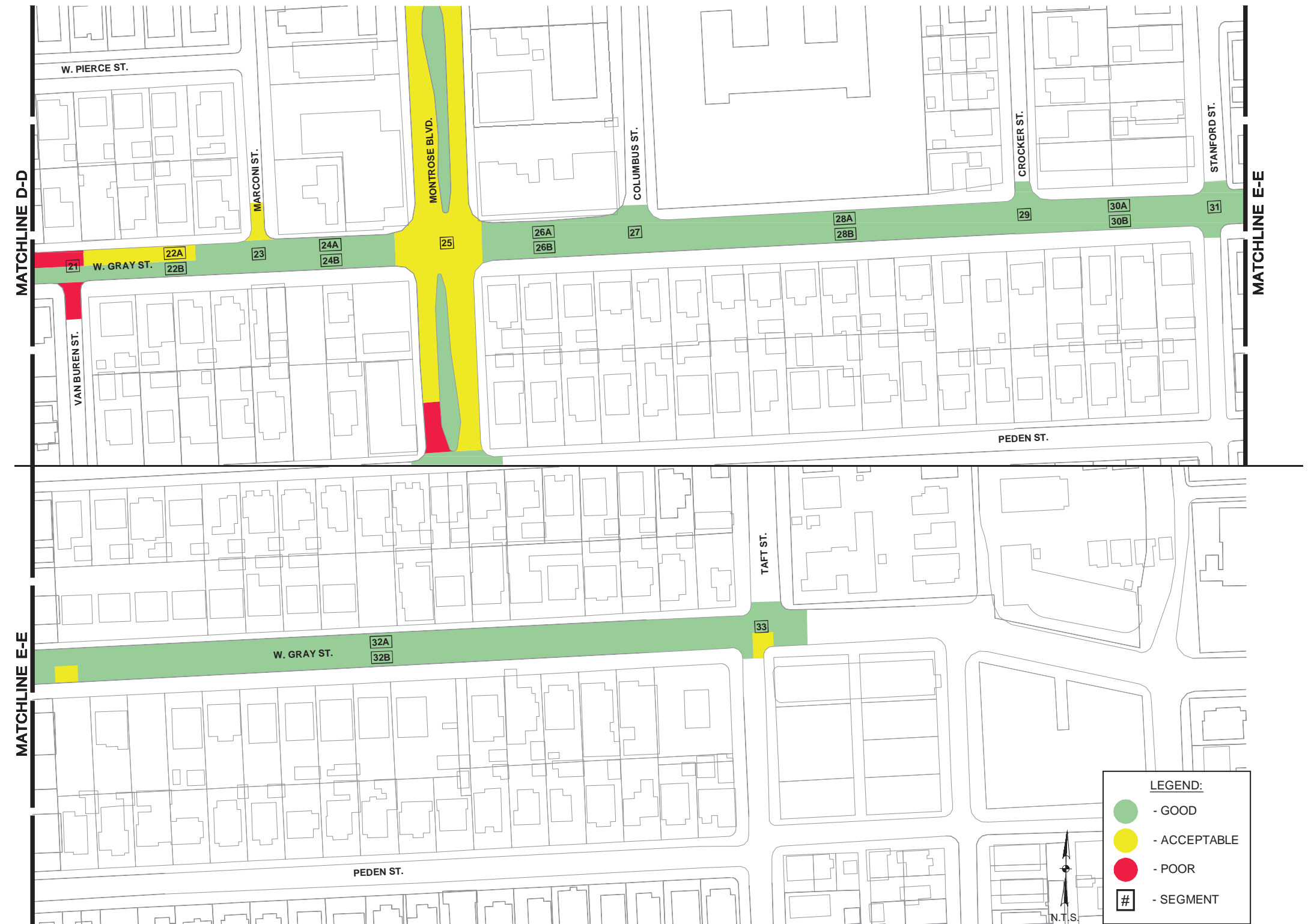


Figure 9-3 (continued)
W. Gray Street Pavement Conditions

**Table 9-2
W. Gray Street Pavement and Median Condition Inventory**

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	W. Gray at Shepherd			Good	N/A	
2A		Shepherd	Driveway	Acceptable	N/A	
2B				Acceptable	N/A	
3	W. Gray at Driveway			Acceptable	N/A	
4A		Driveway	McDuffie	Acceptable	N/A	
4B				Acceptable	N/A	
5	W. Gray at McDuffie			Acceptable	N/A	
6A		McDuffie	Driscoll	Good	N/A	
6B				Good/ Acceptable	N/A	
7	W. Gray at Driscoll			Acceptable	N/A	
8A		Driscoll	Woodhead	Acceptable	N/A	
8B				Acceptable	N/A	
9	W. Gray at Woodhead			Good	N/A	
10A		Woodhead	Dunlavy	Acceptable	N/A	
10B				Acceptable	N/A	
11	W. Gray at Dunlavy			Good	N/A	
12A		Dunlavy	Metropolitan	Acceptable/ Good	N/A	
12B				Acceptable/ Good	N/A	
13	W. Gray at Metropolitan			Good	N/A	
14A		Metropolitan	Waugh	Good	N/A	
14B				Good/ Acceptable	N/A	
15	W. Gray at Waugh			Good/ Acceptable	N/A	
16A		Waugh	Hazel	Acceptable/ Good	N/A	
16B				Acceptable/ Good	N/A	
17	W. Gray at Hazel			Acceptable	N/A	
18A		Hazel	Eberhard	Acceptable	N/A	
18B				Acceptable	N/A	
19	W. Gray at Eberhard			Good	N/A	
20A		Eberhard	Van Buren	Acceptable/ Poor	N/A	
20B				Good	N/A	
21	W. Gray at Van Buren			Good/ Poor	N/A	
22A		Van Buren	Marconi	Acceptable	N/A	
22B				Good	N/A	
23	W. Gray at Marconi			Good	N/A	



**Photo 9-6, Segment 15
W. Gray at Waugh**

Settling both parallel and perpendicular to the vehicular travel path



**Photo 9-7, Segment 16B
W. Gray between Waugh and Hazel**

Settling near the curb

Table 9-2 (continued)
W. Gray Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
24A		Marconi	Montrose	Good	N/A	
24B				Good	N/A	
25	W. Gray at Montrose			Good	N/A	
26A		Montrose	Columbus	Good	N/A	
26B				Good	N/A	
27	W. Gray at Columbus			Good	N/A	
28A		Columbus	Crocker	Good	N/A	
28B				Good	N/A	
29	W. Gray at Crocker			Good	N/A	
30A		Crocker	Stanford	Good	N/A	
30B				Good	N/A	
31	W. Gray at Stanford			Good	N/A	
32A		Stanford	Taft	Good	N/A	
32B				Good/ Acceptable	N/A	
33	W. Gray at Taft			Good/ Acceptable	N/A	

9.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 9-4**, this section of W. Gray is primarily free flowing with only five traffic signals, at W. Gray/ Shepherd, W. Gray/Dunlavy, W. Gray/ Waugh, W. Gray/Montrose, and W. Gray/Taft. All other intersections are two-way stop controlled on the minor approaches.

There is parallel parking along parts of W. Gray between Shepherd and Taft. There are some sight distance challenges as vehicles exit private driveways.

In general, pavement markings along W. Gray were in good condition and it is not recommended that they be refreshed or replaced immediately.



Figure 9-4
W. Gray Street Signs and Intersection Control

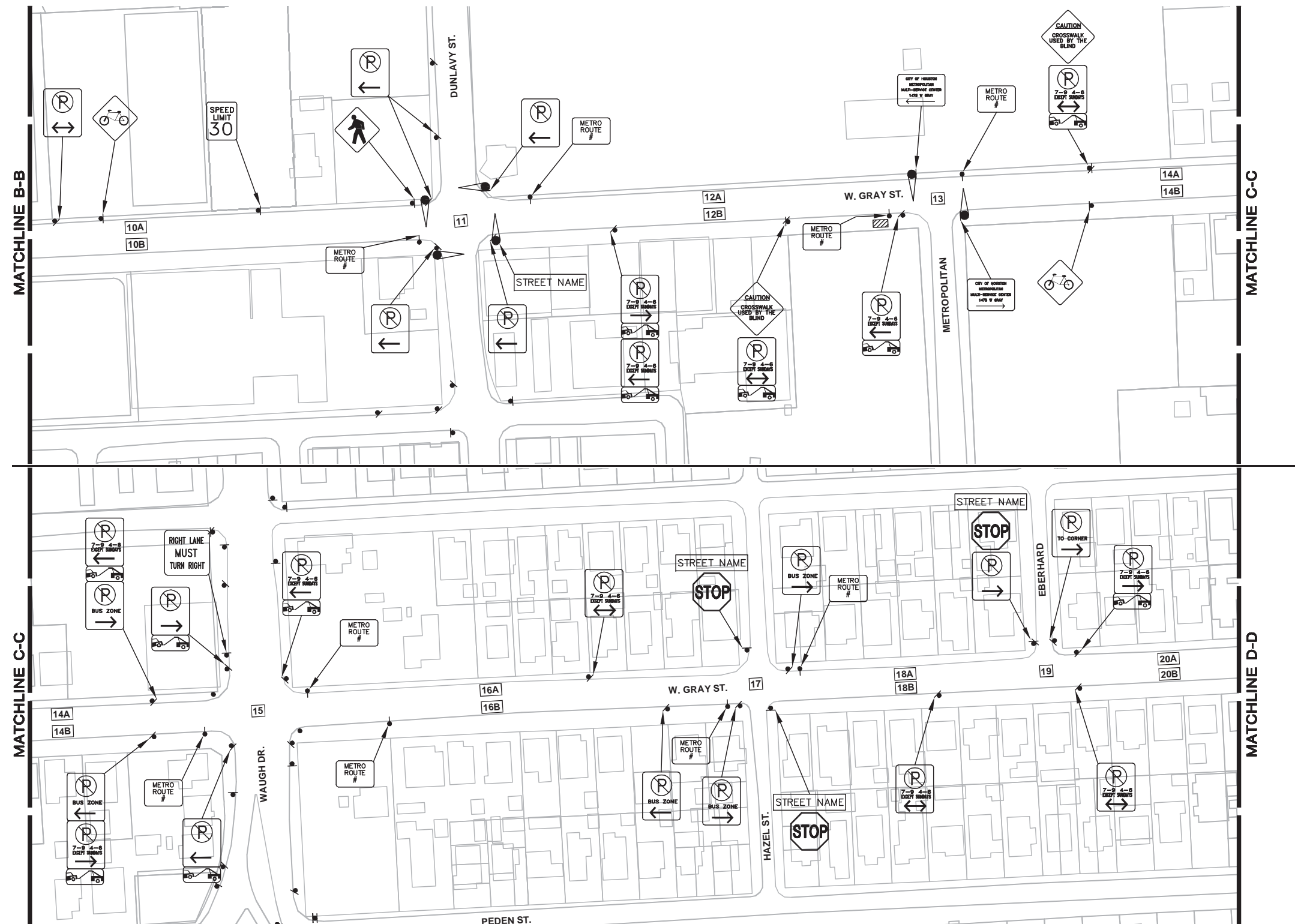


Figure 9-4 (continued)
W. Gray Street Signs and Intersection Control

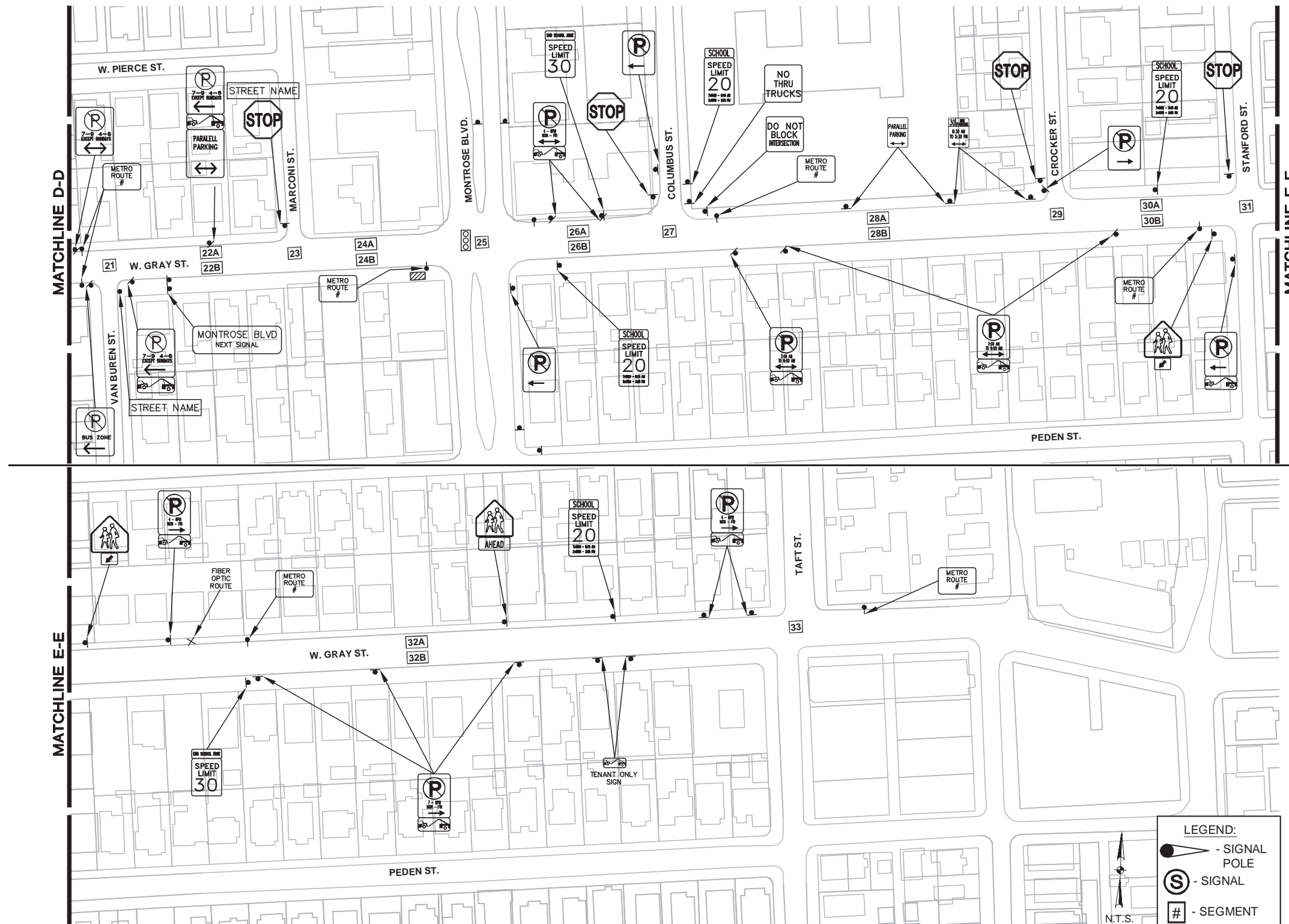


Photo 9-8, Segment 11
W. Gray at Dunlavy
Non-compliant ramp

9.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on W. Gray between Shepherd and Taft were studied by means of visual observation and photos. **Table 9-3** summarizes sidewalk conditions, **Table 9-4** summarizes ramp conditions, and **Table 9-5** summarizes crosswalk conditions along W. Gray. **Figure 9-5** graphically depicts the results of the sidewalk and ramp evaluation along W. Gray. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and sidewalks, lack of access to ramps, presence of grass, dirt, other obstructions and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, wear and tear of crosswalk pavement markings, and/or use of non-standard method of crosswalk delineation. **Photos 9-8 through 9-18** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 9-9, Segment 12A
W. Gray between Dunlavy and Metropolitan
Cracking of the sidewalk



Figure 9-5
W. Gray Street Sidewalk and Ramp Conditions



Figure 9-5 (continued)
W. Gray Street Sidewalk and Ramp Conditions



Photo 9-10, Segment 14A
W. Gray between Metropolitan and Waugh
Metal utility feature is not even with the sidewalk and creates a tripping hazard.



Photo 9-11, Segment 16A
W. Gray between Waugh and Hazel
Major portions of the sidewalk are either missing or covered by dirt and gravel.



Photo 9-12, Segment 16B

W. Gray between Waugh and Hazel

Sections of the sidewalk are in various states of upheaval, making it hard to pass for pedestrians with disabilities.



Photo 9-13, Segment 18B

W. Gray between Hazel and Eberhard

Tree roots have caused a section of the sidewalk to become a tripping hazard.

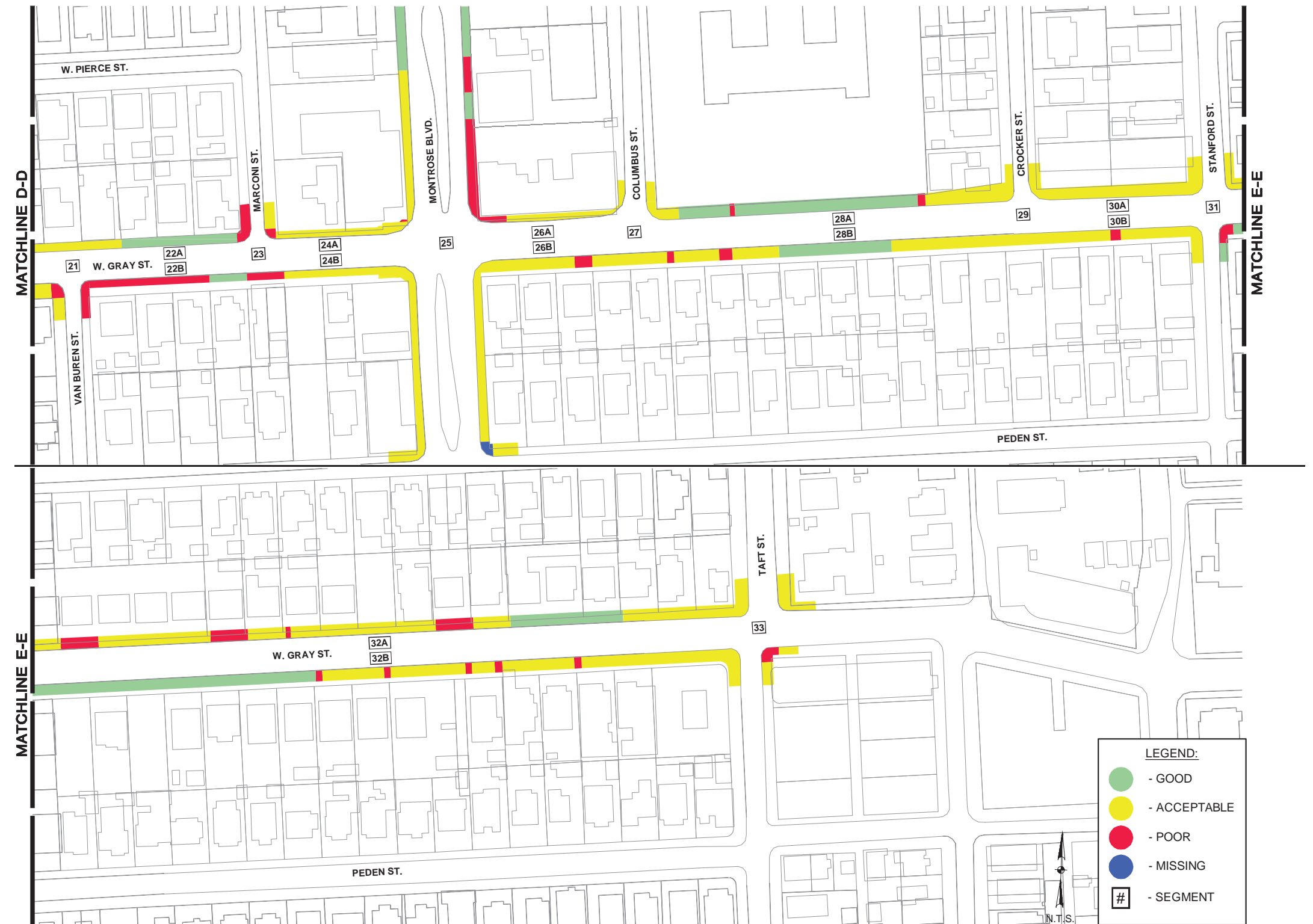


Figure 9-5 (continued)
W. Gray Street Sidewalk and Ramp Conditions

Table 9-3
W. Gray Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	Shepherd	Driveway	Good/ Acceptable	
2B			Good	
4A	Driveway	McDuffie	Good/ Acceptable	
4B			Good	
6A	McDuffie	Driscoll	Good	
6B			Good	
8A	Driscoll	Woodhead	Good/ Acceptable	
8B			Good/ Acceptable	
10A	Woodhead	Dunlavy	Acceptable/ Good	
10B			Good/ Acceptable/ Poor	
12A	Dunlavy	Metropolitan	Good	with poor and acceptable sections
12B			Acceptable/ Poor	
14A	Metropolitan	Waugh	Good/ Acceptable	with poor section
14B			Acceptable/ Good	with poor section
16A	Waugh	Hazel	Acceptable/ Poor	
16B			Poor/ Good	
18A	Hazel	Eberhard	Acceptable/ Good/ Poor	
18B			Poor	
20A	Eberhard	Van Buren	Good/ Poor	
20B			Poor/ Acceptable	
22A	Van Buren	Marconi	Good/ Acceptable	
22B			Poor/ Good	
24A	Marconi	Montrose	Acceptable	
24B			Acceptable	
26A	Montrose	Columbus	Acceptable	
26B			Acceptable/ Poor	Upheaval and debris
28A	Columbus	Crocker	Good/ Acceptable/ Poor	Light pole, sign, upheaval
28B			Good/ Acceptable/ Poor	Upheaval, grass
30A	Crocker	Stanford	Acceptable	
30B			Acceptable/ Poor	Cracks, grass
32A	Stanford	Taft	Good/ Acceptable/ Poor	Vegetation, cracks, dirt
32B			Good/ Acceptable/ Poor	Dirt, cracking and upheaval

Table 9-4
W. Gray Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	W. Gray at Shepherd	Acceptable	Good	Acceptable	Good
3	W. Gray at Driveway	N/A	N/A	Good	Good
5	W. Gray at McDuffie	Good	Good	Good	Good
7	W. Gray at Driscoll	Missing	Poor	Acceptable	Poor
9	W. Gray at Woodhead	Acceptable	Acceptable	Poor	Acceptable
11	W. Gray at Dunlavy	Acceptable	Poor	Good	Acceptable
13	W. Gray at Metropolitan	N/A	N/A	Acceptable	Acceptable
15	W. Gray at Waugh	Poor	Poor	Poor	Acceptable
17	W. Gray at Hazel	Poor	Acceptable	Acceptable	Poor
19	W. Gray at Eberhard	Acceptable	Acceptable	N/A	N/A
21	W. Gray at Van Buren	N/A	N/A	Poor	Poor
23	W. Gray at Marconi	Poor	Poor	N/A	N/A
25	W. Gray at Montrose	Acceptable	Acceptable	Acceptable	Acceptable
27	W. Gray at Columbus	Acceptable	Acceptable	N/A	N/A
29	W. Gray at Crocker	Acceptable	Acceptable	N/A	N/A
31	W. Gray at Stanford	Acceptable	Acceptable	Acceptable	Poor
33	W. Gray at Taft	Acceptable	Acceptable	Acceptable	Poor



Photo 9-14, Segment 22B
W. Gray between Van Buren and Marconi
Uneven settling creates a tripping hazard



Photo 9-15, Segment 31
W. Gray at Stanford
Settling has separated the sidewalk from the ramp on the southeast corner.

**Table 9-5
W. Gray Street Crosswalk Condition Inventory**

Segment	Intersection	East	West	North	South
1	W. Gray at Shepherd	Acceptable	Good	Poor	Acceptable
3	W. Gray at Driveway	N/A	N/A	N/A	Missing
5	W. Gray at McDuffie	Poor	Poor	Poor	Poor
7	W. Gray at Driscoll	N/A	N/A	Missing	Missing
9	W. Gray at Woodhead	Poor	Poor	Poor	Poor
11	W. Gray at Dunlavy	Poor	Poor	Acceptable	Poor
13	W. Gray at Metropolitan	Good	Missing	N/A	Acceptable
15	W. Gray at Waugh	Acceptable	Poor	Acceptable	Acceptable
17	W. Gray at Hazel	N/A	N/A	Acceptable	Missing
19	W. Gray at Eberhard	N/A	N/A	Poor	N/A
21	W. Gray at Van Buren	N/A	N/A	N/A	Missing
23	W. Gray at Marconi	N/A	N/A	Missing	N/A
25	W. Gray at Montrose	Good	Good	Good	Good
27	W. Gray at Columbus	N/A	N/A	Acceptable	N/A
29	W. Gray at Crocker	N/A	N/A	Good	N/A
31	W. Gray at Stanford	N/A	Good	Good	Good
33	W. Gray at Taft	Missing	Missing	Missing	Missing

9.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Pavement Reconstruction:**
 - W. Gray from Shepherd to east of McDuffie
 - W. Gray from Driscoll to east of Dunlavy
 - W. Gray eastbound lanes west of Waugh
 - W. Gray between Waugh and Eberhard
 - W. Gray westbound lanes between Eberhard and Marconi
 - Intersection of W. Gray and Montrose
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Reconstruct ramps
 - W. Gray at Shepherd
 - W. Gray at Driscoll
 - W. Gray at Woodhead
 - W. Gray at Dunlavy
 - W. Gray at Metropolitan
 - W. Gray at Waugh
 - W. Gray at Hazel
 - W. Gray at Eberhard
 - W. Gray at Van Buren
 - W. Gray at Marconi
 - W. Gray at Montrose
 - W. Gray at Columbus
 - W. Gray at Stanford
 - W. Gray at Crocker
 - W. Gray at Taft
 - Reconstruct sidewalk
 - North side of W. Gray middle section between Shepherd and McDuffie
 - North side of W. Gray east of Driscoll
 - South side of W. Gray between Driscoll and Woodhead
 - North side of W. Gray between Woodhead and Dunlavy
 - South side of W. Gray east of Woodhead
 - South side of W. Gray from west of Dunlavy to Waugh

- North side of W. Gray from west of Waugh to east of Eberhard
- South side of W. Gray from west of Hazel to Stanford
- North side of W. Gray at Van Buren
- North side of W. Gray from Marconi to Columbus
- South side of W. Gray west of Taft
- North side of W. Gray from west of Crocker and Taft
- Reconstruct sidewalk at buckled locations
 - North side of W. Gray between Dunlavy and Waugh
 - North side of W. Gray between Columbus and Crocker

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.



**Photo 9-16, Segment 32A
W. Gray between Stanford and Taft**
Tree roots are encroaching on the sidewalk. Dirt and pebbles accumulate on the sidewalk washed from the adjacent parking lot.



**Photo 9-17, Segment 32B
W. Gray between Stanford and Taft**
Sidewalk section is cracked by tree roots



**Photo 9-18, Segment 32B
W. Gray between Stanford and Taft**
Missing section of sidewalk

SECTION 10: W. DALLAS STREET

W. Dallas Street is an east-west major collector in the Houston area. It begins at Shepherd Drive and continues eastward to the edge of Downtown. W. Dallas then continues through Downtown to its eastern terminus at Telephone Road. In the study area, between Montrose and Taft, W. Dallas is two lanes in each direction. There are five signalized intersections.

- W. Dallas at Shepherd
- W. Dallas at Dunlavy
- W. Dallas at Waugh
- W. Dallas at Montrose
- W. Dallas at Taft

Figure 10-1 shows the lane configurations for this segment of W. Dallas.



Figure 10-1
W. Dallas Street Lane Configurations

The W. Dallas corridor is primarily used by vehicular traffic with relatively little pedestrian activity. There are seven METRO bus routes that operate on or intersect with W. Dallas.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 48: Navigation/W. Dallas is a local route. It runs from IH 10 at IH 610 East Loop, Downtown and US 290 at IH 610 West Loop, traveling along W. Dallas in the study area.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.

Route 313: The Allen Parkway Special is a local route. It runs between Downtown and S. Shepherd traveling along W. Dallas in the study area.



Figure 10-1 (continued)
W. Dallas Street Lane Configurations

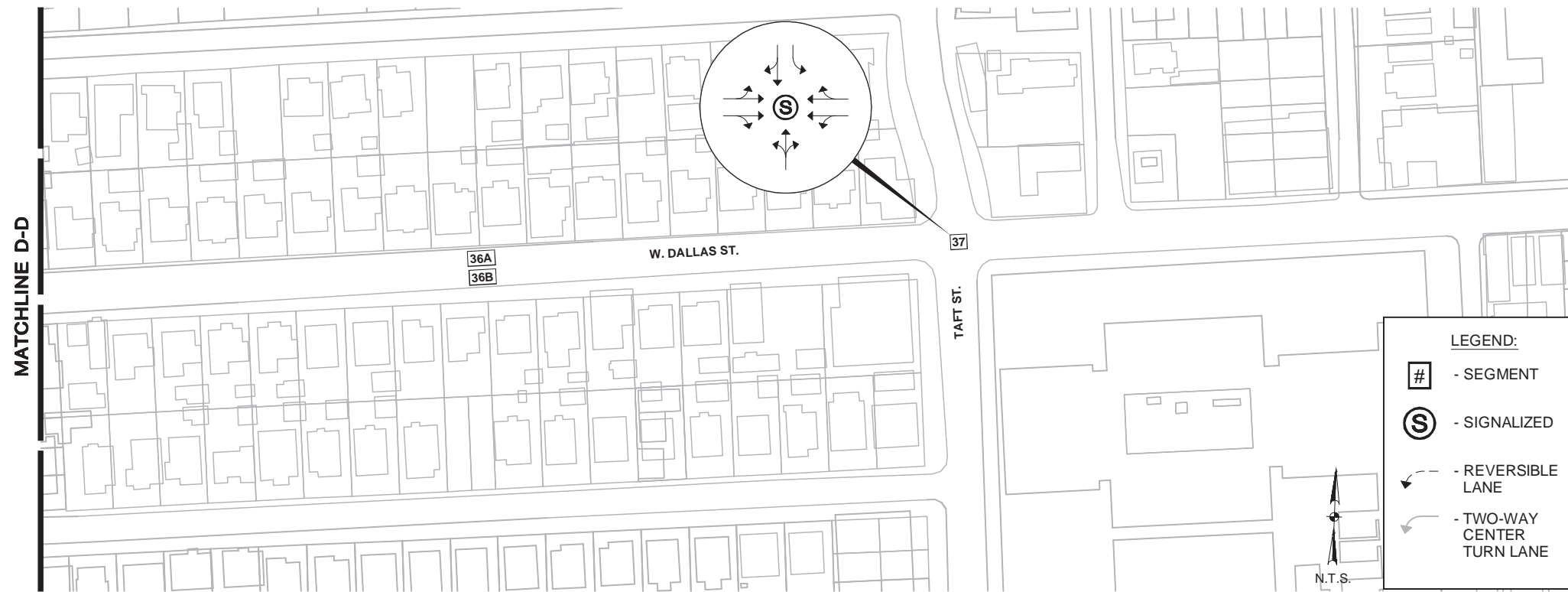


Figure 10-1 (continued)
W. Dallas Street Lane Configurations

10.1 PARKING EVALUATION

In the District, there is no parking allowed along W. Dallas. On-street parking is allowed along several of the smaller cross streets. Most of the businesses and apartment complexes have their own parking lots and garages. The eastern portion of W. Dallas is primarily residential with two large apartment complexes and several commercial properties, while the western portion is a mix of residential, commercial and cemetery as can be seen in **Figure 10-2**. There were also large areas of vacant land.

A visual inspection of parking along W. Dallas throughout the week indicated sufficient parking to meet the demand (**Table 10-1**). Spillage into the neighborhood came from visitors to apartment complexes.

At this time, there does not appear to be a need to establish potential public parking garage locations due to adequate existing parking.



Figure 10-2
W. Dallas Street Parking and Land Use

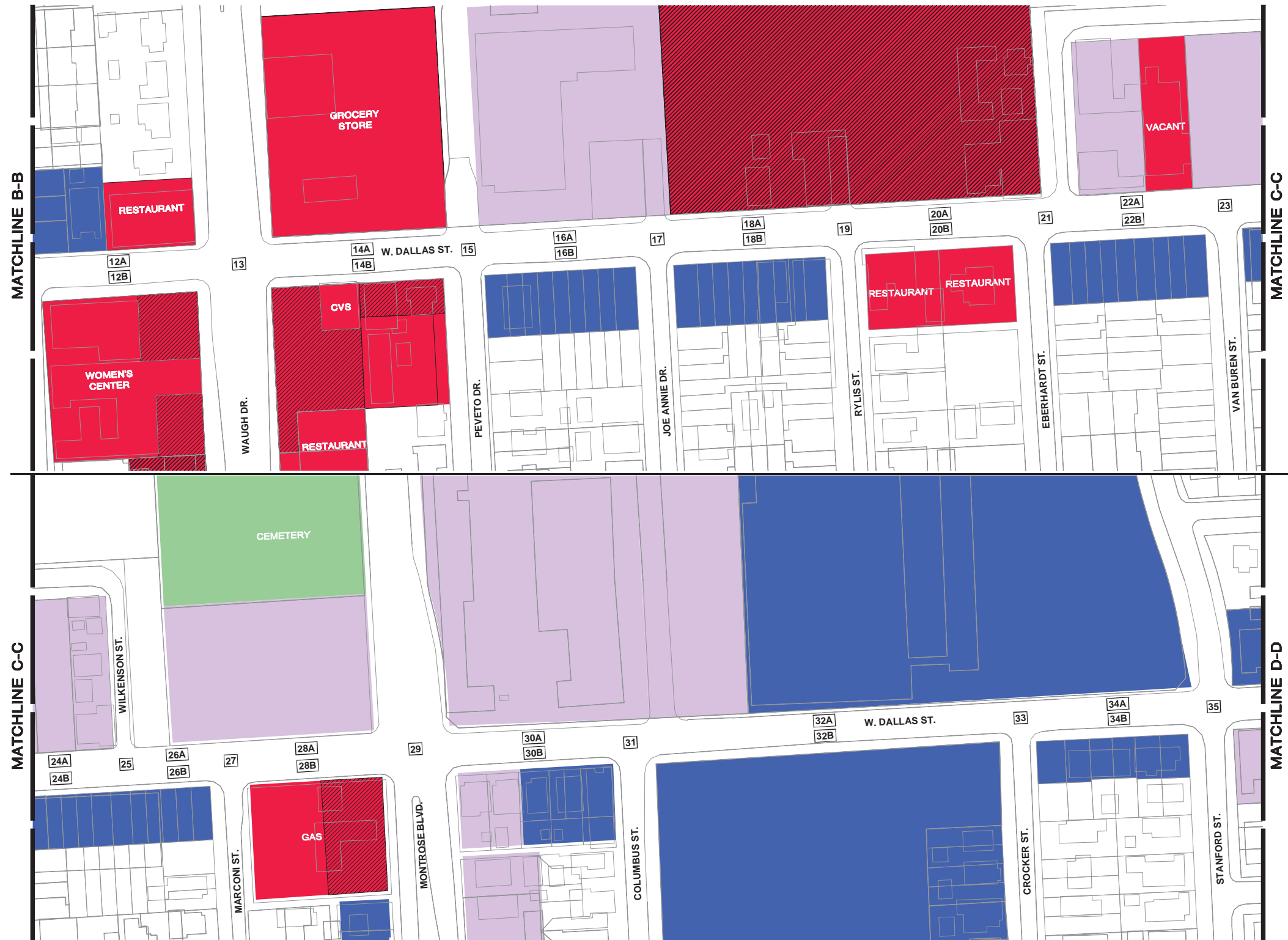


Figure 10-2 (continued)
W. Dallas Street Parking and Land Use



Figure 10-2 (continued)
W. Dallas Street Parking and Land Use

**Table 10-1
W. Dallas Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Shepherd	Gross	Commercial	No
2B			Residential	No
4A	Gross	Tirrell	Commercial	No
4B			Institutional/Residential	No
6A	Tirrell	Dunlavy	Vacant	No
6B			Institutional	No
8A	Dunlavy	Rochow	Commercial/ Residential	No
8B			Residential/ Vacant	No
10A	Rochow	Rosine	Commercial/ Residential	No
10B			Residential/ Vacant	No
12A	Rosine	Waugh	Commercial/ Residential	No
12B			Commercial	No
14A	Waugh	Peveto	Commercial	No
14B			Commercial	No
16A	Peveto	Joe Annie	Vacant	No
16B			Residential	No
18A	Joe Annie	Rylis	Vacant	No
18B			Residential	No
20A	Rylis	Eberhard	Commercial	No
20B			Commercial	Maybe
22A	Eberhard	Van Buren	Vacant/ Commercial	No
22B			Residential	No
24A	Van Buren	Wilkenson	Vacant	No
24B			Residential	No
26A	Wilkenson	Marconi	Vacant	No
26B			Residential	No
28A	Marconi	Montrose	Vacant	No
28B			Commercial	No
30A	Montrose	Columbus	Vacant	No
30B			Vacant/Residential	No
32A	Columbus	Crocker	Vacant/Residential	No
32B			Residential	No
34A	Crocker	Stanford	Residential	No
34B			Residential	No
36A	Stanford	Taft	Residential/Commercial/ Vacant	No
36B			Vacant/ Residential/ Commercial	No

10.2 PAVEMENT AND MEDIAN EVALUATION

W. Dallas is a four lane undivided street with two lanes in each direction in the Montrose Management District. The pavement is concrete with curb and gutter. W. Dallas pavement conditions were studied by means of visual observations and photos. Pavement conditions along W. Dallas were mostly found to be good or acceptable, with a few exceptions. **Table 10-2** summarizes the results of the pavement and median review. **Figure 10-3** graphically depicts the pavement conditions observed along W. Dallas. **Photos 10-1** through **10-10** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 10-1, Segment 2A
W. Dallas between Shepherd and Gross
Pavement separation at joints

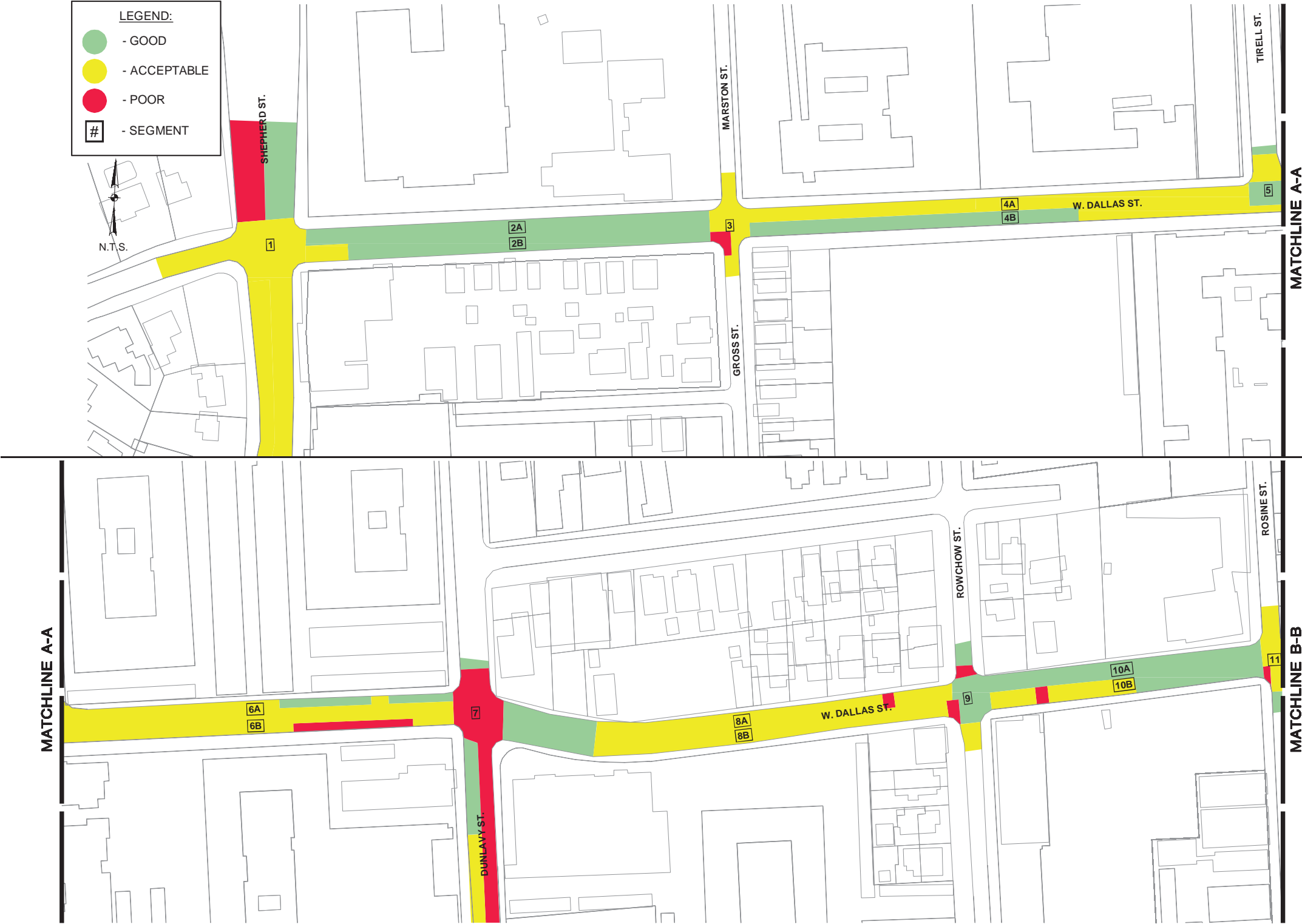


Figure 10-3
W. Dallas Street Pavement Conditions



Figure 10-3 (continued)
W. Dallas Street Pavement Conditions



Photo 10-2, Segment 6B
W. Dallas between Tirell and Dunlavy
 Settling creating an uneven surface



Photo 10-3, Segment 7
W. Dallas at Dunlavy
 Edges of a previous patch have begun to wear and have chipped away creating a noticeable bump.



Photo 10-4, Segment 8B
W. Dallas between Dunlavy and Rowchow
 Pavement is cracked and uneven near storm drain.



Photo 10-5, Segment 12B
W. Dallas between Rosine and Waugh
 Several previous patches have resulted in an uneven surface.



Photo 10-6, Segment 14B
W. Dallas between Waugh and Peveto
 Long cracks create a ladder shape throughout this section of W. Dallas.

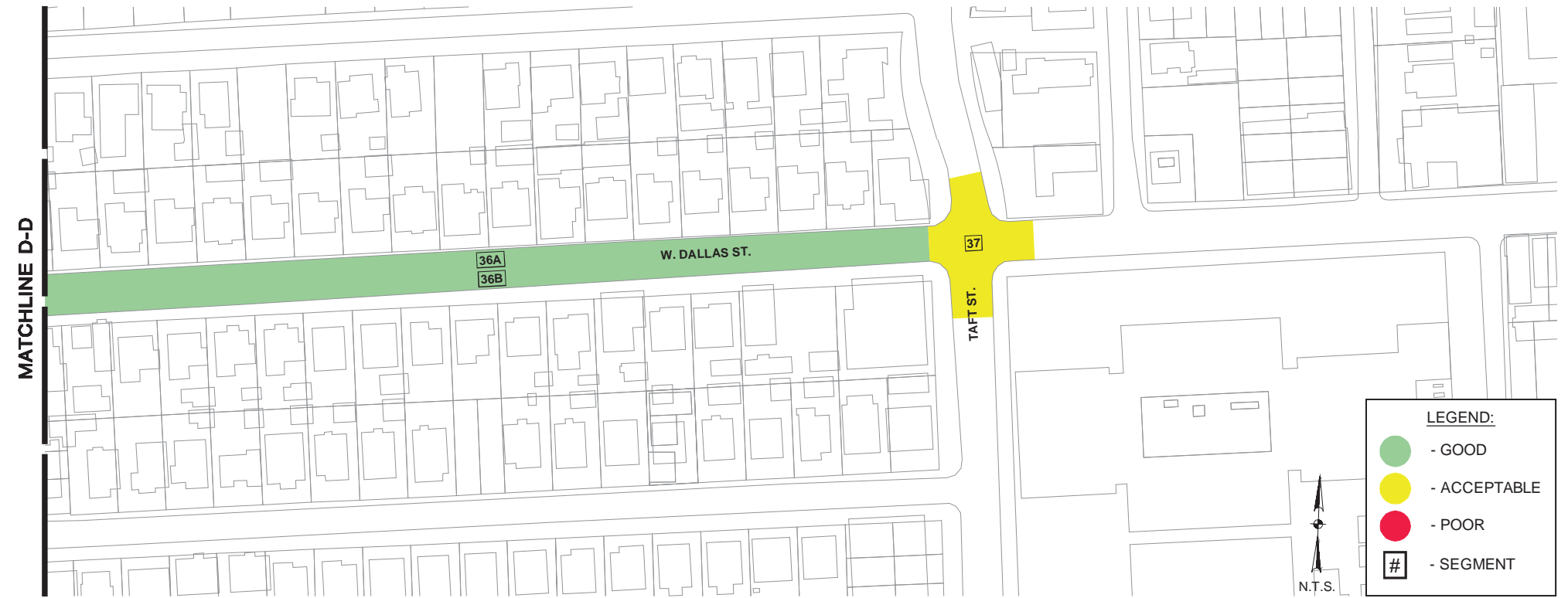


Table 10-2
W. Dallas Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	W. Dallas at Shepherd			Acceptable	N/A	
2A		Shepherd	Gross	Good	N/A	
2B				Good	N/A	
3	W. Dallas at Gross			Acceptable	N/A	
4A		Gross	Tirrell	Acceptable	N/A	
4B				Good/ Acceptable	N/A	
5	W. Dallas at Tirrell			Good	N/A	
6A		Tirrell	Dunlavy	Acceptable	N/A	
6B				Acceptable	N/A	
7	W. Dallas at Dunlavy			Poor	N/A	
8A		Dunlavy	Rochow	Acceptable/ Good	N/A	with poor section
8B				Acceptable/ Good	N/A	
9	W. Dallas at Rochow			Good	N/A	with poor section
10A		Rochow	Rosine	Good	N/A	
10B				Good/ Acceptable	N/A	
11	W. Dallas at Rosine			Acceptable	N/A	
12A		Rosine	Waugh	Good	N/A	
12B				Good	N/A	
13	W. Dallas at Waugh			Good	N/A	
14A		Waugh	Peveto	Acceptable	N/A	
14B				Poor	N/A	
15	W. Dallas at Peveto			Acceptable/ Poor	N/A	
16A		Peveto	Joe Annie	Acceptable/ Poor	N/A	
16B				Good/ Acceptable	N/A	
17	W. Dallas at Joe Annie			Good/ Acceptable	N/A	
18A		Joe Annie	Rylis	Good	N/A	
18B				Acceptable	N/A	
19	W. Dallas at Rylis			Acceptable	N/A	
20A		Rylis	Eberhard	Good	N/A	
20B				Acceptable	N/A	
21	W. Dallas at Eberhard			Poor/ Acceptable/ Good	N/A	
22A		Eberhard	Van Buren	Poor/ Acceptable	N/A	
22B				Acceptable	N/A	
23	W. Dallas at Van Buren			Poor	N/A	
24A		Van Buren	Wilkenson	Poor/ Acceptable	N/A	
24B				Poor/ Acceptable	N/A	



Photo 10-7, Segment 16B
W. Dallas between Peveto and Joe Annie
Road has settled near the curb.



Photo 10-8, Segment 27
W. Dallas at Marconi
Potholes at locations where utility connections have not been adjusted after an overlay.

Table 10-2 (continued)
W. Dallas Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
25	W. Dallas at Wilkenson			Poor	N/A	
26A		Wilkenson	Marconi	Poor	N/A	
26B				Poor	N/A	
27	W. Dallas at Marconi			Acceptable	N/A	
28A		Marconi	Montrose	Acceptable/ Poor	N/A	
28B				Acceptable	N/A	
29	W. Dallas at Montrose			Poor	N/A	Cracks, potholes
30A		Montrose	Columbus	Good	N/A	
30B				Good	N/A	
31	W. Dallas at Columbus			Good	N/A	
32A		Columbus	Crocker	Good/ Acceptable	N/A	
32B				Good/ Acceptable	N/A	
33	W. Dallas at Crocker			Good/ Acceptable	N/A	
34A		Crocker	Stanford	Good/ Acceptable	N/A	
34B				Acceptable	N/A	
35	W. Dallas at Stanford			Poor	N/A	Cracks, potholes
36A		Stanford	Taft	Good	N/A	
36B				Good	N/A	
37	W. Dallas at Taft			Acceptable	N/A	



Photo 10-9, Segment 35
W. Dallas at Stanford

Several cracks and a pothole in the middle of the intersection, create uneven riding surface.



Photo 10-10, Segment 29
W. Dallas at Montrose

The intersection has severe cracking which creates uneven riding surface.

10.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 10-4** this section of W. Dallas is primarily free flowing with five traffic signals. All other intersections are two-way stop controlled on the minor approaches.

There is no parking along W. Dallas between Montrose and Taft.

In general, pavement markings were in good condition along W. Dallas and it is not recommended that they be refreshed or replaced immediately.



Photo 10-11, Segment 31
W. Dallas at Columbus

Telephone pole and fence obstruct view of oncoming traffic

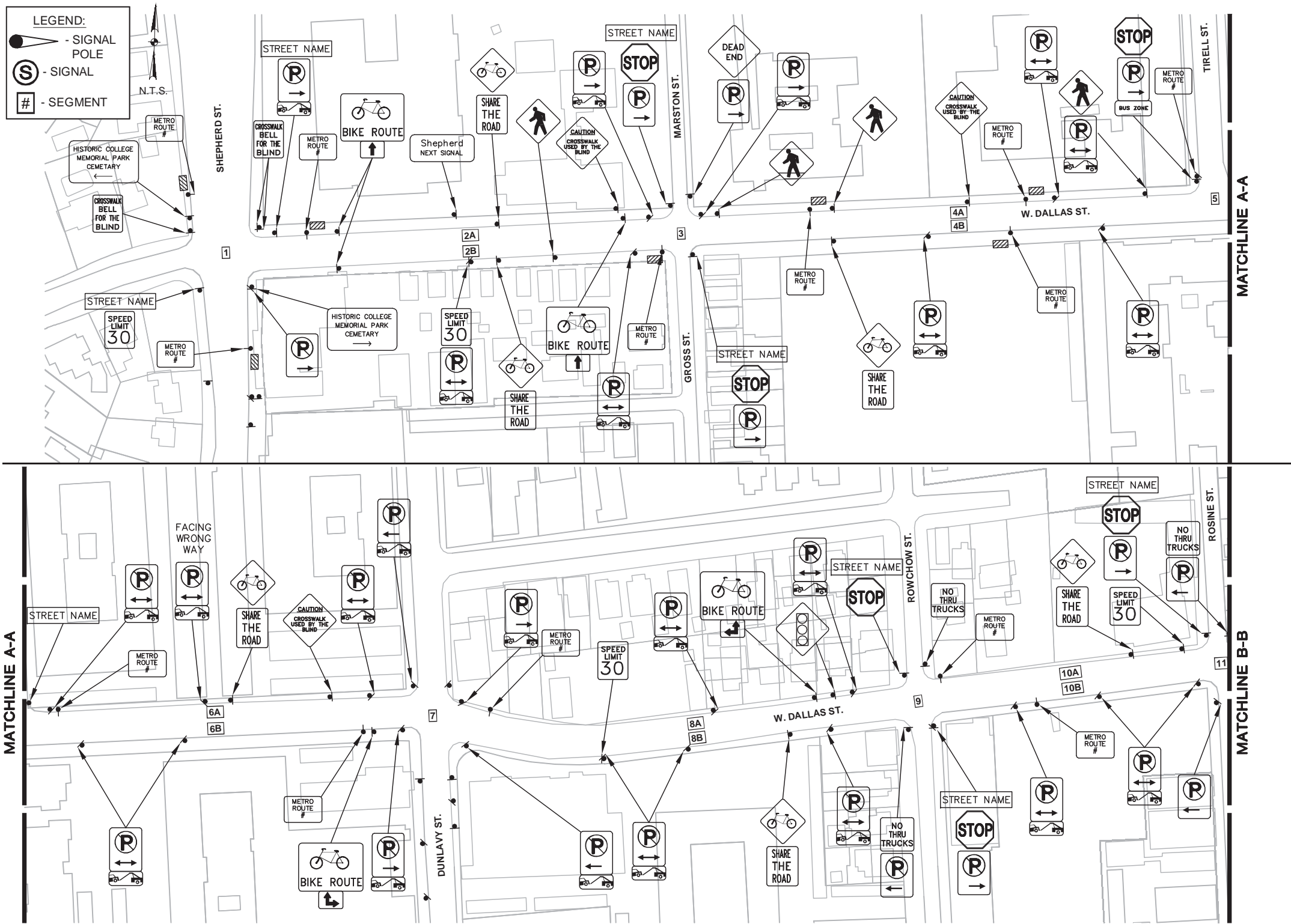


Figure 10-4
W. Dallas Street Signs and Intersection Control

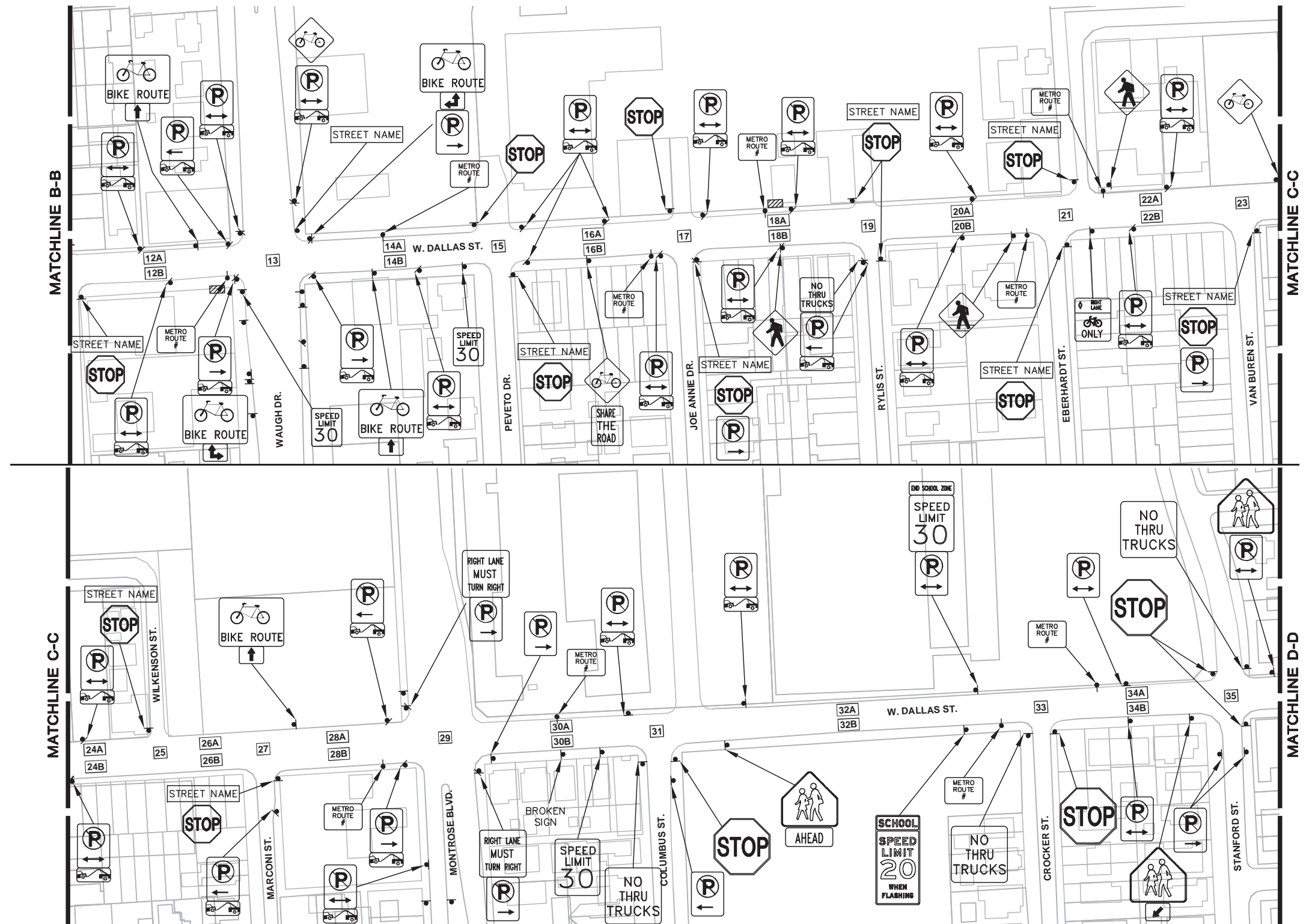


Figure 10-4 (continued)
W. Dallas Street Signs and Intersection Control

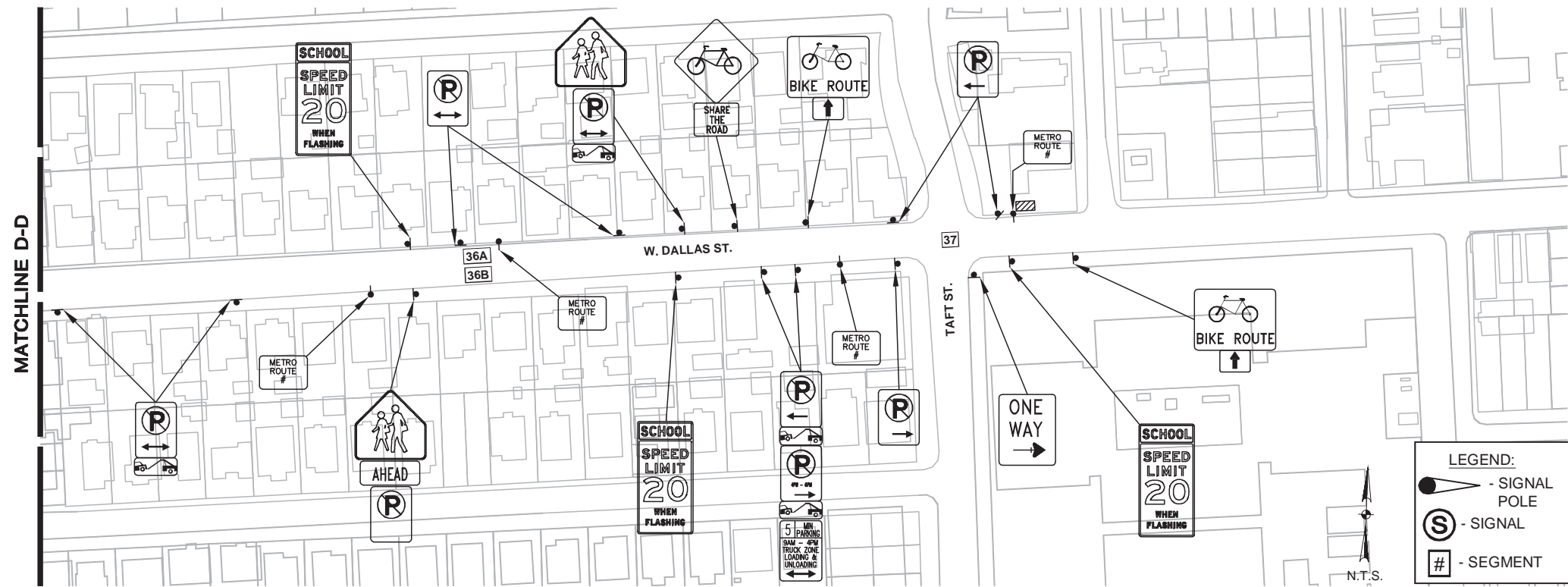


Figure 10-4 (continued)
W. Dallas Street Signs and Intersection Control

10.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on W. Dallas between Montrose and Taft were studied by means of visual observation and photos. **Table 10-3** summarizes sidewalk conditions, **Table 10-4** summarizes ramp conditions, and **Table 10-5** summarizes crosswalk conditions along W. Dallas. **Figure 10-5** graphically depicts the results of the sidewalk and ramp evaluation along W. Dallas. Some of the common issues seen with sidewalks were insufficient width, cracking, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Unacceptable ramps had grass, dirt, and obstructions such as poles. Issues observed with crosswalks were absence of crosswalks and worn crosswalk pavement markings. **Photos 10-12** through **10-20** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 10-12, Segment 3
W. Dallas at Gross

Metal utility grate is not level with sidewalk, creating a tripping hazard. This is of particular concern because it is near a school for the blind.



Figure 10-5
W. Dallas Street Sidewalk and Ramp Conditions



Figure 10-5 (continued)
W. Dallas Street Sidewalk and Ramp Conditions



Photo 10-13, Segment 7
W. Dallas at Dunlavy
Narrow sidewalk and steep ramp



Photo 10-14, Segment 10B
W. Dallas between Rowchow and Rosine
Fire hydrant in the middle of the sidewalk makes access difficult.



Photo 10-15, Segment 12A
W. Dallas between Rosine and Waugh
 Sidewalk has settled around the metal utility grate, creating a tripping hazard.



Photo 10-16, Segment 24A
W. Dallas between Van Buren and Wilkenson
 Sidewalk is cracked, and sections are missing near the edge.

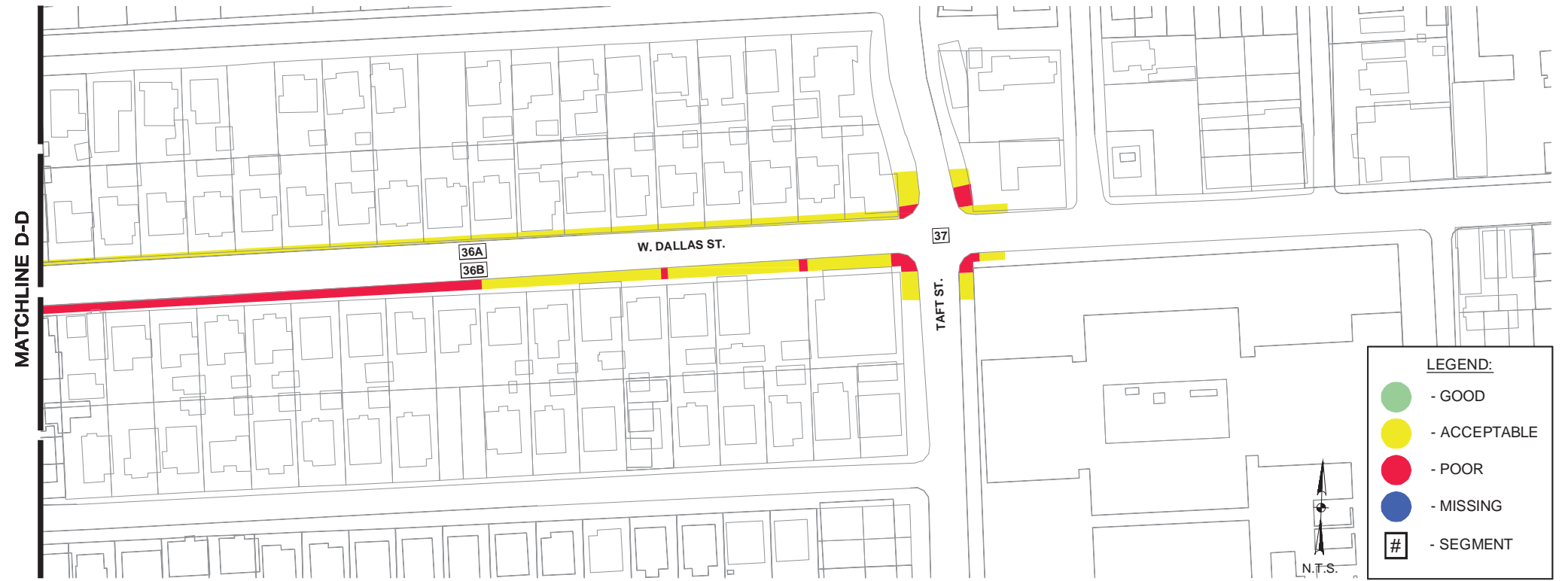


Table 10-3
W. Dallas Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	Shepherd	Gross	Poor/ Acceptable	
2B			Good	
4A	Gross	Tirrell	Acceptable/ Poor	Blind Pedestrians
4B			Good/ Acceptable	
6A	Tirrell	Dunlavy	Acceptable	
6B			Acceptable	
8A	Dunlavy	Rochow	Good/ Acceptable/ Poor	
8B			Good/ Acceptable	
10A	Rochow	Rosine	Good/ Acceptable/ Poor	
10B			Good/ Acceptable/ Poor	
12A	Rosine	Waugh	Good/ Acceptable	
12B			Good	
14A	Waugh	Peveto	Good	
14B			Acceptable/Good	
16A	Peveto	Joe Annie	Good	
16B			Good	
18A	Joe Annie	Rylis	Acceptable/ Poor	
18B			Good	
20A	Rylis	Eberhard	Poor	
20B			Good	
22A	Eberhard	Van Buren	Acceptable	with section of poor
22B			Good	
24A	Van Buren	Wilkenson	Poor	
24B			Good	
26A	Wilkenson	Marconi	Acceptable	
26B			Good	
28A	Marconi	Montrose	Acceptable/ Poor	
28B			Good/ Acceptable	
30A	Montrose	Columbus	Acceptable/ Poor	Light pole obstruction
30B			Acceptable/ Poor	Grass, cracks
32A	Columbus	Crocker	Acceptable/ Poor	Light pole, water pond
32B			Acceptable	
34A	Crocker	Stanford	Acceptable	
34B			Acceptable	
36A	Stanford	Taft	Acceptable/ Poor	Sign and light pole obstruction
36B			Acceptable/ Poor	Cracks, grass and narrowness



Photo 10-17, Segment 30B
W. Dallas between Montrose and Columbus
Cracking and overgrown vegetation



Photo 10-19, Segment 36B
W. Dallas between Stanford and Taft
Grass growth, debris and pole obstruction in the middle of the sidewalk



Photo 10-18 Segment 31
W. Dallas at Columbus
Water accumulates at the bottom of the ramp



Photo 10-20, Segment 37
W. Dallas at Taft
Pole obstructions

Table 10-4
W. Dallas Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	W. Dallas at Shepherd	Acceptable	Poor	Good	Acceptable
3	W. Dallas at Gross	Acceptable	Poor	Acceptable	Acceptable
5	W. Dallas at Tirrell	Poor	Poor	N/A	N/A
7	W. Dallas at Dunlavy	Poor	Acceptable	Acceptable	Acceptable
9	W. Dallas at Rochow	Poor	Acceptable	Poor	Acceptable
11	W. Dallas at Rosine	Acceptable	Acceptable	Missing	Poor
13	W. Dallas at Waugh	Acceptable	Good	Good	Poor
15	W. Dallas at Peveto	Good	Good	Missing	Acceptable
17	W. Dallas at Joe Annie	Poor	Poor	Acceptable	Acceptable
19	W. Dallas at Rylis	Poor	Missing	Acceptable	Missing
21	W. Dallas at Eberhard	Acceptable	Acceptable	Acceptable	Acceptable
23	W. Dallas at Van Buren	N/A	N/A	Acceptable	Acceptable
25	W. Dallas at Wilkenson	Missing	Missing	N/A	N/A
27	W. Dallas at Marconi	N/A	N/A	Acceptable	Missing
29	W. Dallas at Montrose	Acceptable	Poor	Acceptable	Acceptable
31	W. Dallas at Columbus	N/A	N/A	Poor	Good
33	W. Dallas at Crocker	N/A	N/A	Acceptable	Acceptable
35	W. Dallas at Stanford	Acceptable	Acceptable	Acceptable	Poor
37	W. Dallas at Taft	Poor	Acceptable	Poor	Poor

Table 10-5
W. Dallas Street Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	W. Dallas at Shepherd	Acceptable	Poor	Acceptable	Good
3	W. Dallas at Gross	Poor	Missing	Acceptable	Missing
5	W. Dallas at Tirrell	N/A	N/A	Missing	N/A
7	W. Dallas at Dunlavy	Good	Good	Good	Good
9	W. Dallas at Rochow	N/A	N/A	Missing	Missing
11	W. Dallas at Rosine	N/A	N/A	Missing	Missing
13	W. Dallas at Waugh	Good	Good	Good	Good
15	W. Dallas at Peveto	N/A	N/A	Missing	Missing
17	W. Dallas at Joe Annie	N/A	N/A	Missing	Missing
19	W. Dallas at Rylis	N/A	N/A	Missing	Missing
21	W. Dallas at Eberhard	N/A	N/A	Missing	Missing
23	W. Dallas at Van Buren	N/A	N/A	N/A	Missing
25	W. Dallas at Wilkenson	N/A	N/A	Missing	N/A
27	W. Dallas at Marconi	N/A	N/A	N/A	Missing
29	W. Dallas at Montrose	Poor	Acceptable	Good	Poor
31	W. Dallas at Columbus	N/A	N/A	N/A	Missing
33	W. Dallas at Crocker	N/A	N/A	N/A	Missing
35	W. Dallas at Stanford	Acceptable	Missing	Missing	Missing
37	W. Dallas at Taft	Acceptable	N/A	N/A	Acceptable

10.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Pavement Reconstruction:**
 - W. Dallas from Gross to Rowchow
 - W. Dallas eastbound lanes east of Rowchow
 - W. Dallas from Waugh to Montrose
 - Intersection of W. Dallas at Stanford
 - Eastbound lanes west of Stanford
 - Intersection of W. Dallas at Taft
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Reconstruct existing ramps
 - W. Dallas at all intersections
 - Reconstruct sidewalk
 - North side of W. Dallas from Shepherd to Dunlavy
 - South side of W. Dallas from west of Tirell to Dunlavy
 - W. Dallas east and east of Rowchow
 - North side of W. Dallas east of Rosine
 - South side of W. Dallas west of Waugh
 - North side of W. Dallas from west of Joe Annie to Montrose
 - W. Dallas between Montrose and Taft

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

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SECTION 11: MONTROSE BOULEVARD

Montrose Boulevard is a north-south major thoroughfare in the Houston area. It begins at Hermann Circle just north of Hermann Park and continues northward to Allen Parkway where it becomes Studemont Street. At Studemont, it continues north to IH 10 where it becomes Studewood Street, it then continues north through the Heights area where it reaches its northern terminus at Gibbs Street. In the study area, between W. Dallas and Bissonnet, Montrose is two lanes in each direction, with a landscaped median north of Westheimer and no median south of Westheimer. There are nine signalized intersections in this section of Montrose.

- Montrose at W. Dallas
- Montrose at W. Gray
- Montrose at Fairview
- Montrose at Westheimer
- Montrose at Hawthorne
- Montrose at W. Alabama
- Montrose at Richmond
- Montrose at Banks
- Montrose at Bissonnet

Figures 11-1 shows the lane configurations for this segment of Montrose.

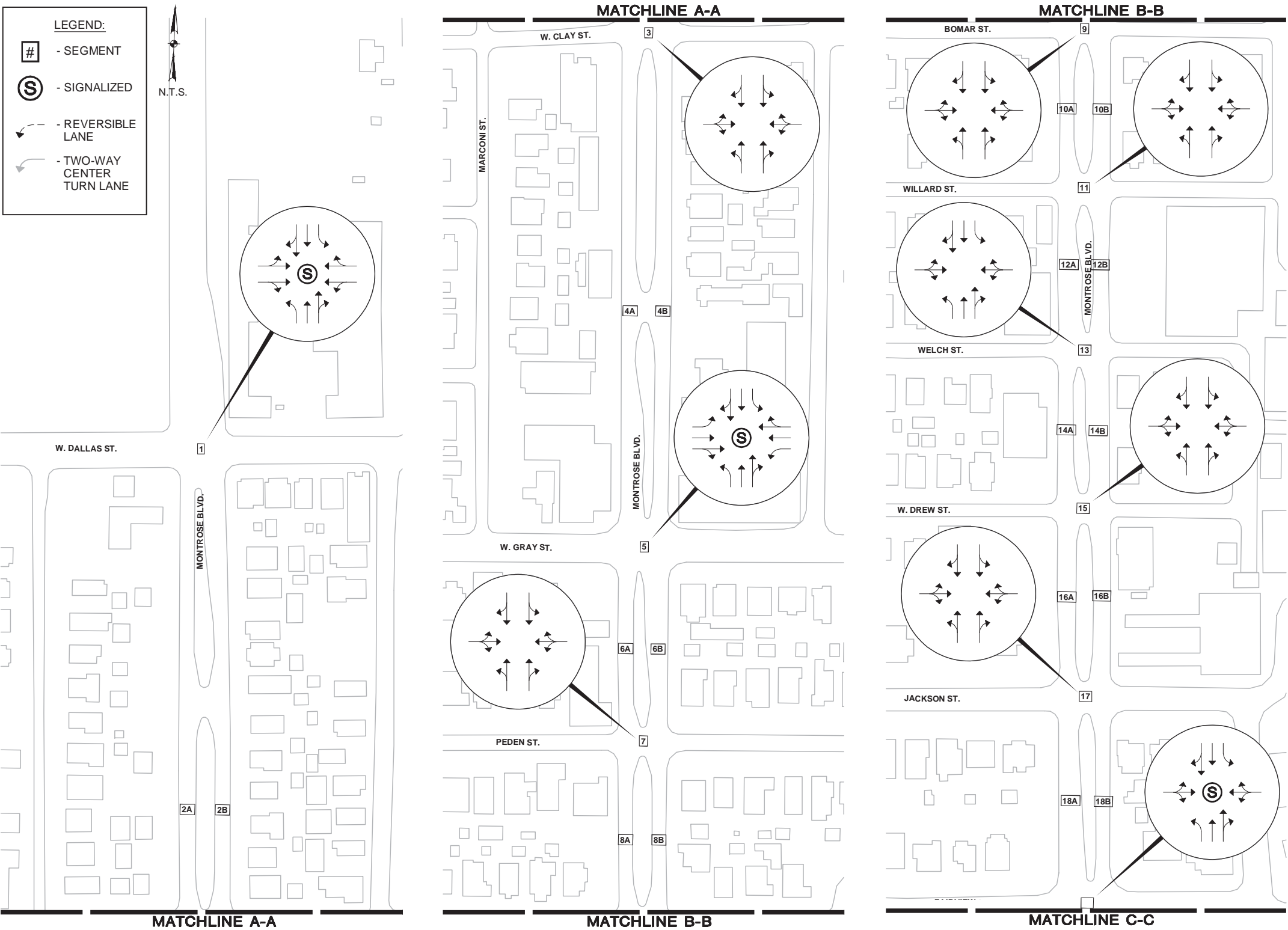


Figure 11-1
Montrose Boulevard Lane Configurations

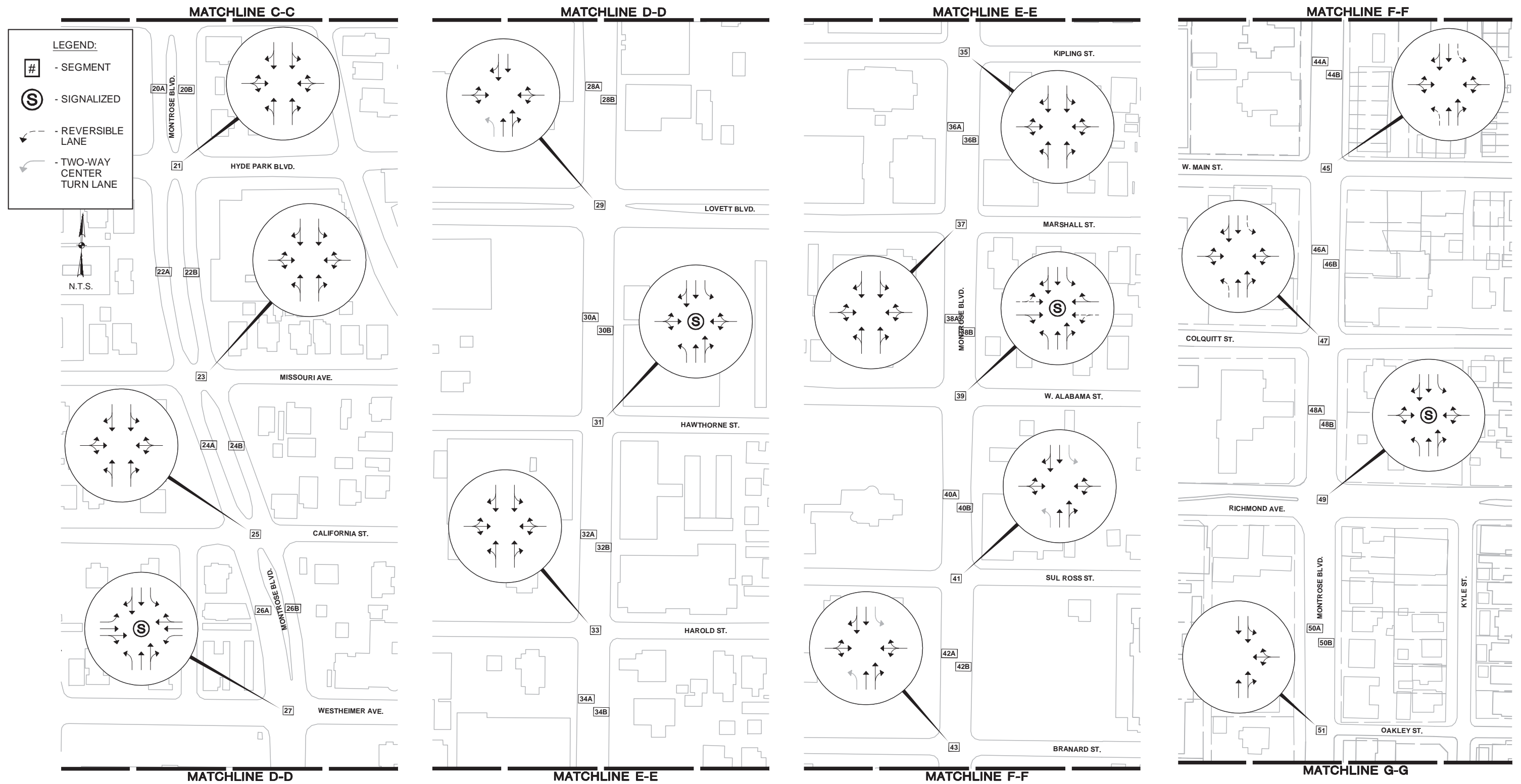


Figure 11-1 (continued)
Montrose Boulevard Lane Configurations

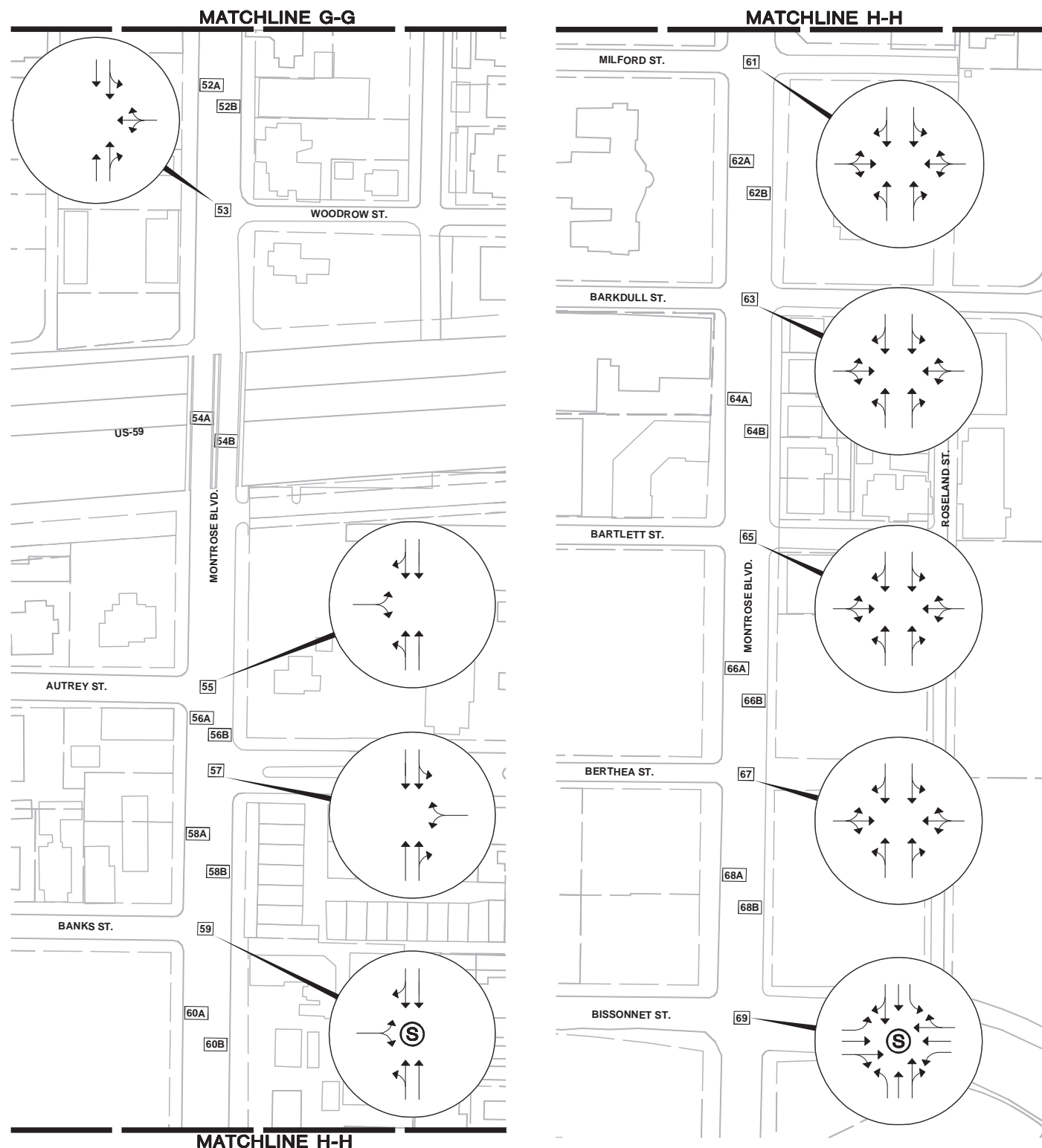


Figure 11-1 (continued)
Montrose Boulevard Lane Configurations

The Montrose corridor is primarily used by vehicular traffic but has significant pedestrian activity in the south end of the study area, particularly near the intersection of Montrose and Westheimer. There are twelve METRO bus routes that operate on or intersect with Montrose.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the IH 610 North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 25: Richmond is a local route. It travels along Richmond between the Mission Bend Park and Ride out west to the Wheeler Light Rail Station south of Downtown.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 35: Fairview is a local route. It runs from the south end of Downtown along Fairview out to the Tanglewood area west of IH 610 West Loop.

Route 42: Holman Crosstown is a local route. It connects the Montrose area with the Eastwood, Magnolia and Fifth Ward/Denver Harbor Transit Centers, traveling along Westheimer and Montrose in the study area.

Route 48: Navigation/W. Dallas is a local route. It runs from IH 10 at IH 610 East Loop, Downtown and US 290 at IH 610 West Loop, traveling along W. Dallas in the study area.

Route 65: Bissonnet is a local route. It runs from Downtown at the Wheeler Light Rail Station west along Bissonnet, through Montrose to just west of Dairy Ashford in West Houston.

Route 78: Alabama/Irvington is a local route. It starts in the north at Little York, travels south through Downtown and Midtown before taking W. Alabama through the study area to the Greenway Plaza area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.

Route 298: This is a commuter route. It connects the Northwest Transit Center with the Texas Medical Center running along Montrose through the study area.

11.1 PARKING EVALUATION

In the Montrose study area, there is no parking allowed along the length of Montrose Boulevard. On-street parking is allowed along several of the smaller cross streets. Most of the businesses have their own parking lots. Within the study area, Montrose is primarily commercial with a mix of residential and institutional development as can be seen in **Figure 11-2**.

A visual inspection of parking lots along Montrose throughout the week revealed that there were several locations where available parking was full and began to spill out into the surrounding neighborhood (**Table 11-1**). Most of these locations were at bars or restaurants that have high peak hour volumes during the night hours, such as the restaurants on Segment 4A just south of W. Clay St or Segment 46A next to the public library between W. Main and Colquitt. On the southern end of Montrose, shops and restaurants on segment 50B had no parking directly accessible from Montrose and as a result parking tended to spill into the surrounding neighborhood. Although not directly on Montrose, there is a restaurant/bar that is just off of Montrose on Banks where parking demand exceed capacity and vehicles spill into the neighborhood.

Due to the length of Montrose and the mix of the businesses, there are several locations that might lend themselves to being public parking lots. To maximize the usability of these garages, it is recommended that they be placed at or near the major intersections on Montrose, in particular Fairview, Westheimer, Richmond and/or Bissonnet.

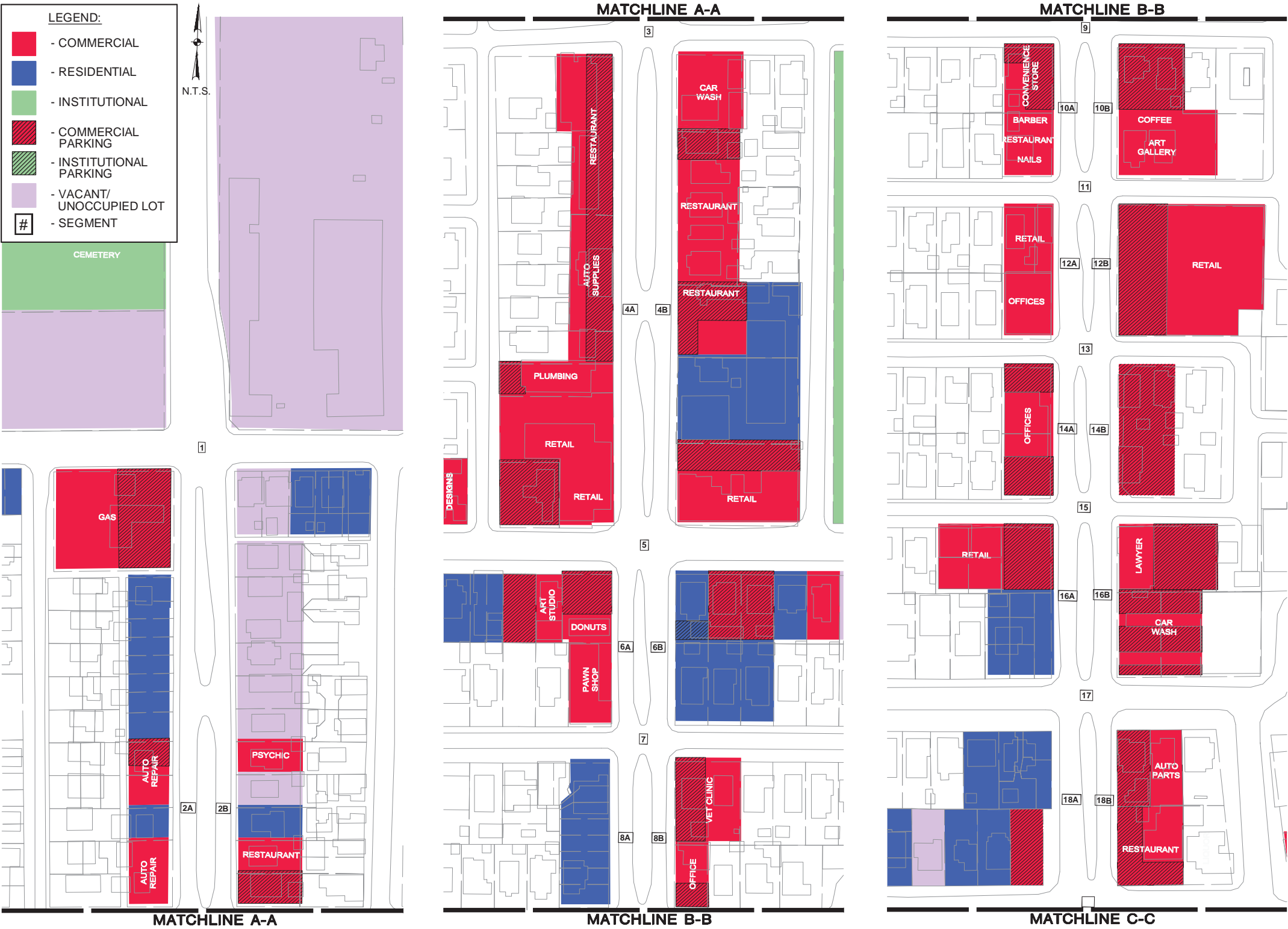




Figure 11-2 (continued)
Montrose Boulevard Parking and Land Use

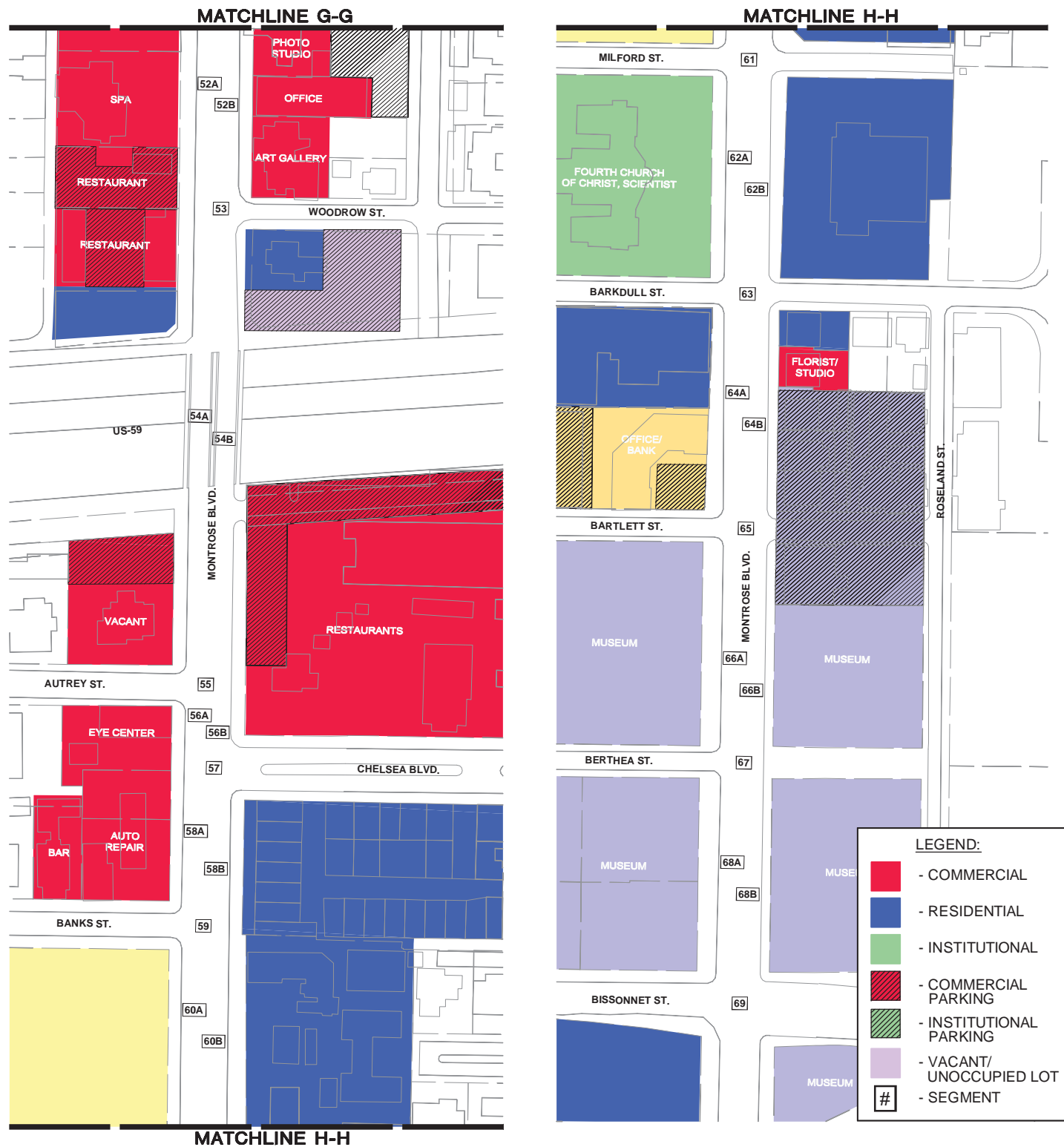


Figure 11-2 (continued)
Montrose Boulevard Parking and Land Use

Table 11-1
Montrose Boulevard Parking

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	W. Dallas	W. Clay	Commercial/ Residential	No
2B			Vacant/ Commercial/ Residential	No
4A	W. Clay	W. Gray	Commercial	No
4B			Commercial/ Residential	No
6A	W. Gray	Peden	Commercial	No
6B			Residential	No
8A	Peden	Bomar	Residential	No
8B			Commercial	No
10A	Bomar	Willard	Commercial	No
10B			Commercial	No
12A	Willard	Welch	Commercial	No
12B			Commercial	No
14A	Welch	W. Drew	Commercial	No
14B			Commercial	No
16A	W. Drew	Jackson	Commercial/ Residential	No
16B			Commercial	No
18A	Jackson	Fairview	Residential/Commercial	No
18B			Commercial	No
20A	Fairview	Hyde Park	Commercial	No
20B			Commercial	No
22A	Hyde Park	Missouri	Commercial	No
22B			Commercial/ Residential	No
24A	Missouri	California	Residential	No
24B			Commercial	No
26A	California	Westheimer	Commercial	No
26B			Commercial	No
28A	Westheimer	Lovett	Commercial	No
28B			Commercial	No
30A	Lovett	Hawthorne	Commercial	No
30B			Commercial	No
32A	Hawthorne	Harold	Commercial	No
32B			Commercial/ Institutional	No
34A	Harold	Kipling	Institutional	No
34B			Commercial/ Residential	No

Table 11-1 (continued)
Montrose Boulevard Parking

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
36A	Kipling	Marshall	Residential	No
36B			Commercial	No
38A	Marshall	W. Alabama	Commercial	No
38B			Commercial/ Residential	No
40A	W. Alabama	Sul Ross	Institutional	No
40B			Commercial	No
42A	Sul Ross	Branard	Commercial/ Institutional	No
42B			Commercial	No
44A	Branard	W. Main	Residential	No
44B			Commercial/ Residential	No
46A	W. Main	Colquitt	Commercial	No
46B			Residential/Commercial	No
48A	Colquitt	Richmond	Commercial	No
48B			Commercial	No
50A	Richmond	Oakley	Commercial	No
50B			Commercial	No
52A	Oakley	Woodrow	Commercial	No
52B			Commercial	No
54A	Woodrow	Autry	Commercial/Residential	No
54B			Commercial/Residential	Possibly
56A	Autry	Chelsea	Commercial	No
56B			Commercial	No
58A	Chelsea	Banks	Commercial	Possibly
58B			Residential	No
60A	Banks	Milford	Park	No
60B			Residential	No
62A	Milford	Barkdull	Church	No
62B			Residential	No
64A	Barkdull	Bartlett	Residential/Office	No
64B			Residential/Commercial/Museum	No
66A	Bartlett	Berthea	Museum	No
66B			Museum	No
68A	Berthea	Bissonnet	Museum	No
68B			Museum	No

11.2 PAVEMENT AND MEDIAN EVALUATION

Montrose is a four lane street in the Montrose Management District. It has landscaped medians to the north of Westheimer and two-way left turn lanes in some segments to the south of Westheimer. The pavement is concrete with curb and gutter on either side, and the medians are concrete with landscaping in some areas. Montrose pavement conditions were studied by means of visual observations and photos. Pavement conditions along Montrose varied between good, acceptable, and poor. **Table 11-2** summarizes the results of the pavement and median review. **Figures 11-3** graphically depicts the pavement conditions observed along Montrose. **Photos 11-1** through **11-6** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 11-1, Segment 6A
Montrose between W. Gray and Peden
The concrete joint sealant has come out, there are cracks in the pavement, and patching is worn, creating an uneven riding surface.

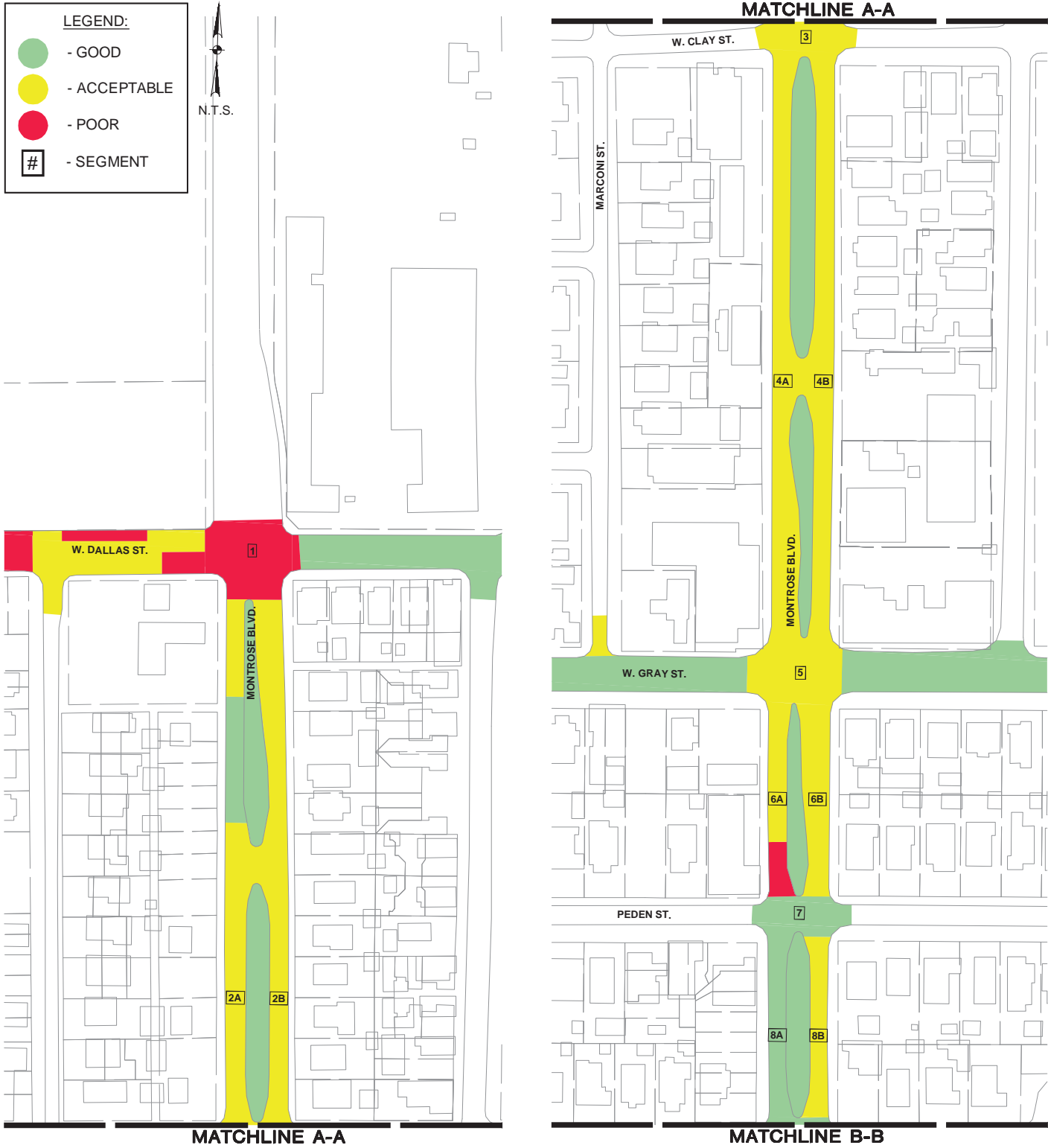
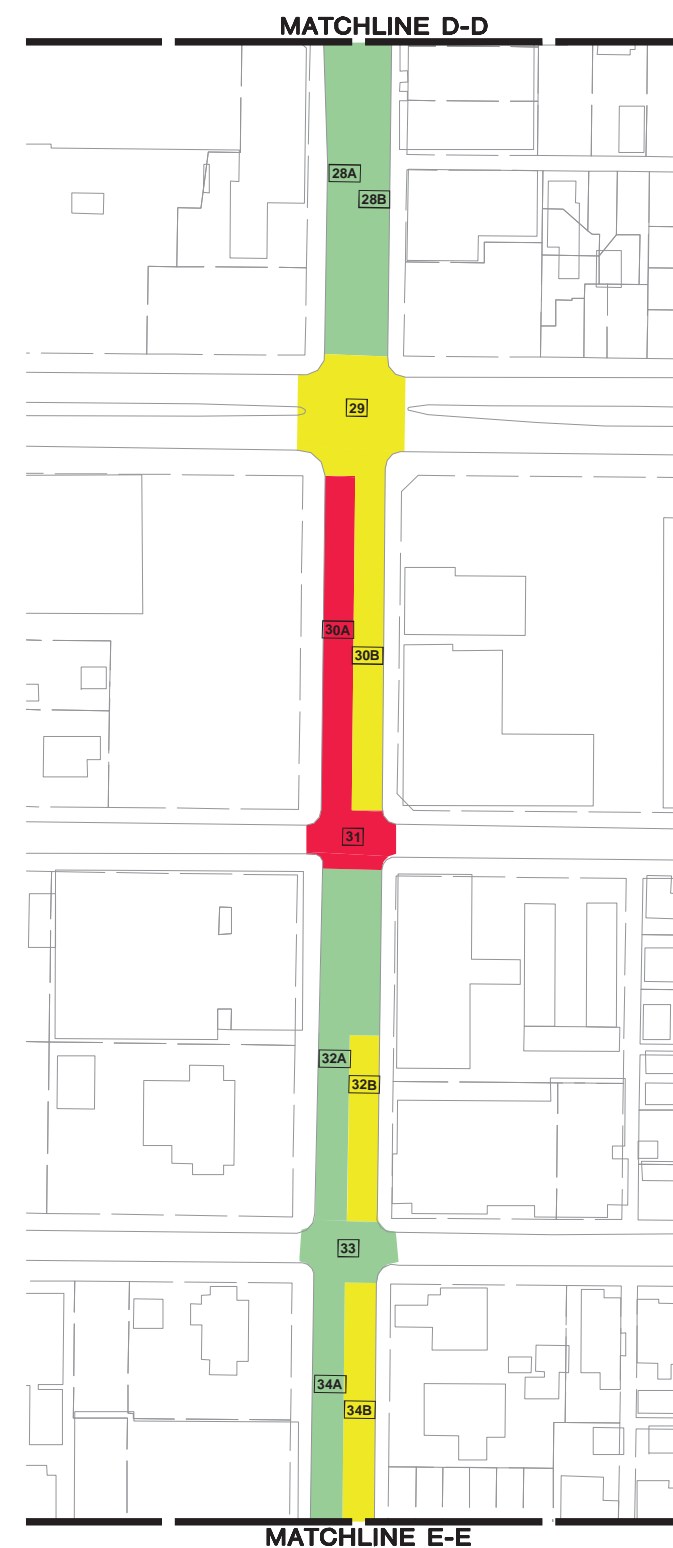
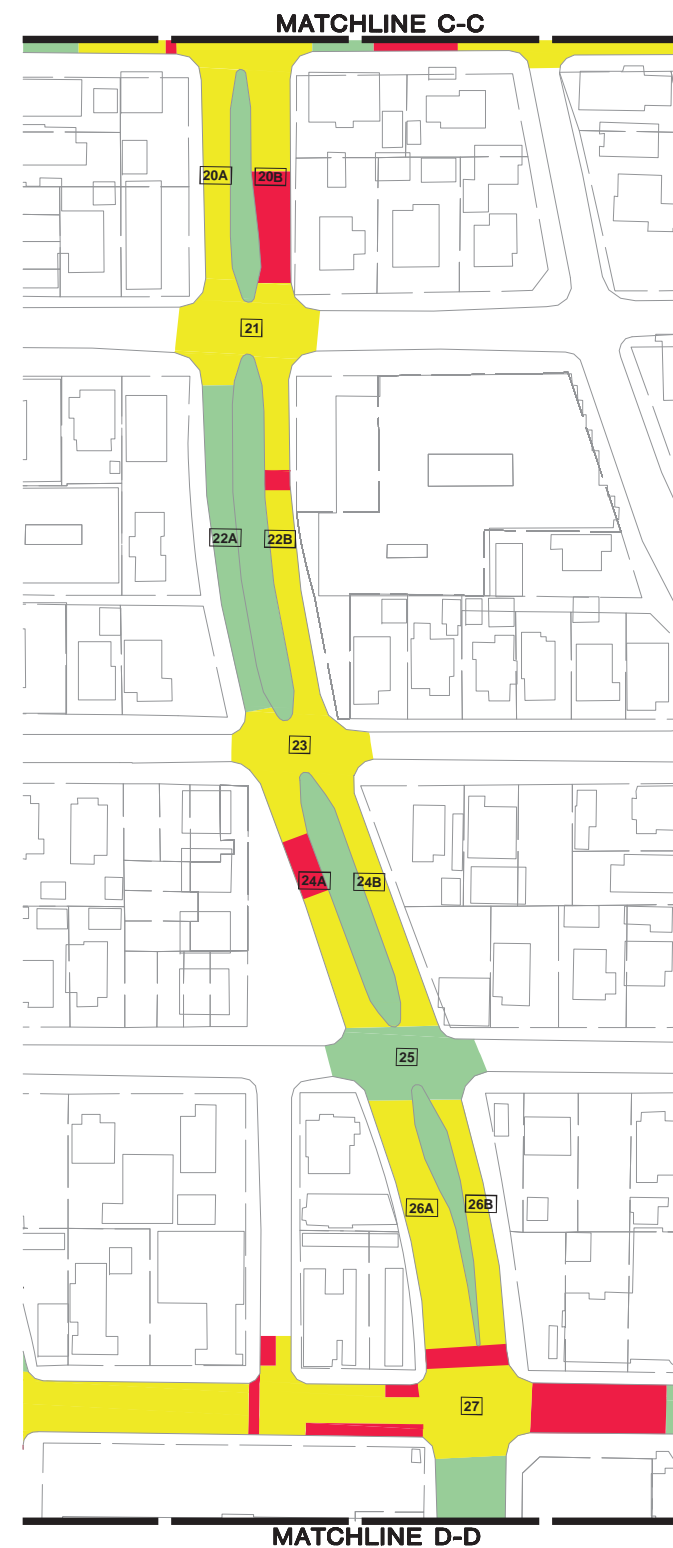
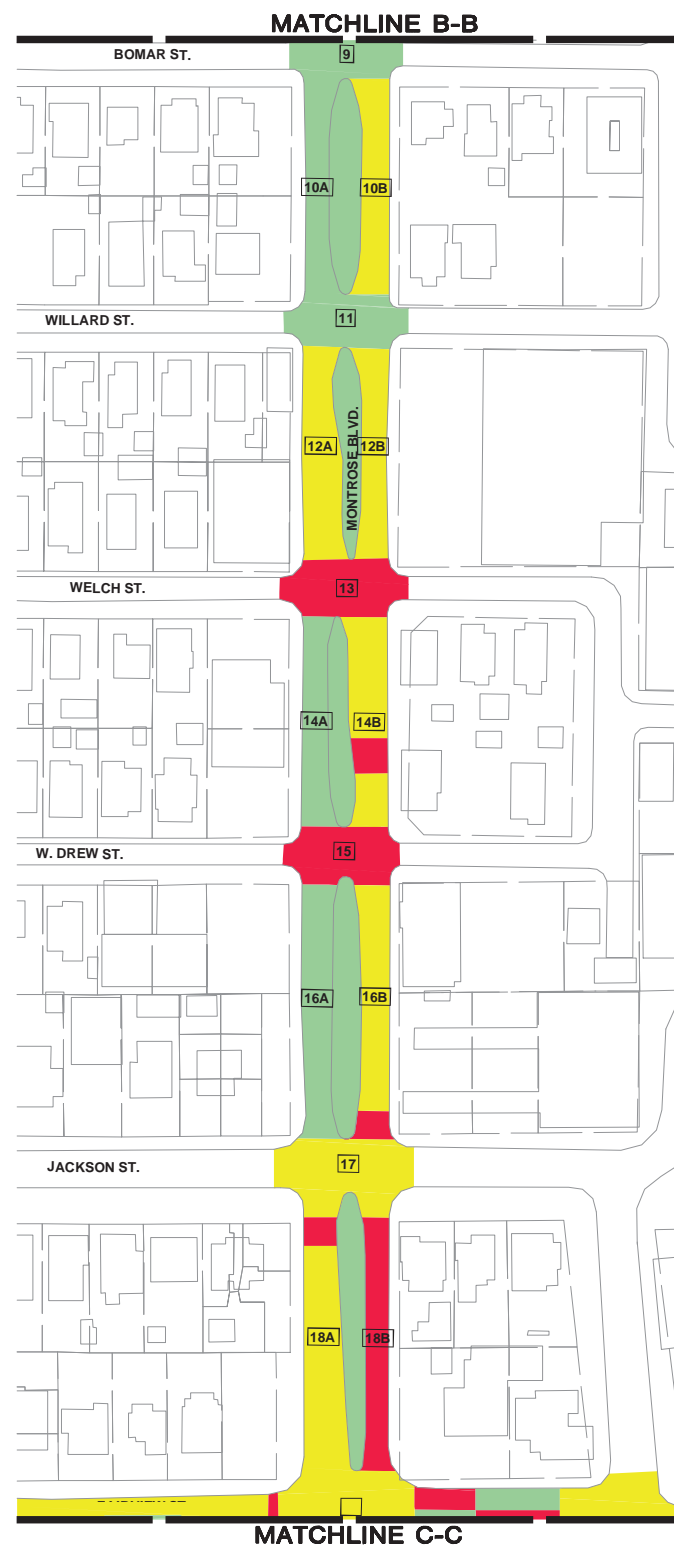


Figure 11-3
Montrose Boulevard Pavement and Median Conditions



**Photo 11-2, Segment 13
Montrose at Welch**
Numerous cracks and patching at the intersection create an uneven riding surface.

**Figure 11-3 (continued)
Montrose Boulevard Pavement and Median Conditions**



Figure 11-3 (continued)
Montrose Boulevard Pavement and Median Conditions

**Table 11-2
Montrose Boulevard Pavement and Median Condition Inventory**

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Montrose at W. Dallas			Poor		Cracks and potholes
2A		W. Dallas	W. Clay	Good/ Acceptable	Good	
2B				Acceptable	Good	
3	Montrose at W. Clay			Acceptable		
4A		W. Clay	W. Gray	Acceptable/ Poor	Good	Cracks
4B				Acceptable/ Poor	Good	Cracks
5	Montrose at W. Gray			Acceptable		
6A		W. Gray	Peden	Acceptable/ Poor	Good	Cracks and unevenness
6B				Acceptable	Good	
7	Montrose at Peden			Good		
8A		Peden	Bomar	Good	Good	
8B				Acceptable	Good	
9	Montrose at Bomar			Good		
10A		Bomar	Willard	Good	Good	
10B				Acceptable	Good	
11	Montrose at Willard			Good		
12A		Willard	Welch	Acceptable	Good	
12B				Acceptable	Good	
13	Montrose at Welch			Poor		Cracks and unevenness
14A		Welch	W. Drew	Good	Good	
14B				Acceptable/ Poor	Good	Potholes
15	Montrose at W. Drew			Poor		Cracks and unevenness
16A		W. Drew	Jackson	Good	Good	
16B				Acceptable/ Poor	Good	Cracks and unevenness
17	Montrose at Jackson			Acceptable		
18A		Jackson	Fairview	Acceptable/ Poor	Good	Cracks and unevenness
18B				Poor	Good	Cracks and unevenness
19	Montrose at Fairview			Acceptable		
20A		Fairview	Hyde Park	Acceptable	Good	
20B				Acceptable/ Poor	Good	Cracks, potholes and unevenness
21	Montrose at Hyde Park			Acceptable		
22A		Hyde Park	Missouri	Good	Good	
22B				Acceptable/Poor	Good	Unevenness
23	Montrose at Missouri			Acceptable		
24A		Missouri	California	Acceptable/ Poor	Good	Cracks and unevenness
24B				Acceptable	Good	



**Photo 11-3, Segment 15
Montrose at Drew**

Numerous cracks in the pavement and in the patches



**Photo 11-4, Segment 18A
Montrose between Jackson and Fairview**

The sealant has come out of the pavement joints creating wide gaps and a poor riding experience.



Photo 11-5, Segment 30A
Montrose at between Banks and Milford
 There are multiple layers of asphalt in varying levels of disrepair that create an uneven riding surface.

Table 11-2 (continued)
Montrose Boulevard Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
25	Montrose at California			Good	N/A	
26A		California	Westheimer	Acceptable/ Poor	Good	Cracks and unevenness
26B				Acceptable/ Poor	Good	Cracks and unevenness
27	Montrose at Westheimer			Acceptable	N/A	
28A		Westheimer	Lovett	Good	N/A	
28B				Good	N/A	
29	Montrose at Lovett			Acceptable	N/A	
30A		Lovett	Hawthorne	Poor	N/A	Cracks, potholes and unevenness
30B				Acceptable	N/A	
31	Montrose at Hawthorne			Poor	N/A	Cracks, potholes and unevenness
32A		Hawthorne	Harold	Good	N/A	
32B				Good/ Acceptable	N/A	
33	Montrose at Harold			Good	N/A	
34A		Harold	Kipling	Good	N/A	
34B				Acceptable	N/A	
35	Montrose at Kipling			Good	N/A	
36A		Kipling	Marshall	Acceptable	N/A	
36B				Acceptable	N/A	
37	Montrose at Marshall			Acceptable/ Poor	N/A	Potholes
38A		Marshall	W. Alabama	Good/ Acceptable/ Poor	N/A	Cracks and unevenness
38B				Acceptable/ Poor	N/A	Cracks and unevenness
39	Montrose at W. Alabama			Good	N/A	
40A		W. Alabama	Sul Ross	Acceptable	N/A	
40B				Acceptable/ Poor	N/A	
41	Montrose at Sul Ross			Acceptable/ Poor	N/A	
42A		Sul Ross	Branard	Acceptable	N/A	
42B				Acceptable	N/A	
43	Montrose at Branard			Good	N/A	
44A		Branard	W. Main	Good	N/A	
44B				Good	N/A	
45	Montrose at W. Main			Good	N/A	
46A		W. Main	Colquitt	Acceptable/ Poor	N/A	Cracks and unevenness
46B				Acceptable/ Poor	N/A	Cracks and unevenness
47	Montrose at Colquitt			Poor	N/A	Cracks, potholes and unevenness
48A		Colquitt	Richmond	Acceptable/ Poor	N/A	Cracks and unevenness
48B				Acceptable/ Poor	N/A	Cracks and unevenness

Table 11-2 (continued)
Montrose Boulevard Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
49	Montrose at Richmond			Poor	N/A	Cracks, potholes and unevenness
50A		Richmond	Oakley	Acceptable/ Poor	N/A	Cracks and unevenness
50B				Good/ Acceptable	N/A	
51	Montrose at Oakley			Acceptable/ Poor	N/A	Cracks and unevenness
52A		Oakley	Woodrow	Good/ Acceptable/ Poor	N/A	Cracks and unevenness
52B				Good/ Acceptable	N/A	
53	Montrose at Woodrow			Good	N/A	
54A		Woodrow	Autry	Good	N/A	
54B				Good	N/A	
55	Montrose at Autry			Poor	N/A	
56A		Autry	Chelsea	Poor	N/A	
56B				Poor	N/A	
57	Montrose at Chelsea			Poor	N/A	
58A		Chelsea	Banks	Poor	N/A	
58B				Poor	N/A	
59	Montrose at Banks			Poor/Acceptable	N/A	
60A		Banks	Milford	Poor	N/A	
60B				Acceptable/Poor	N/A	
61	Montrose at Milford			Acceptable/Poor	N/A	
62A		Milford	Barkdull	Acceptable/Poor	N/A	
62B				Good/Acceptable/Poor	N/A	
63	Montrose at Barkdull			Acceptable	N/A	
64A		Barkdull	Bartlett	Acceptable/Poor	N/A	
64B				Good/Acceptable/Poor	N/A	
65	Montrose at Bartlett			Acceptable/Poor	N/A	
66A		Bartlett	Berthea	Acceptable	N/A	
66B				Acceptable/Poor	N/A	
67	Montrose at Berthea			Acceptable	N/A	
68A		Berthea	Bissonnet	Good/Acceptable	N/A	
68B				Acceptable/ Poor	N/A	
69	Montrose at Bissonnet			Good	N/A	



Photo 11-6, Segment 65
Montrose at Bartlett

Cracking and deteriorating pavement, particularly in the lane where parking is allowed

11.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figures 11-4**, this section of Montrose has many traffic signals. Intersections that are not signal controlled are two-way stop controlled on the minor approaches.

There is no parking along the length of Montrose in the study area, except in select areas south of US 59. Generally, sight distances appear sufficient. However, there are a few instances on side streets east of Montrose where sight distances are impeded by vegetation growing on adjacent properties. Vegetation protruding into the public right of way should be trimmed.

While there were several locations along Montrose where pavement markings were in good condition, in general markings were either in poor condition or acceptable condition due to the extreme wear and tear. In particular, lane markings are very worn and barely visible in some locations. It is our recommendation that all pavement markings (lane markings, stop bars, and crosswalks) be either refreshed or completely redone along Montrose.

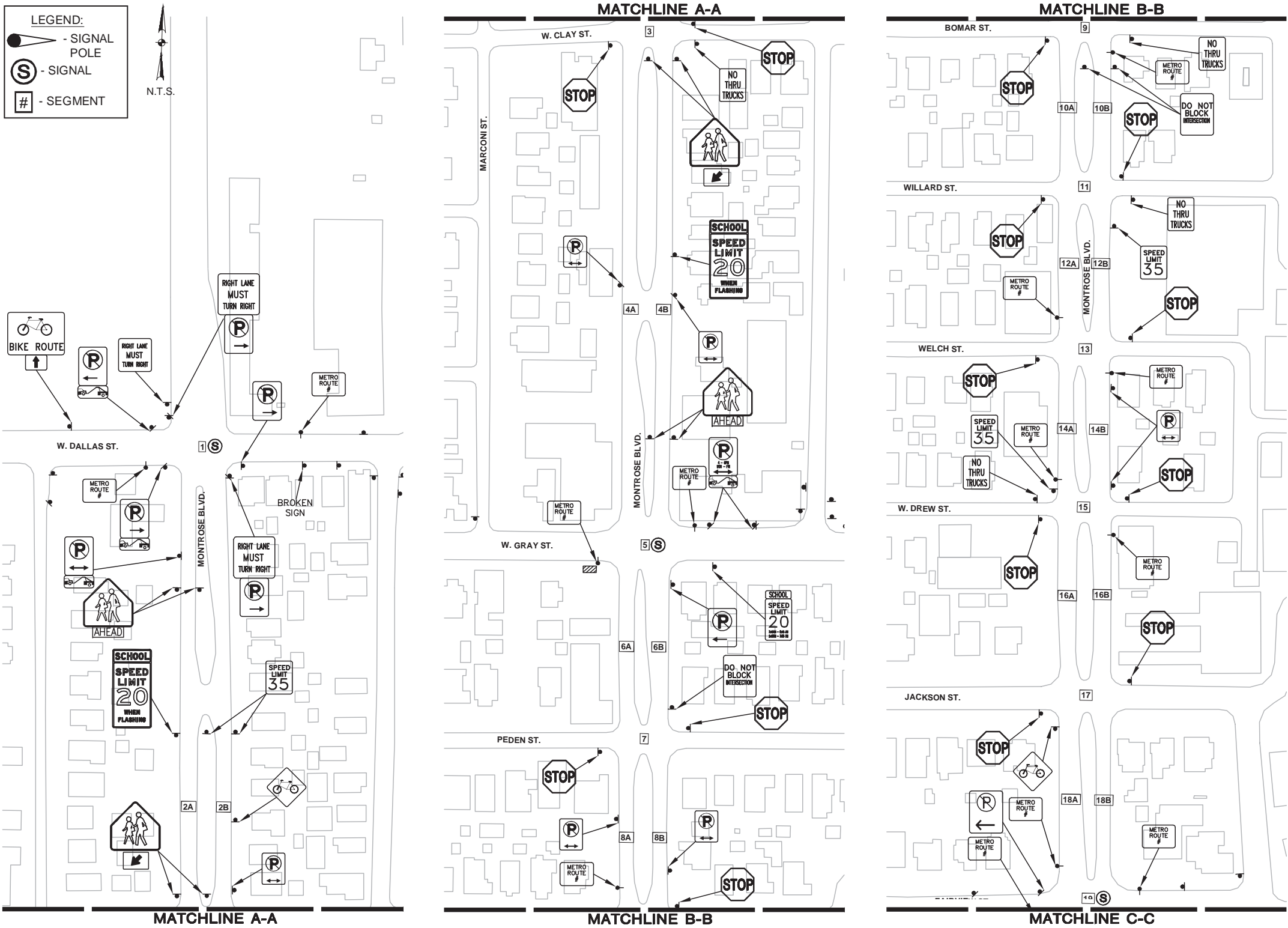


Figure 11-4
Montrose Boulevard Signs and Intersection Control

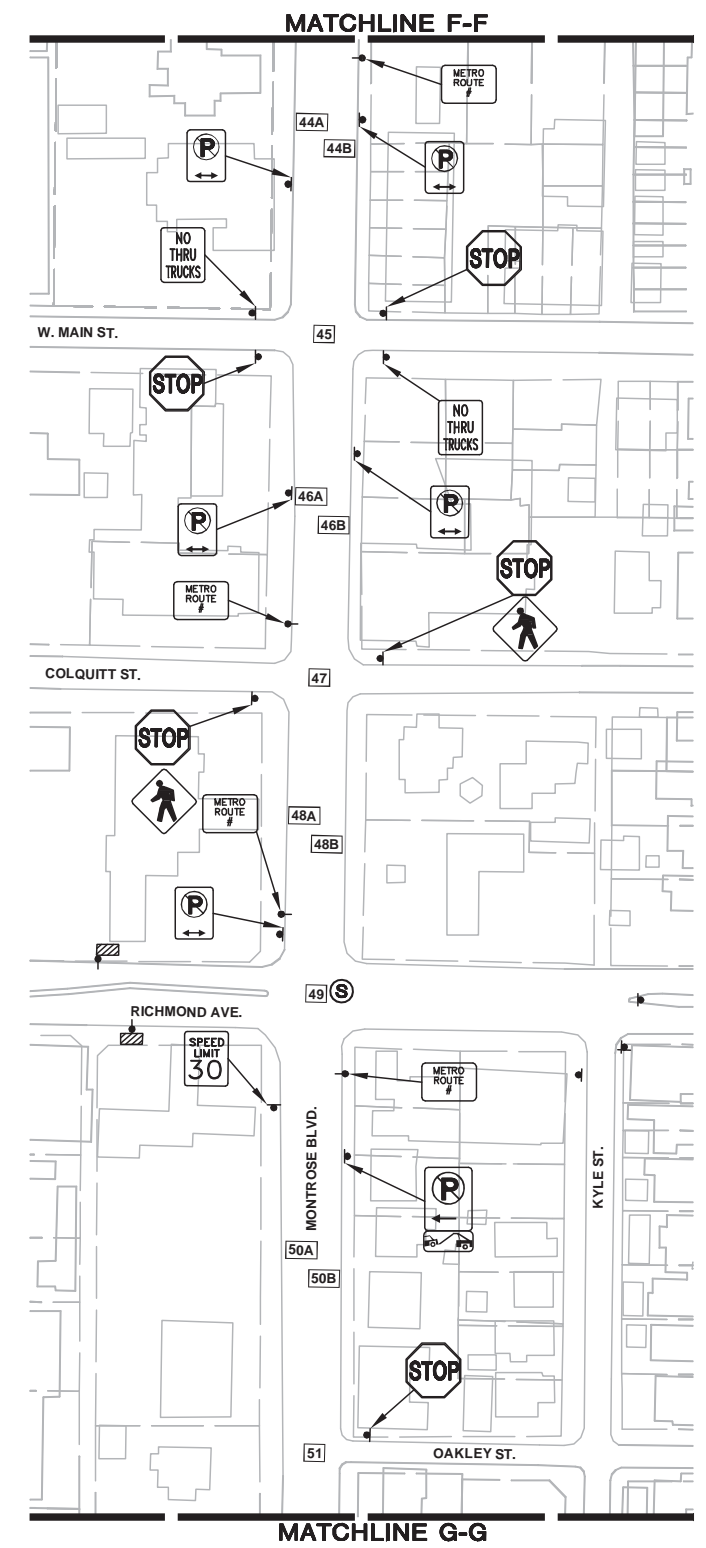
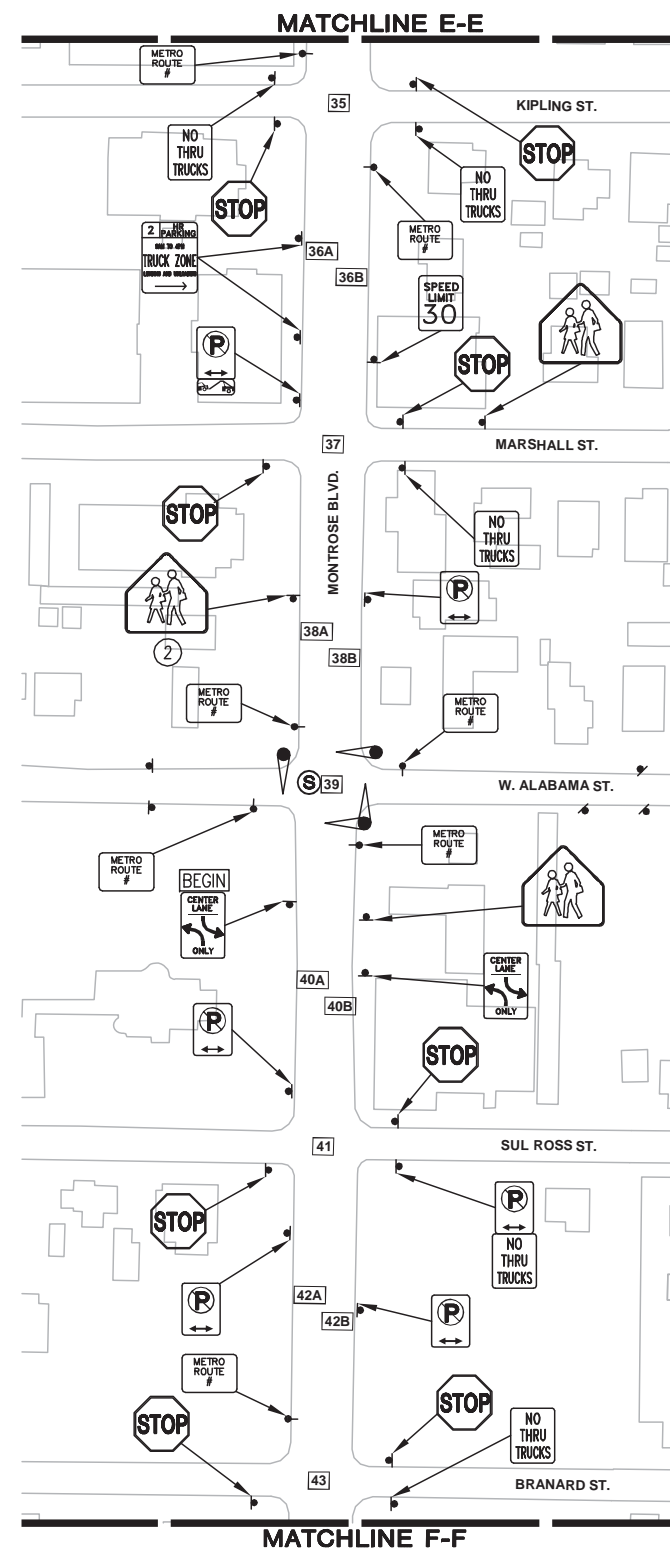
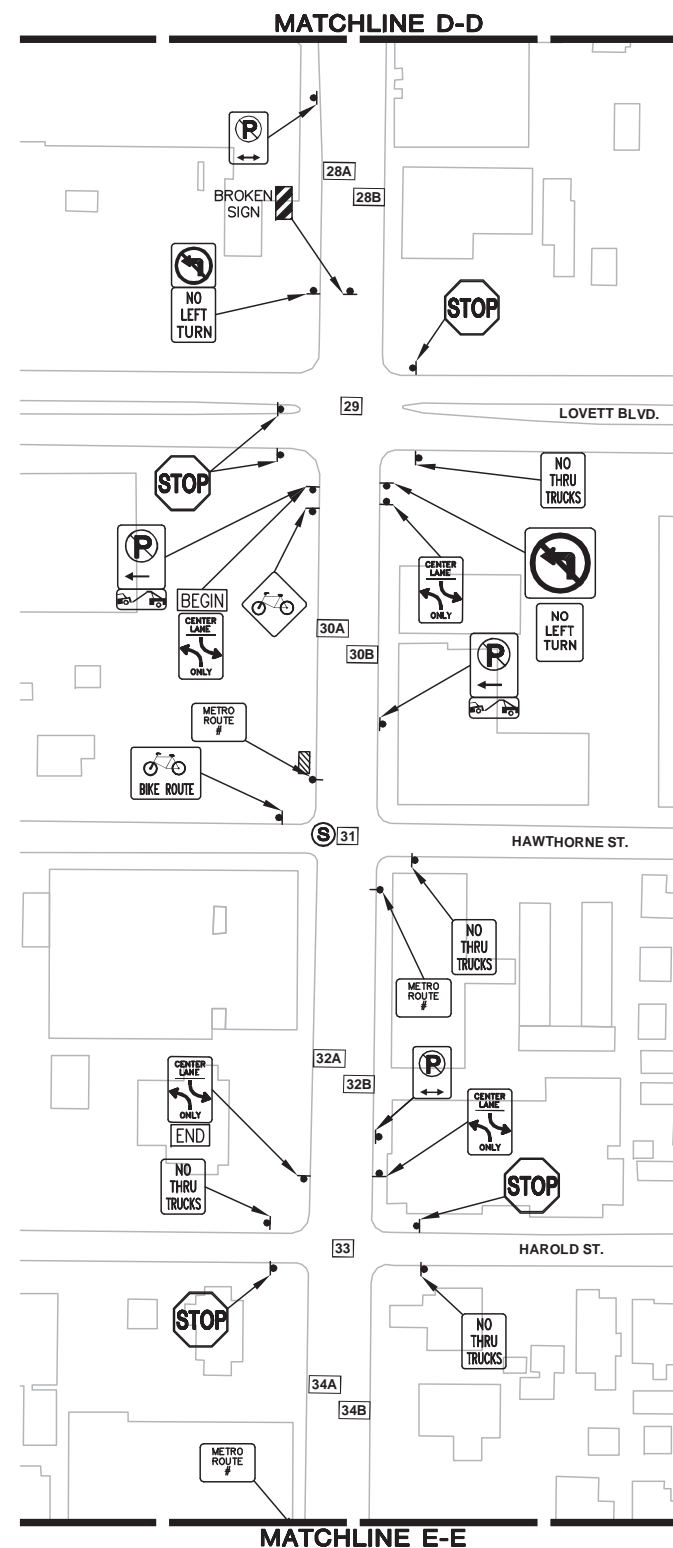
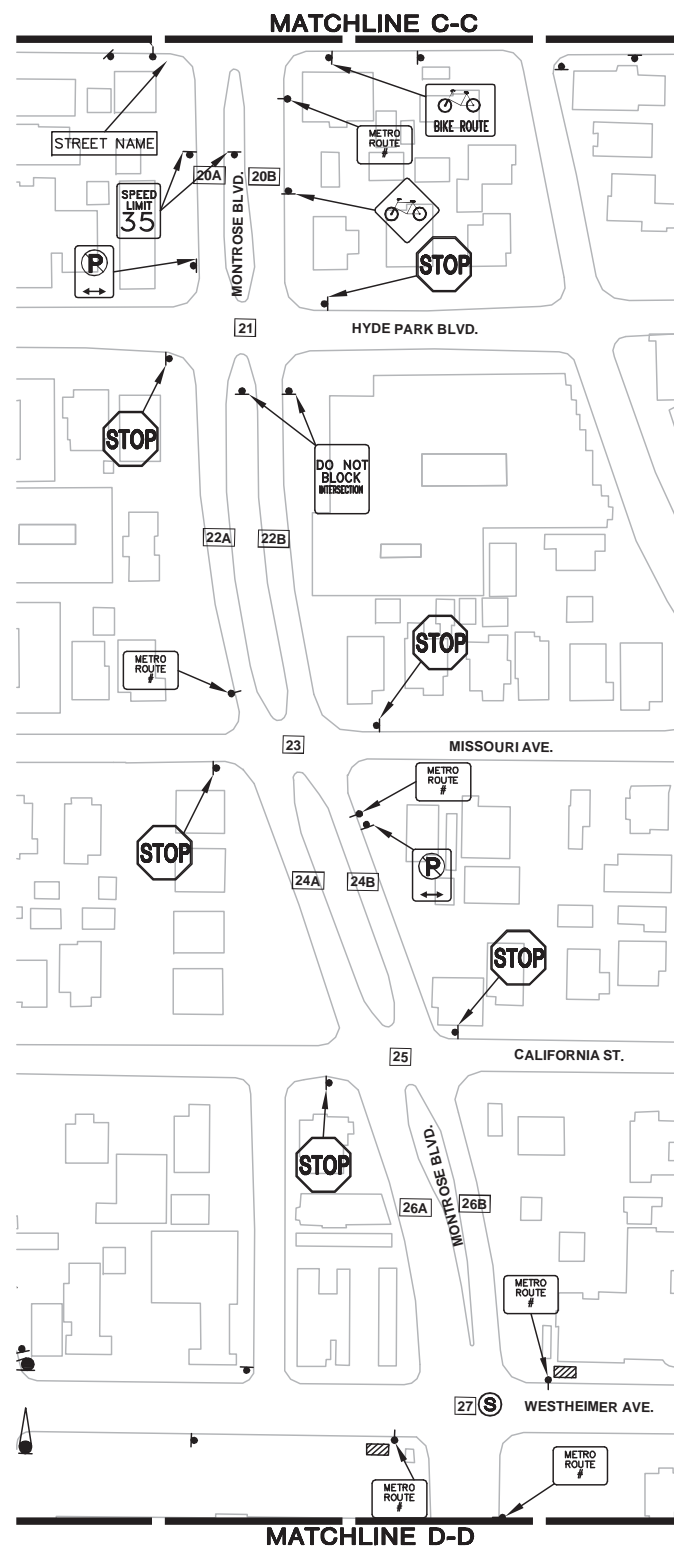


Figure 11-4 (continued)
Montrose Boulevard Signs and Intersection Control

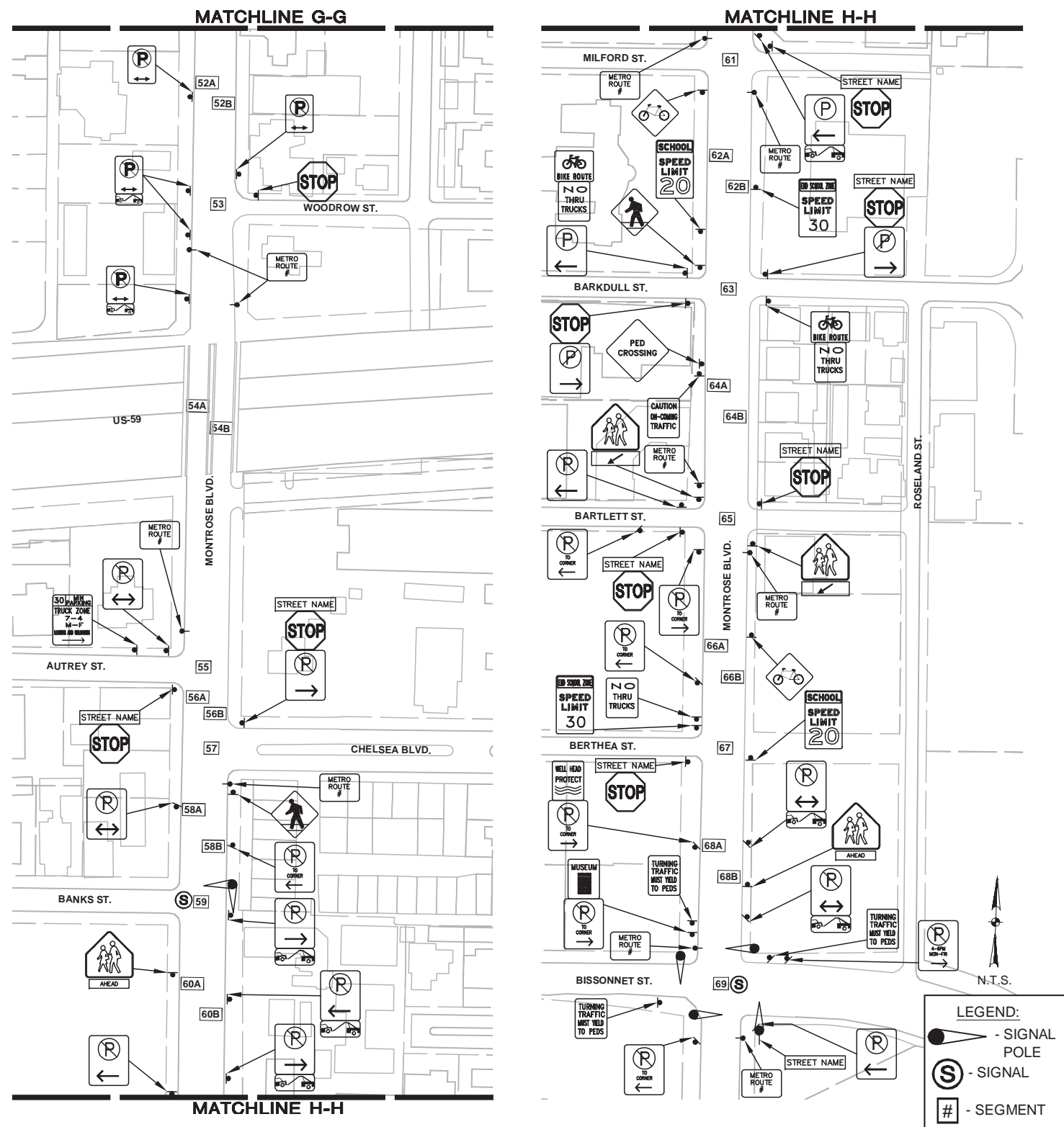


Figure 11-4 (continued)
Montrose Boulevard Signs and Intersection Control

11.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on Montrose between W. Dallas and Bissonnet were studied by means of visual observation and photos. **Table 11-3** summarizes sidewalk conditions, **Table 11-4** summarizes ramp conditions, and **Table 11-5** summarizes crosswalk conditions along Montrose. **Figures 11-13** through **11-15** graphically depict the results of the sidewalk, ramp, and crosswalk evaluation along Montrose. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and pavement, broken ramps, steepness, lack of detectable warnings and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, wear and tear of crosswalk pavement markings, and/or use of non-standard method of crosswalk delineation. **Photos 11-7** through **11-12** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 11-7, Segment 18A
Montrose between Jackson and Fairview
Upheaval between two sections of sidewalk and the adjacent vegetation growth obstruct pedestrian path.



Photo 11-8, Segment 18B

Montrose between Jackson and Fairview

A section of sidewalk is broken creating a pothole which accumulates water and creates a tripping hazard.

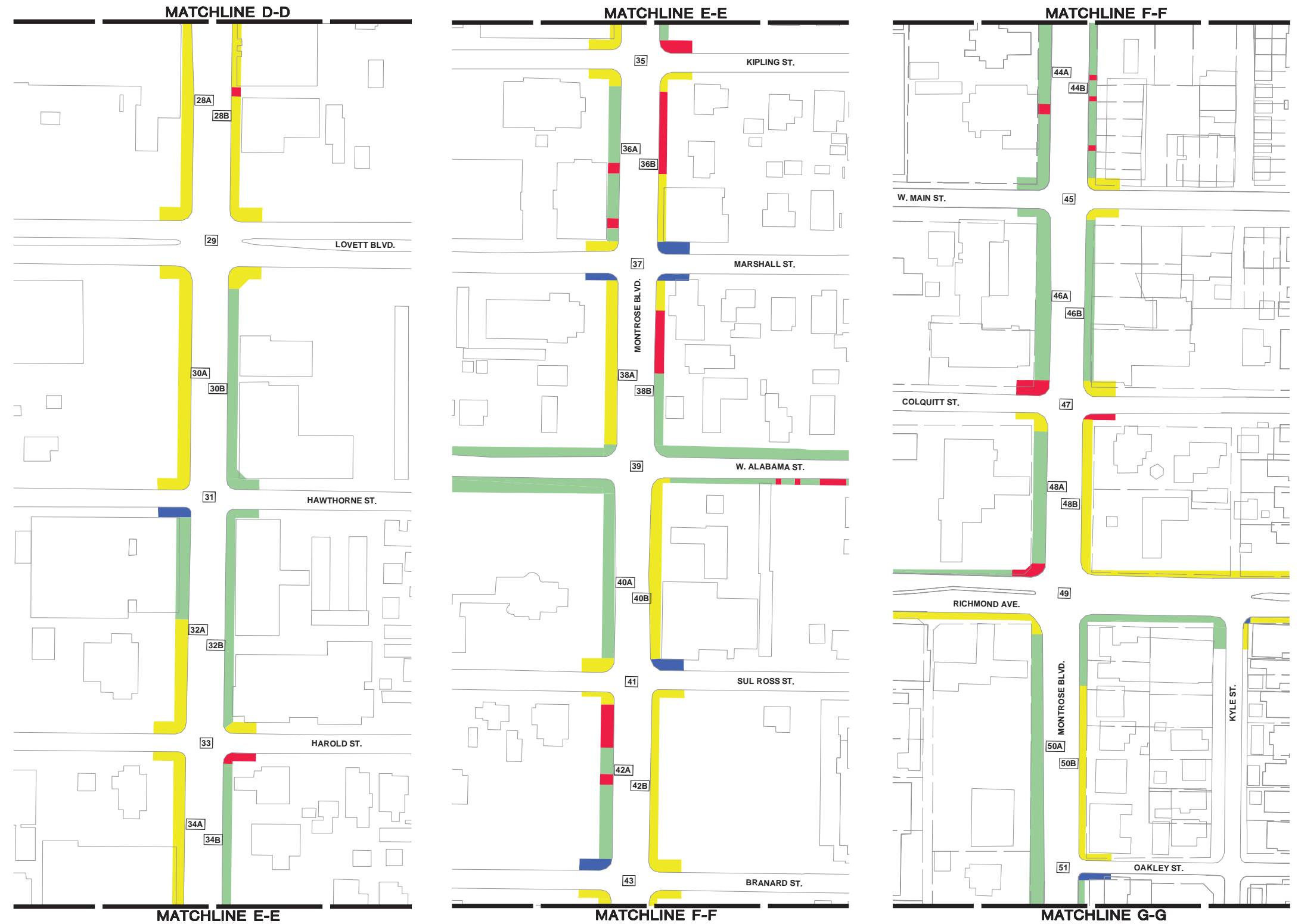


Figure 11-5 (continued)
Montrose Boulevard Sidewalk and Ramp Conditions

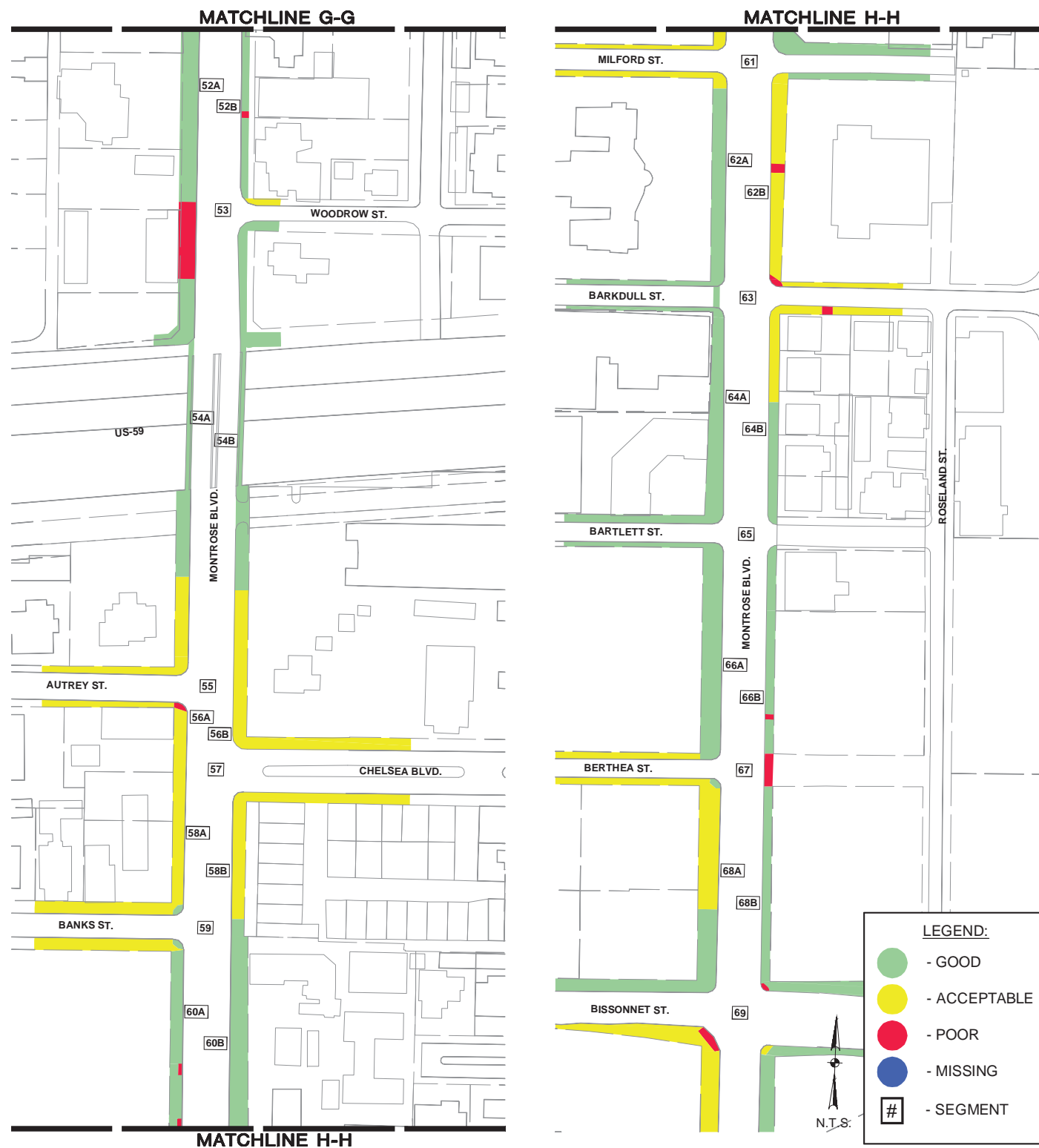


Photo 11-9, Segment 35
Montrose at Kipling

The southbound ramp is narrow and steep making it difficult for use by pedestrians. There is no westbound ramp.



Photo 11-10, Segment 36B
Montrose between Kipling and Marshall
 Sidewalk has severe cracking and upheaval, creating a tripping hazard.

Table 11-3
Montrose Boulevard Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	W. Dallas	W. Clay	Good/ Acceptable	
2B			Acceptable/ Poor	Vegetation obstruction
4A	W. Clay	W. Gray	Good/ Acceptable	
4B			Good/ Acceptable/ Poor	Controller and cable obstruction, cracking and upheaval
6A	W. Gray	Peden	Acceptable	
6B			Acceptable	
8A	Peden	Bomar	Acceptable	
8B			Acceptable/ Poor	Cracking, upheaval and dirt
10A	Bomar	Willard	Acceptable	
10B			Good	
12A	Willard	Welch	Good	
12B			Acceptable/ Poor	Cracking
14A	Welch	W. Drew	Acceptable	
14B			Acceptable	
16A	W. Drew	Jackson	Acceptable	
16B			Acceptable	
18A	Jackson	Fairview	Acceptable/ Poor	Upheaval and vegetation obstruction
18B			Good/ Acceptable/ Poor	Cracking, debris and water pond
20A	Fairview	Hyde Park	Good	
20B			Good	
22A	Hyde Park	Missouri	Good	
22B			Acceptable/ Poor	Cracking
24A	Missouri	California	Acceptable	
24B			Good	
26A	California	Westheimer	Good/ Acceptable	
26B			Acceptable	
28A	Westheimer	Lovett	Acceptable	
28B			Acceptable/ Poor	Grass, vegetation obstruction
30A	Lovett	Hawthorne	Acceptable	
30B			Good	
32A	Hawthorne	Harold	Good/ Acceptable	
32B			Good	
34A	Harold	Kipling	Acceptable	
34B			Good	

Table 11-3 (continued)
Montrose Boulevard Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
36A	Kipling	Marshall	Good/ Poor	Cracking, grass
36B			Acceptable/ Poor	Cracking, upheaval, dirt and grass
38A	Marshall	W. Alabama	Acceptable	
38B			Good/ Acceptable/ Poor	Cracking and upheaval
40A	W. Alabama	Sul Ross	Good	
40B			Acceptable	
42A	Sul Ross	Branard	Good/ Poor	Cracks and upheaval
42B			Acceptable	
44A	Branard	W. Main	Good/ Poor	Cracking
44B			Good/ Poor	Upheaval
46A	W. Main	Colquitt	Good	
46B			Good	
48A	Colquitt	Richmond	Good	
48B			Acceptable	
50A	Richmond	Oakley	Good	
50B			Good/ Acceptable	
52A	Oakley	Woodrow	Good	
52B			Good/ Poor	Upheaval
54A	Woodrow	Autry	Good/ Acceptable	Cracking
54B			Good/ Acceptable	
56A	Autry	Chelsea	Acceptable	
56B			Acceptable	
58A	Chelsea	Banks	Acceptable	
58B			Acceptable	
60A	Banks	Milford	Good/Poor	
60B			Good	
62A	Milford	Barkdull	Good	
62B			Acceptable/Poor	
64A	Barkdull	Bartlett	Good	
64B			Good/Acceptable	
66A	Bartlett	Berthea	Good	
66B			Good/Poor	
68A	Berthea	Bissonnet	Good/Acceptable	
68B			Good	

Table 11-4
Montrose Boulevard Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Montrose at W. Dallas	Acceptable	Poor	Acceptable	Acceptable
3	Montrose at W. Clay	Acceptable	Acceptable	Acceptable	Acceptable
5	Montrose at W. Gray	Acceptable	Poor	Acceptable	Acceptable
7	Montrose at Peden	Acceptable	Missing	Acceptable	Acceptable
9	Montrose at Bomar	Acceptable	Acceptable	Acceptable	Acceptable
11	Montrose at Willard	Acceptable	Missing	Acceptable	Missing
13	Montrose at Welch	Missing	Missing	Missing	Missing
15	Montrose at W. Drew	Acceptable	Acceptable	Acceptable	Acceptable
17	Montrose at Jackson	Missing	Missing	Missing	Missing
19	Montrose at Fairview	Acceptable	Acceptable	Acceptable	Acceptable
21	Montrose at Hyde Park	Missing	Acceptable	Acceptable	Missing
23	Montrose at Missouri	Acceptable	Acceptable	Acceptable	Acceptable
25	Montrose at California	Missing	Missing	Missing	Missing
27	Montrose at Westheimer	Acceptable	Acceptable	Acceptable	Acceptable
29	Montrose at Lovett	Acceptable	Acceptable	Acceptable	Acceptable
31	Montrose at Hawthorne	Acceptable	Good	Missing	Good
33	Montrose at Harold	Acceptable	Acceptable	Acceptable	Poor
35	Montrose at Kipling	Acceptable	Poor	Acceptable	Acceptable
37	Montrose at Marshall	Acceptable	Missing	Missing	Missing
39	Montrose at W. Alabama	Acceptable	Acceptable	Acceptable	Acceptable
41	Montrose at Sul Ross	Acceptable	Missing	Acceptable	Acceptable
43	Montrose at Branard	Missing	Acceptable	Acceptable	Acceptable
45	Montrose at W. Main	Good	Acceptable	Good	Acceptable
47	Montrose at Colquitt	Poor	Acceptable	Acceptable	Poor
49	Montrose at Richmond	Poor	Acceptable	Acceptable	Good
51	Montrose at Oakley	N/A	Acceptable	N/A	Missing
53	Montrose at Woodrow	N/A	Acceptable	N/A	Good
55	Montrose at Autry	Acceptable	N/A	Poor	N/A
57	Montrose at Chelsea	N/A	Acceptable	N/A	Acceptable
59	Montrose at Banks	Good	N/A	Good	N/A
61	Montrose at Milford	Acceptable	Good	Acceptable	Acceptable
63	Montrose at Barkdull	Good	Poor	Good	Acceptable
65	Montrose at Bartlett	Good	Good	Good	Good
67	Montrose at Berthea	Good	N/A	Good	N/A
69	Montrose at Bissonnet	Good	Poor	Poor	Acceptable

Table 11-5
Montrose Boulevard Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Montrose at W. Dallas	Poor	Acceptable	Good	Poor
3	Montrose at W. Clay	Acceptable	Acceptable	N/A	Acceptable
5	Montrose at W. Gray	Good	Good	Good	Good
7	Montrose at Peden	Poor	Missing	N/A	N/A
9	Montrose at Bomar	Poor	Missing	N/A	N/A
11	Montrose at Willard	Acceptable	Good	N/A	N/A
13	Montrose at Welch	Poor	Poor	Poor	Poor
15	Montrose at W. Drew	Acceptable	Acceptable	N/A	N/A
17	Montrose at Jackson	Poor	Poor	N/A	N/A
19	Montrose at Fairview	Good	Good	Good	Good
21	Montrose at Hyde Park	Poor	Poor	N/A	N/A
23	Montrose at Missouri	Good	Good	N/A	N/A
25	Montrose at California	Poor	Missing	N/A	N/A
27	Montrose at Westheimer	Good	Good	Good	Good
29	Montrose at Lovett	Missing	Missing	N/A	N/A
31	Montrose at Hawthorne	Good	Missing	Good	Good
33	Montrose at Harold	Missing	Missing	N/A	N/A
35	Montrose at Kipling	Missing	Missing	N/A	N/A
37	Montrose at Marshall	Missing	Missing	N/A	N/A
39	Montrose at W. Alabama	Acceptable	Acceptable	Poor	Acceptable
41	Montrose at Sul Ross	Missing	Missing	N/A	N/A
43	Montrose at Branard	Missing	Missing	N/A	N/A
45	Montrose at W. Main	Missing	Missing	N/A	N/A
47	Montrose at Colquitt	Good	Good	N/A	N/A
49	Montrose at Richmond	Acceptable	Acceptable	Acceptable	Acceptable
51	Montrose at Oakley	Missing	N/A	N/A	N/A
53	Montrose at Woodrow	Missing	N/A	N/A	N/A
55	Montrose at Autry	N/A	Missing	N/A	N/A
57	Montrose at Chelsea	Missing	N/A	N/A	N/A
59	Montrose at Banks	N/A	Missing	Missing	Missing
61	Montrose at Milford	Missing	Missing	N/A	N/A
63	Montrose at Barkdull	Good	Good	Acceptable	Missing
65	Montrose at Bartlett	Missing	Acceptable	Missing	Poor
67	Montrose at Berthea	Poor	Missing	N/A	N/A
69	Montrose at Bissonnet	Good	Good	Good	Good



Photo 11-11, Segment 63
Montrose at Barkdull

Ramp only provides access to one of two crosswalks and has possible slope issues making it hard to navigate.



Photo 11-12, Segment 69
Montrose at Bissonnet

Settling and obstructions within ramp area

11.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Prune Vegetation:**
 - The length of the Montrose corridor
- **Pavement Reconstruction:**
 - Montrose at W. Dallas
 - Montrose at Welch
 - Montrose at W. Drew
 - Montrose Hawthorne
 - Montrose at Colquitt
 - Montrose at Richmond
 - Montrose between W. Dallas and Peden
 - Montrose northbound lanes between Peden and Westheimer
 - Montrose Southbound lanes between Willard and Welch
 - Montrose Southbound lanes between Jackson and Hyde Park
 - Montrose Southbound lanes between Missouri and Westheimer
 - Montrose between Lovett and Hawthorne
 - Montrose Northbound lanes between Hawthorne and Kipling
 - Montrose between Kipling and Branard
 - Montrose between W. Main and Woodrow
 - Montrose between Autry and Bissonnet
- **Refresh Pavement Markings:**
 - Montrose between W. Dallas and Bissonnet
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Construct missing ramps and reconstruct existing ramps
 - Montrose at Peden
 - Montrose at Willard
 - Montrose at Welch
 - Montrose at Jackson
 - Montrose at Hyde Park
- Montrose at California
- Montrose at Hawthorne
- Montrose at Marshall
- Montrose at Sul Ross
- Montrose at Branard
- Montrose at Oakley
- Reconstruct ramps
 - Montrose at W. Dallas
 - Montrose at W. Clay
 - Montrose at W. Gray
 - Montrose at Bomar
 - Montrose at W. Drew
 - Montrose at Fairview
 - Montrose at Missouri
 - Montrose at Westheimer
 - Montrose at Lovett
 - Montrose at Harold
 - Montrose at Kipling
 - Montrose at W. Alabama
 - Montrose at W. Main
 - Montrose at Colquitt
 - Montrose at Richmond
 - Montrose at Woodrow
 - Montrose at Autrey
 - Montrose at Chelsea
 - Montrose at Milford
 - Montrose at Barkdull
 - Montrose at Bissonnet
- Reconstruct sidewalk
 - East side of Montrose between W. Dallas and W. Clay
 - Montrose between W. Gray and Bomar
 - East side of Montrose north of Welch
 - Montrose between Welch and Fairview
 - East side of Montrose between Hyde Park and Missouri
 - West side of Montrose between Missouri and California

- East side of Montrose between California and Westheimer
- Montrose between Westheimer and Lovett
- West side of Montrose between Lovett and Hawthorne
- West side of Montrose north of Harold
- West side of Montrose between Harold and Kipling
- East side of Montrose between Kipling and Marshall
- Montrose between Marshall and W. Alabama
- East side of Montrose between W. Alabama and Branard
- West side of Montrose south of Sul Ross
- East side of Montrose between Colquitt and Oakley
- Montrose from just north of Autry to Banks
- East side of Montrose from Milford to south of Barkdull
- Eastern side of Montrose at Berthea intersection
- West side of Montrose from Berthea to Bissonnet
- Reconstruct sidewalk at buckled locations
 - Montrose between W. Dallas and W. Gray
 - West side of Montrose between Kipling and Marshall
 - Montrose between Branard and W. Main
 - East side of Montrose between Oakley and Woodrow
 - West side of Montrose between Woodrow and US 59

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

The Waugh corridor is primarily used by vehicular traffic. There are seven METRO bus routes that operate on or intersect with Waugh.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the IH 610 North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 35: Fairview is a local route. It runs from the south end of Downtown along Fairview out to the Tanglewood area west of IH 610 West Loop.

Route 48: Navigation/W. Dallas is a local route. It runs from IH 10 at IH 610 East Loop, Downtown and US 290 at IH 610 West Loop, traveling along W. Dallas in the study area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.

Route 313: The Allen Parkway Special is a local route. It runs between Downtown and S. Shepherd traveling along W. Dallas in the study area.



Figure 12-1 (continued)
Waugh Drive Lane Configurations



Photo 12-2, Segment 6B
Waugh between Bell and Pierce
Fault crack parallel to vehicular path.



Photo 12-3, Segment 9
Waugh at W. Gray
Wear pattern and settling has created an uneven surface.

12.1 PARKING EVALUATION

In the District, parking is restricted on a block by block basis along Waugh. Generally, parking is allowed on only one side of the road. On-street parking is allowed along several of the smaller cross streets. Most of the businesses have their own parking lots. Waugh, north of Gray, is primarily commercial, while Waugh south of Gray is primarily residential with a mix commercial development as can be seen in **Figure 12-2**.

A visual inspection of parking lots along Waugh throughout the week revealed that there was at least one location where available parking was scarce and began to spill out in the surrounding neighborhood (**Table 12-1**). This location was at a bar/restaurant that has high peak hour volumes during the night hours. It was located in the lower section of Waugh, south of Welch in segment 18A.

Due to the nature of the businesses located in this section of W. Alabama, there are no locations that currently lend themselves to potential public parking lot locations.



Photo 12-4, Segment 16A
Waugh between Vermont and Welch
Prior patching and further settlement have created an uneven surface.

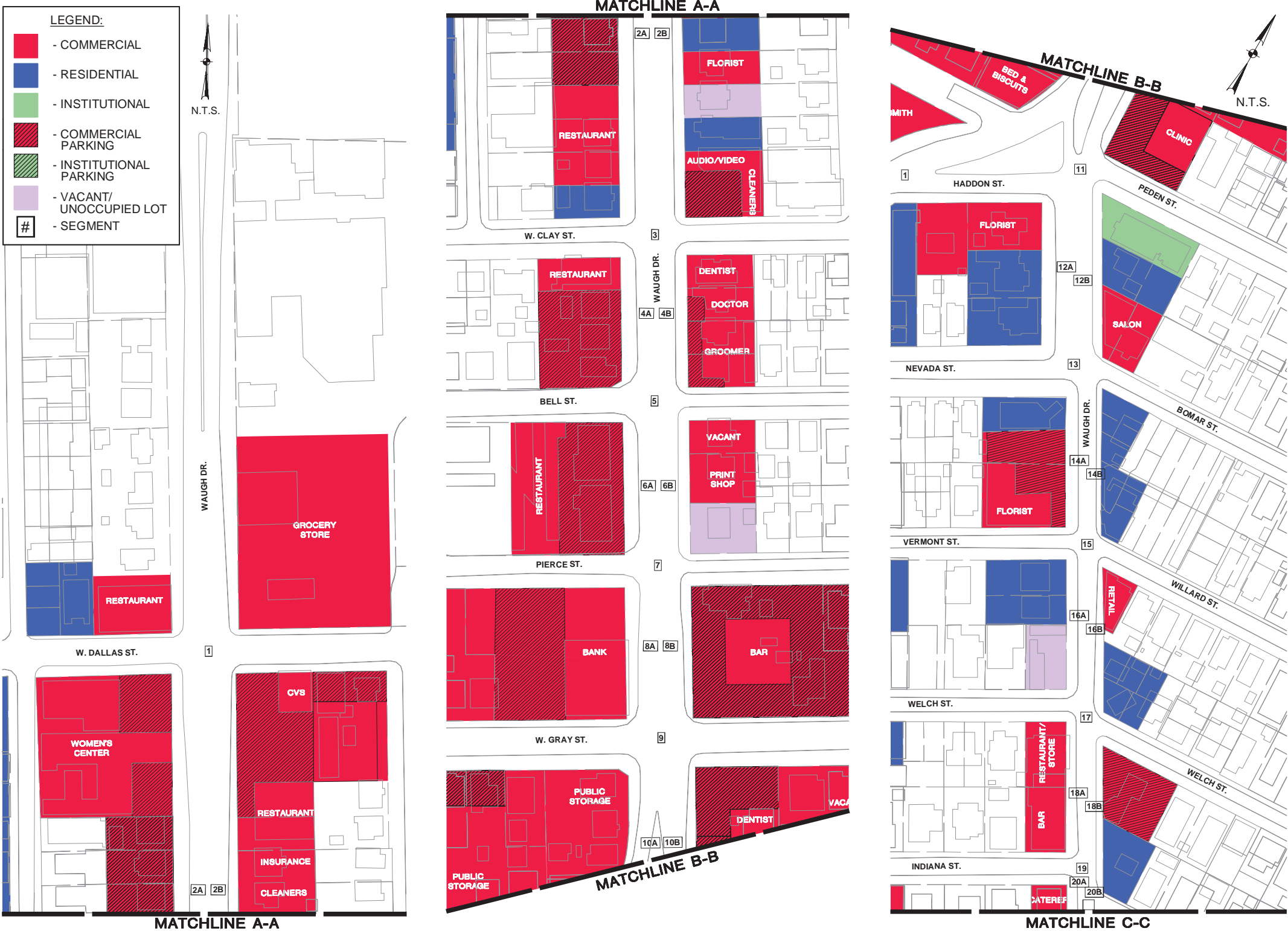


Figure 12-2
Waugh Drive Lane Parking and Land Use



Figure 12-2 (continued)
Waugh Drive Lane Parking and Land Use

Table 12-1
Waugh Drive Parking

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	W. Dallas	W. Clay	Commercial/Residential	No
2B			Commercial/Residential/Vacant	No
4A	W. Clay	Bell	Commercial	No
4B			Commercial	No
6A	Bell	Pierce	Commercial	No
6B			Commercial/ Vacant	No
8A	Pierce	W. Gray	Commercial	No
8B			Commercial	Maybe
10A	W. Gray	Haddon	Commercial	No
10B			Commercial	No
12A	Haddon	Nevada	Residential/Commercial	No
12B			Commercial/Residential/Institutional	No
14A	Nevada	Vermont	Commercial/Residential	No
14B			Residential	No
16A	Vermont	Welch	Residential/Vacant	No
16B			Residential/Commercial	No
18A	Welch	Indiana	Commercial	Yes
18B			Residential/Commercial Parking	No
20A	Indiana	W. Drew	Commercial	No
20B			Residential	No
22A	W. Drew	Michigan	Commercial	No
22B			Commercial/Residential	No
24A	Michigan	Jackson	Commercial/Residential	No
24B			Residential	No
26A	Jackson	Maryland	Residential	No
26B			Residential	No
28A	Maryland	Fairview	Residential/Commercial	No
28B			Residential	No
30A	Fairview	Hyde Park	Residential/Vacant	No
30B			Residential	No
32A	Hyde Park	Missouri	Residential	No
32B			Residential/Institutional	No
34A	Missouri	Waughcrest	Commercial/Residential	No
34B			Residential	No
36A	Waughcrest	California	Vacant	No
36B			Commercial/Residential	No
38A	California	Yoakum	Commercial	No
38B			Vacant	No
40A	Yoakum	Westtheimer	Commercial	No
40B			Commercial	No

12.2 PAVEMENT AND MEDIAN EVALUATION

Waugh is a four lane undivided roadway north of W. Gray and a two lane, northbound roadway south of W. Gray. The pavement is concrete with curb and gutter. Waugh pavement conditions were studied by means of visual observations and photos. Pavement conditions along Waugh varied between good, acceptable, and poor. **Table 12-2** summarizes the results of the pavement and median review. **Figure 12-3** graphically depicts the pavement conditions observed along Waugh. **Photos 12-1 through 12-8** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 12-5, Segment 25
Waugh at Jackson

Alligator cracking in the intersection has sunken down creating a place for ponding.

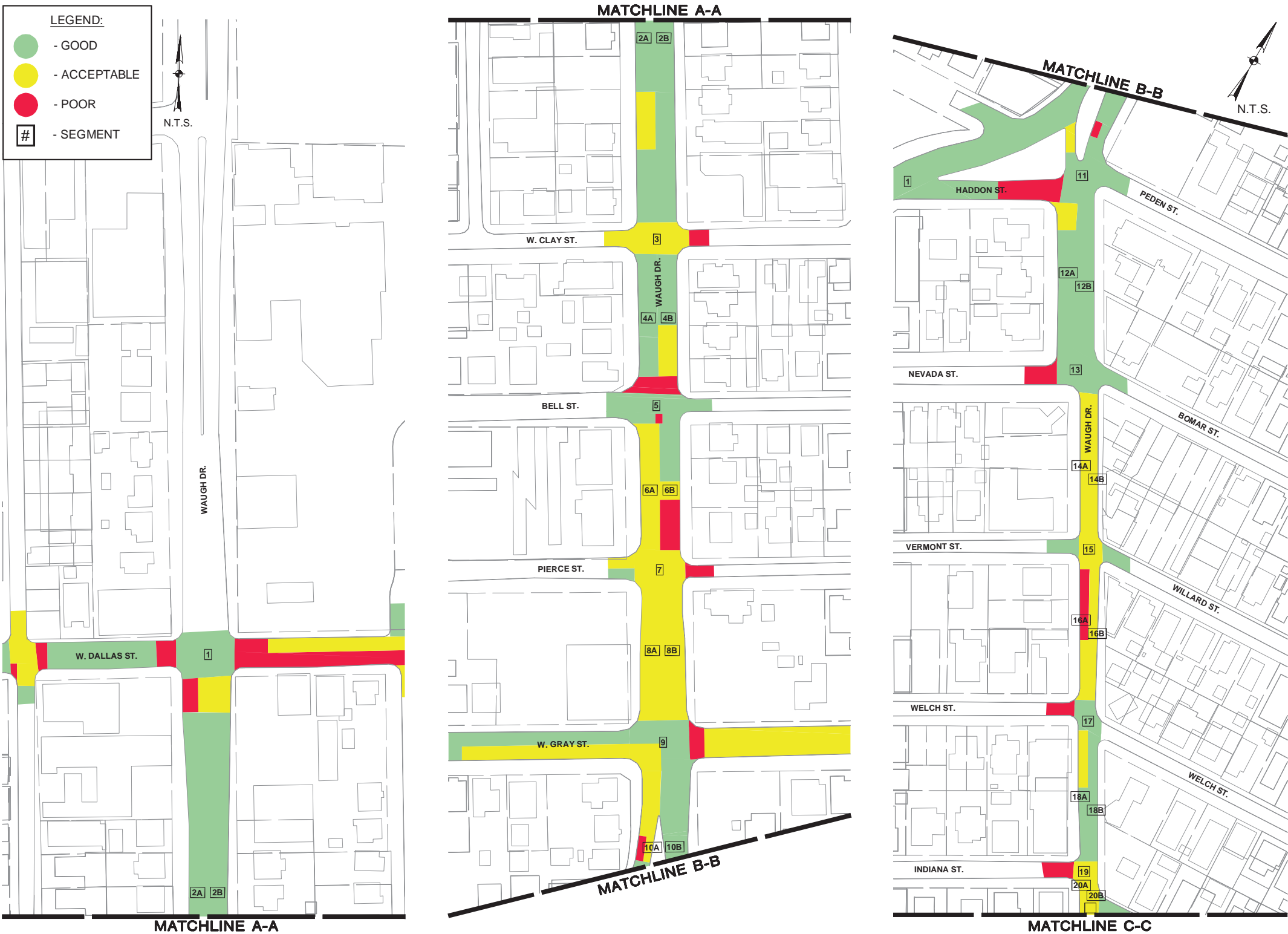


Figure 12-3
Waugh Drive Lane Pavement Conditions

Table 12-2
Waugh Drive Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Waugh at W. Dallas			Good	N/A	
2A		W. Dallas	W. Clay	Good	N/A	
2B				Good	N/A	
3	Waugh at W. Clay			Acceptable	N/A	
4A		W. Clay	Bell	Good	N/A	
4B				Good/ Acceptable	N/A	
5	Waugh at Bell			Good	N/A	
6A		Bell	Pierce	Acceptable	N/A	
6B				Good/ Poor	N/A	
7	Waugh at Pierce			Acceptable	N/A	
8A		Pierce	W. Gray	Acceptable	N/A	
8B				Acceptable	N/A	
9	Waugh at W. Gray			Good	N/A	
10A		W. Gray	Haddon	Acceptable/ Good	N/A	
10B				Good	N/A	
11	Waugh at Haddon/ Peden			Good	N/A	
12A		Haddon	Nevada	Good	N/A	
12B				Good	N/A	
13	Waugh at Nevada			Good	N/A	
14A		Nevada	Vermont	Acceptable	N/A	
14B				Acceptable	N/A	
15	Waugh at Vermont			Acceptable	N/A	
16A		Vermont	Welch	Poor/ Acceptable	N/A	
16B				Acceptable	N/A	
17	Waugh at Welch			Good	N/A	
18A		Welch	Indiana	Acceptable/ Good	N/A	
18B				Good	N/A	
19	Waugh at Indiana			Acceptable	N/A	
20A		Indiana	W. Drew	Acceptable	N/A	
20B				Acceptable	N/A	
21	Waugh at W. Drew			Acceptable	N/A	
22A		W. Drew	Michigan	Good	N/A	
22B				Good	N/A	
23	Waugh at Michigan			Acceptable	N/A	
24A		Michigan	Jackson	Good	N/A	
24B				Good	N/A	

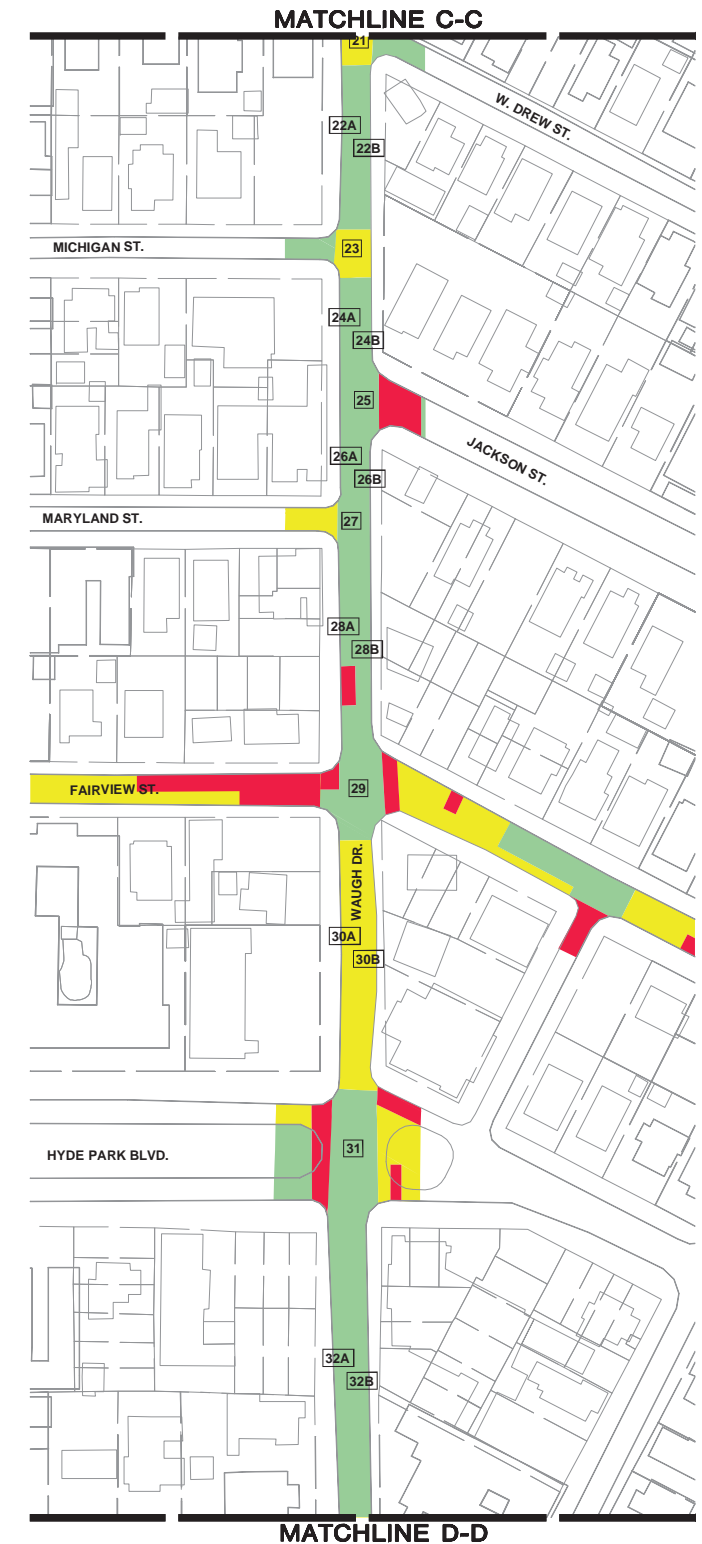


Figure 12-3 (continued)
Waugh Drive Lane Pavement Conditions

Table 12-2 (continued)
Waugh Drive Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
25	Waugh at Jackson			Good	N/A	
26A	Waugh at Jackson	Jackson	Maryland	Good	N/A	
26B				Good	N/A	
27	Waugh at Maryland			Good	N/A	
28A	Waugh at Maryland	Maryland	Fairview	Good	N/A	
28B				Good	N/A	
29	Waugh at Fairview			Good	N/A	
30A	Waugh at Fairview	Fairview	Hyde Park	Acceptable	N/A	
30B				Acceptable	N/A	
31	Waugh at Hyde Park			Good	N/A	
32A	Waugh at Hyde Park	Hyde Park	Missouri	Good	N/A	
32B				Good	N/A	
33	Waugh at Missouri			Acceptable	N/A	
34A	Waugh at Missouri	Missouri	Yoakum	Good	N/A	
34B				Good	N/A	
35	Waugh at Waughcrest			Good	N/A	
36A	Waugh at Waughcrest	Yoakum	California	Good	N/A	
36B				Good	N/A	
37	Waugh at California			Acceptable	N/A	
38A	Waugh at California	California	Yoakum	Good	N/A	
38B				Good	N/A	
39	Waugh at Yoakum			Good/ Acceptable	N/A	
40A	Waugh at Yoakum	Yoakum	Westheimer	Good	N/A	
40B				Good	N/A	
41	Waugh at Westheimer			Westheimer	N/A	

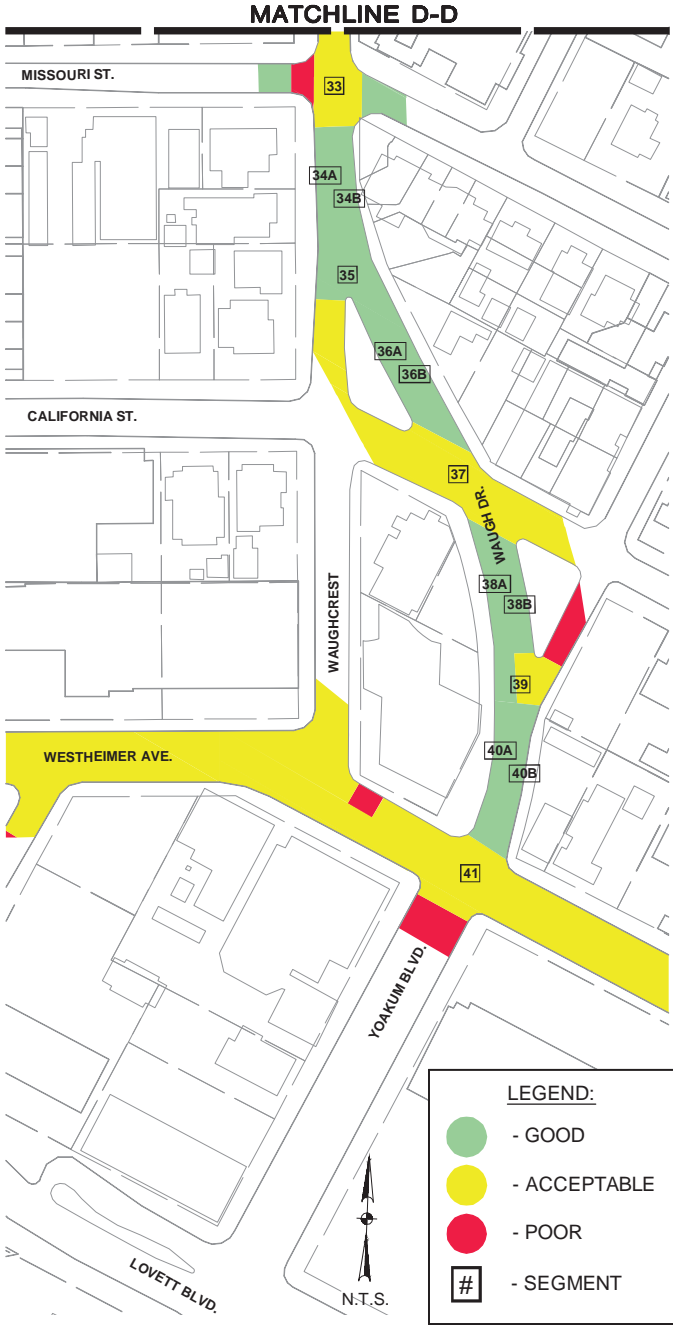


Figure 12-3 (continued)
Waugh Drive Lane Pavement Conditions

12.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 12-4**, this section of Waugh has four traffic signals. Intersections that are not signal controlled are two-way stop controlled on the minor approaches.

There is limited parking along the length of Waugh in the study area. Generally, sight distances appear sufficient.

Generally, the pavement markings were in good condition. There were a few areas where the markings were in poor or acceptable condition due to the wear and tear. It is our recommendation that the pavement markings along Waugh (lane markings, stop bars, and crosswalks) be either refreshed or completely redone.



Photo 12-6, Segment 31
Waugh at Hyde Park
Cracking in the intersection, with sections that are missing

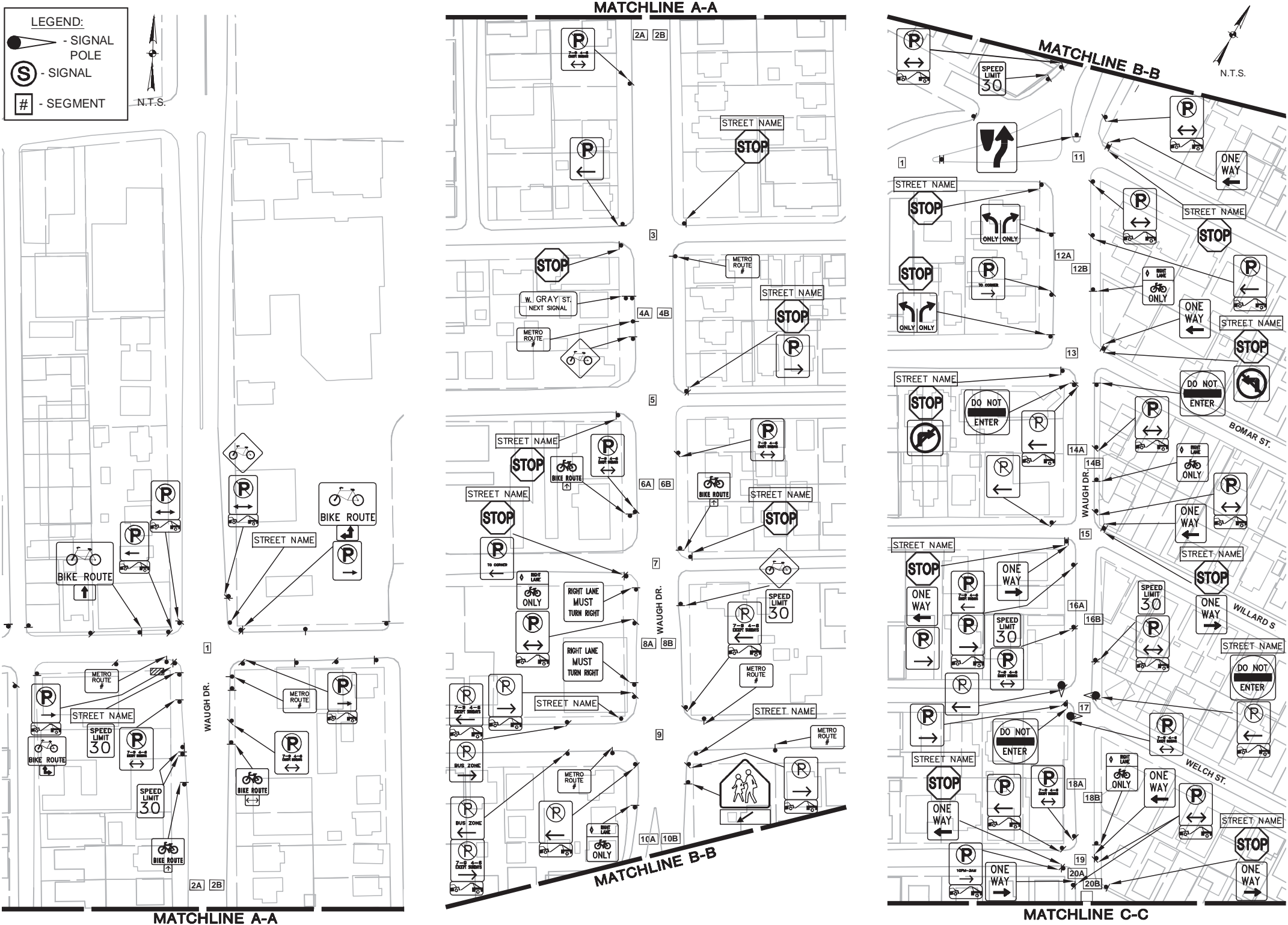


Figure 12-4
Waugh Drive Lane Signs and Intersection Control

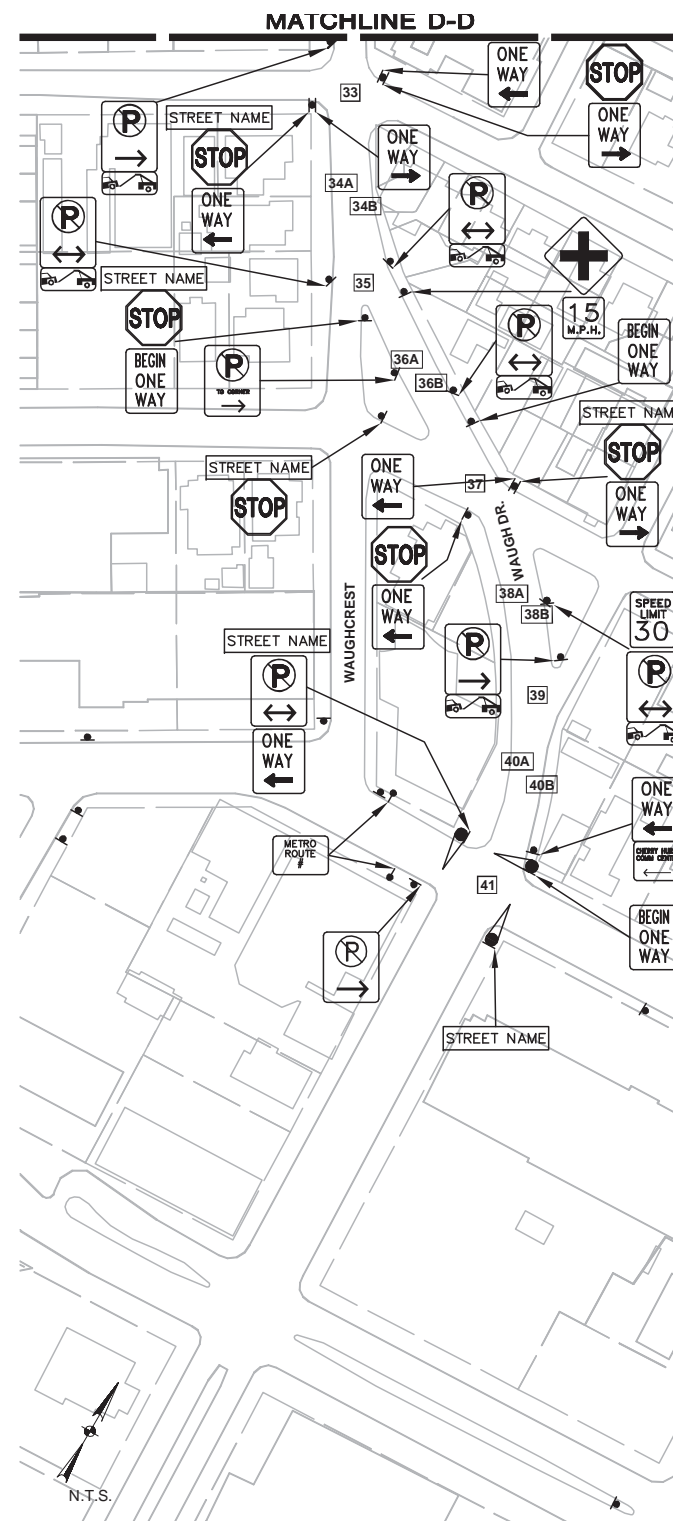
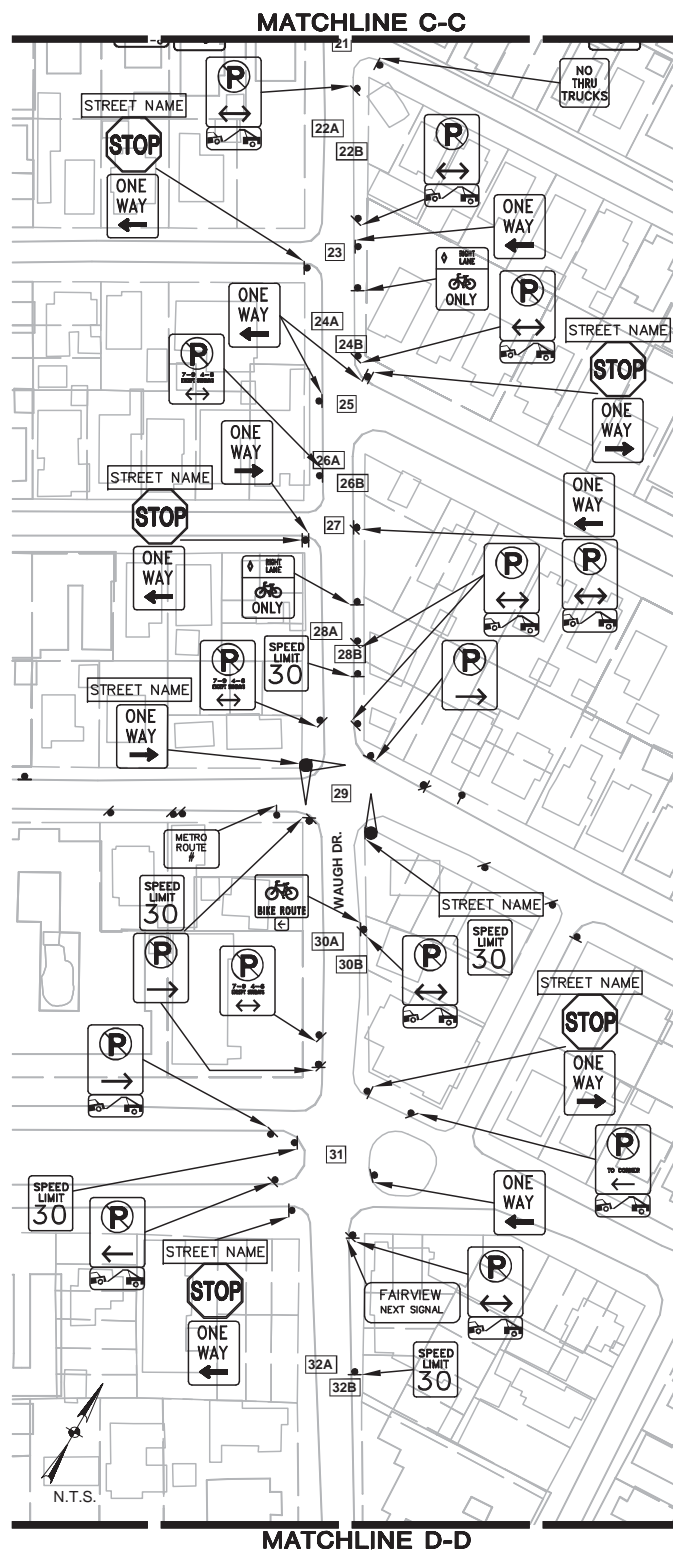


Figure 12-4 (continued)
Waugh Drive Lane Signs and Intersection Control



Photo 12-7, Segment 39
Waugh at Yoakum
Roadway is settling unevenly near the curb.



Photo 12-9, Segment 4B
Waugh between W. Clay and Bell
Sidewalk is severely cracked and used for the parking, making it hard to access as a pedestrian.



Photo 12-8, Segment 40B
Waugh between Yoakum and Westheimer
Roadside landscaping is encroaching on the bike lane.



Photo 12-10, Segment 7
Waugh at Pierce
Curb is broken at the ramp, exposing rebar.

12.4 SIDEWALK AND CROSSWALK EVALUATION
 Sidewalks, ramps, and crosswalks on Waugh between W. Dallas and Westheimer were studied by means of visual observation and photos. **Table 12-3** summarizes sidewalk conditions, **Table 12-4** summarizes ramp conditions, and **Table 12-5** summarizes crosswalk conditions along Waugh. **Figure 12-5** graphically depicts the results of the sidewalk and ramp evaluation along Waugh. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalk. Issues observed with ramps were unevenness between ramps and pavement, broken ramps, steepness, and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, and/or crosswalk pavement markings. **Photos 12-9** through **12-19** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 12-11, Segment 9
Waugh at W. Gray
 Broken ramp was patched with a steep grade. A section of pavement is missing

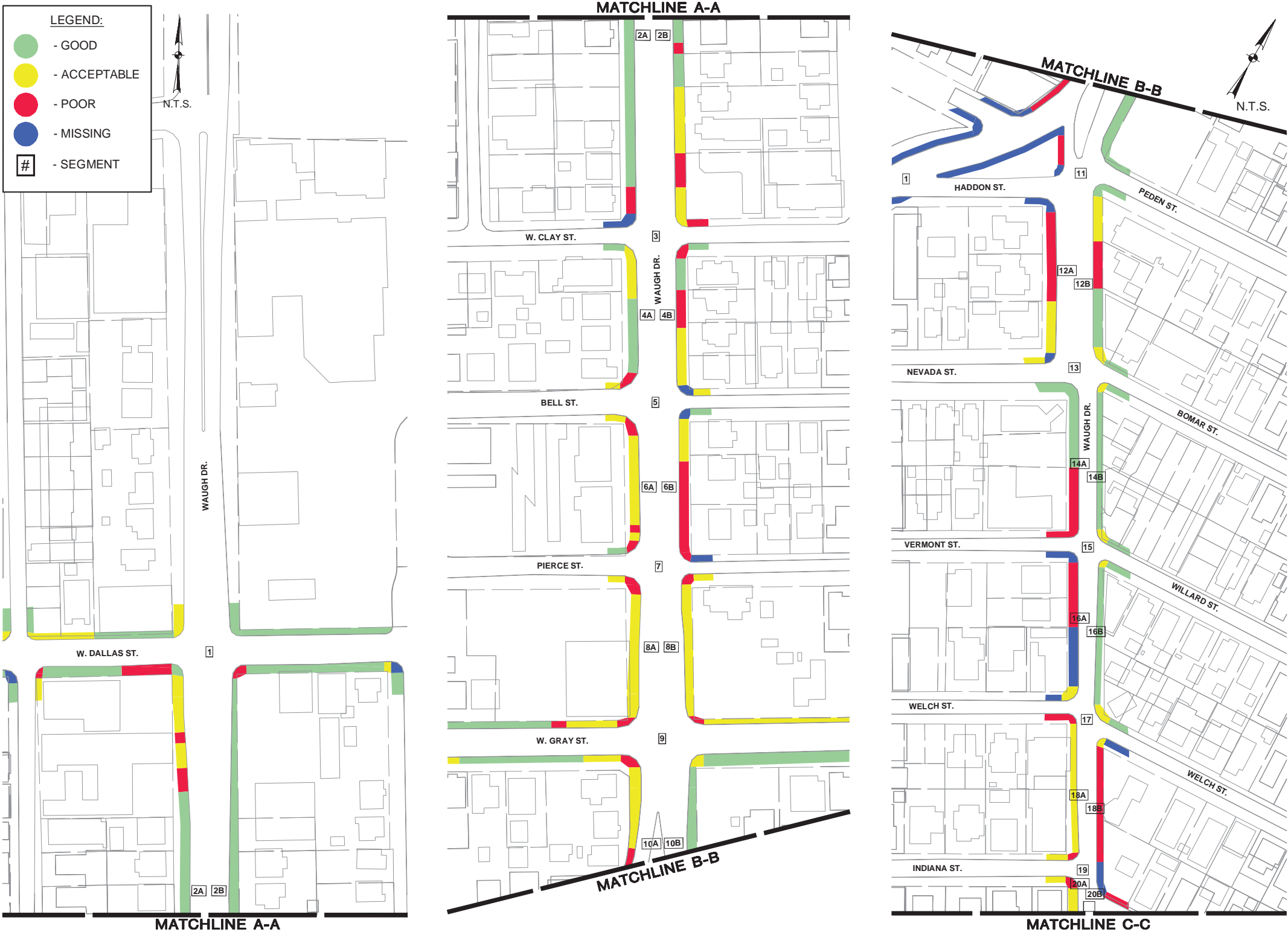


Figure 12-5
Waugh Drive Lane Sidewalk and Ramp Conditions

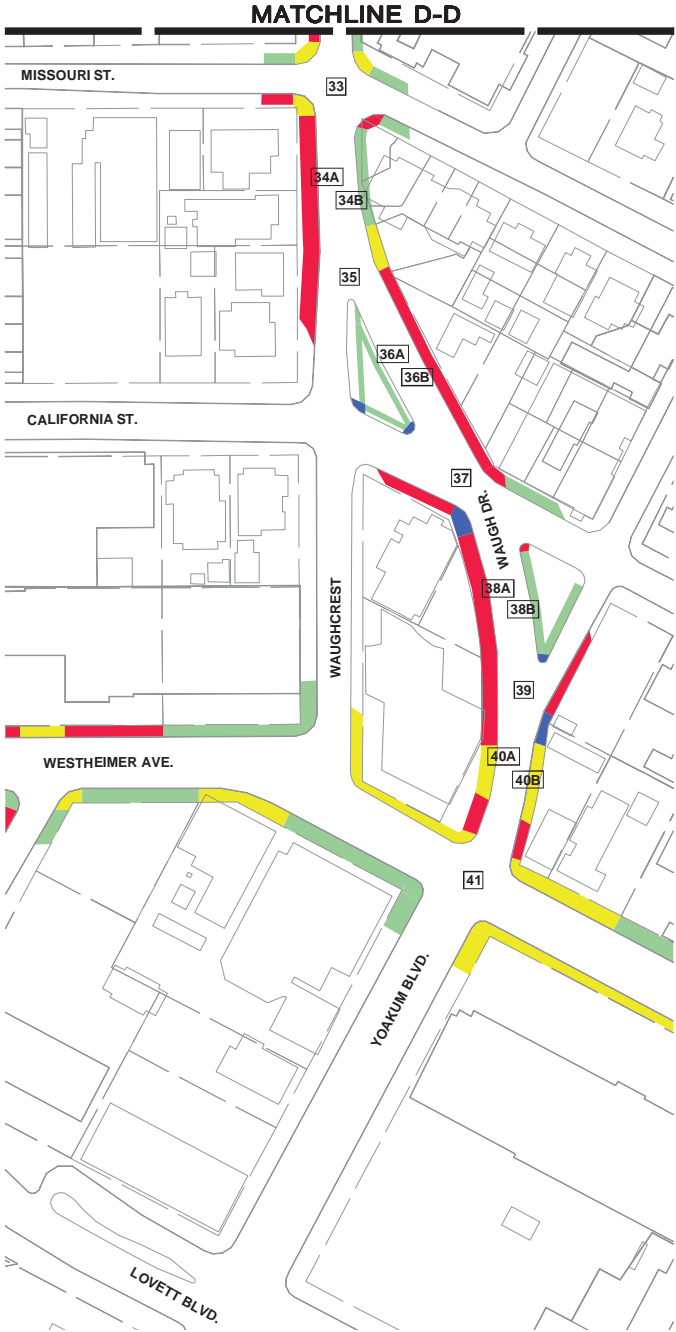
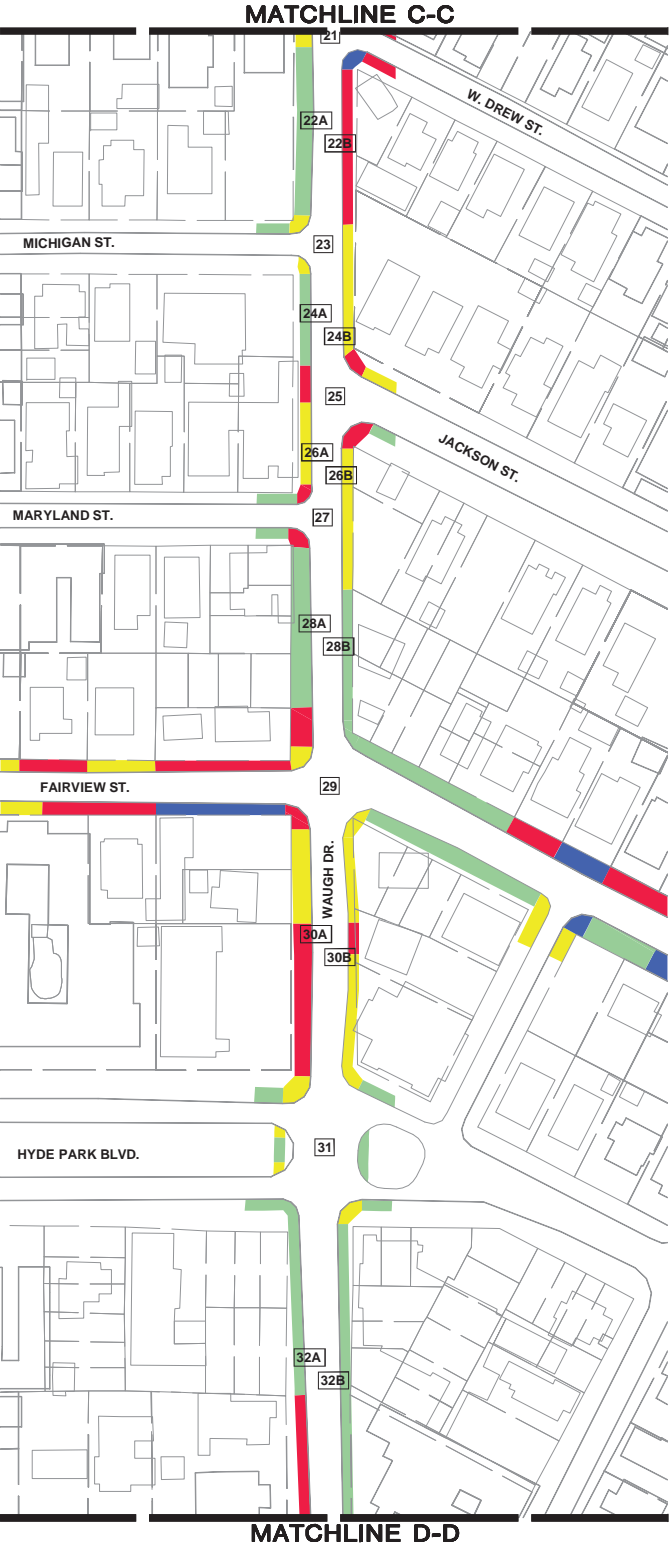


Figure 12-5
Waugh Drive Lane Sidewalk and Ramp Conditions

Table 12-3
Waugh Drive Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	W. Dallas	W. Clay	Good/ Acceptable/ Poor	
2B			Good/ Acceptable/ Poor	
4A	W. Clay	Bell	Good/ Acceptable	
4B			Acceptable/ Poor/ Good	
6A	Bell	Pierce	Acceptable	with section of poor
6B			Poor/ Acceptable	
8A	Pierce	W. Gray	Acceptable	
8B			Acceptable	
10A	W. Gray	Haddon	Acceptable/ Poor	
10B			Good	
12A	Haddon	Nevada	Poor/ Acceptable	
12B			Good/ Acceptable/ Poor	
14A	Nevada	Vermont	Good/ Poor	
14B			Good	
16A	Vermont	Welch	Poor/ Missing	
16B			Good	
18A	Welch	Indiana	Acceptable	
18B			Poor/ Missing	
20A	Indiana	W. Drew	Acceptable	
20B			Missing	
22A	W. Drew	Michigan	Good	
22B			Poor	
24A	Michigan	Jackson	Good	
24B			Acceptable	
26A	Jackson	Maryland	Acceptable	
26B			Acceptable	
28A	Maryland	Fairview	Good/ Poor	
28B			Good/ Acceptable	
30A	Fairview	Hyde Park	Poor/ Acceptable	
30B			Acceptable	with section of poor
32A	Hyde Park	Missouri	Good/ Poor	
32B			Good	
34A	Missouri	Waughcrest	Poor	
34B			Good Acceptable/ Poor	
36A	Waughcrest	California	Good	
36B			Poor	
38A	California	Yoakum	Poor	
38B			Good	
40A	Yoakum	Westheimer	Poor/ Acceptable	
40B			Acceptable/ Poor/ Missing	

Table 12-4
Waugh Drive Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Waugh at W. Dallas	Acceptable	Good	Good	Poor
3	Waugh at W. Clay	Missing	Acceptable	Acceptable	Poor
5	Waugh at Bell	Poor	Missing	Poor	Missing
7	Waugh at Pierce	Poor	Poor	Poor	Poor
9	Waugh at W. Gray	Poor	Poor	Poor	Acceptable
11	Waugh at Haddon/ Peden	Missing	Good	Missing	Good
13	Waugh at Nevada	Missing	Acceptable	Good	Acceptable
15	Waugh at Vermont	Poor	Acceptable	Missing	Acceptable
17	Waugh at Welch	Acceptable	Acceptable	Poor	Acceptable
19	Waugh at Indiana	Poor	N/A	Poor	N/A
21	Waugh at W. Drew	N/A	Missing	N/A	Missing
23	Waugh at Michigan	Acceptable	N/A	Acceptable	N/A
25	Waugh at Jackson	N/A	Poor	N/A	Poor
27	Waugh at Maryland	Poor	N/A	Poor	N/A
29	Waugh at Fairview	Acceptable	Good	Poor	Acceptable
31	Waugh at Hyde Park	Acceptable	Acceptable	Good	Acceptable
33	Waugh at Missouri	Acceptable	Acceptable	Acceptable	Poor
35	Waugh at Waughcrest	N/A	N/A	N/A	N/A
37	Waugh at California	Missing	Poor	Missing	Poor
39	Waugh at Yoakum	N/A	Missing	N/A	Missing
41	Waugh at Westheimer	Acceptable	Acceptable	Good	Acceptable

Table 12-5
Waugh Drive Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Waugh at W. Dallas	Good	Poor	Good	Good
3	Waugh at W. Clay	Acceptable	Good	N/A	N/A
5	Waugh at Bell	Good	Good	N/A	N/A
7	Waugh at Pierce	Good	Acceptable	N/A	N/A
9	Waugh at W. Gray	Acceptable	Poor	Acceptable	Acceptable
11	Waugh at Haddon/ Peden	Missing	Missing	N/A	N/A
13	Waugh at Nevada	Missing	Missing	N/A	N/A
15	Waugh at Vermont	Missing	Missing	N/A	N/A
17	Waugh at Welch	Good	Good	Missing	Good
19	Waugh at Indiana	N/A	Missing	N/A	N/A
21	Waugh at W. Drew	Missing	N/A	N/A	N/A
23	Waugh at Michigan	N/A	Poor	N/A	N/A
25	Waugh at Jackson	Missing	N/A	N/A	N/A
27	Waugh at Maryland	N/A	Missing	N/A	N/A
29	Waugh at Fairview	Acceptable	Acceptable	Acceptable	Acceptable
31	Waugh at Hyde Park	Missing	Missing	N/A	N/A
33	Waugh at Missouri	Missing	Missing	N/A	N/A
35	Waugh at Waughcrest	N/A	Missing	N/A	N/A
37	Waugh at California	Poor	Poor	N/A	N/A
39	Waugh at Yoakum	Missing		N/A	N/A
41	Waugh at Westheimer	-	-	Good	-



Photo 12-12, Segment 11
Waugh at Haddon/Peden
Ramp missing



Photo 12-13, Segment 12A
Waugh between Haddon/Peden and Nevada
Sidewalk cracking and settling



Photo 12-14, Segment 14B
Waugh between Nevada and Vermont
Whole sidewalk is on an angle



Photo 12-15, Segment 15
Waugh at Vermont
End of ramp missing or covered in dirt

12.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Pavement Reconstruction:**
 - Waugh south of W. Dallas
 - Waugh at W. Clay
 - Waugh from north of W. Bell to W. Gray
 - Southbound lanes of Waugh from W. Gray to south of Haddon
 - Waugh from Nevada/Bomar to south of Welch
 - Waugh from Indiana to W. Drew
 - Waugh at Michigan
 - Waugh from north of Fairview to Hyde Park
 - Waugh at Missouri
 - Waugh at California
 - Waugh at Westheimer
- **Pavement Markings:**
 - Montrose between W. Dallas and Westheimer.
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Construct missing ramps and reconstruct existing ramps
 - Waugh at all intersection
 - Reconstruct sidewalk
 - West side of Waugh south of W. Dallas
 - East side of Waugh from north of W. Clay to W. Gray
 - West side of Waugh either side of W. Clay
 - West side of Waugh from Bell to Nevada/Bomar
 - East side of Waugh between Haddon/Peden and Nevada/Bomar
 - West side of Waugh from north of Vermont/Willard to Welch
 - Waugh from Welch to W. Drew
 - East side of Waugh from W. Drew to south of Jackson
 - West side of Waugh north of Maryland
 - West side of Waugh from north of Fairview to Hyde Park
 - Waugh between Fairview and Hyde Park
 - West side of Waugh from north Missouri to California
 - East side of Waugh from north of California to Westheimer

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.



Photo 12-16, Segment 21
Waugh at W. Drew
Broken sidewalk with numerous tripping hazards and no ramp



Photo 12-18, Segment 36B
Waugh between Waughcrest and California
Thin piece of plywood covers a hole in sidewalk.



Photo 12-17, Segment 32A
Waugh between Hyde Park and Missouri
Roots have caused sidewalk movement and tripping hazards.



Photo 12-19, Segment 39
Waugh at Yoakum
Missing ramps

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SECTION 13: COMMONWEALTH STREET

Commonwealth is a north-south collector in the Houston area. It begins at Westheimer and continues northward to just south of W. Gray where it joins with Waugh. In the study area, between Westheimer and W. Dallas, it is one way, southbound with two lanes. There are three signalized intersections in this section of Commonwealth.

- Commonwealth at Welch
- Commonwealth at Fairview
- Commonwealth at Westheimer

Figures 13-1 shows the lane configurations for this segment of Commonwealth.



Photo 13-1, Segment 7
Commonwealth at Welch

Pavement cracks near the edges and previous patch is no longer level with surrounding pavement.

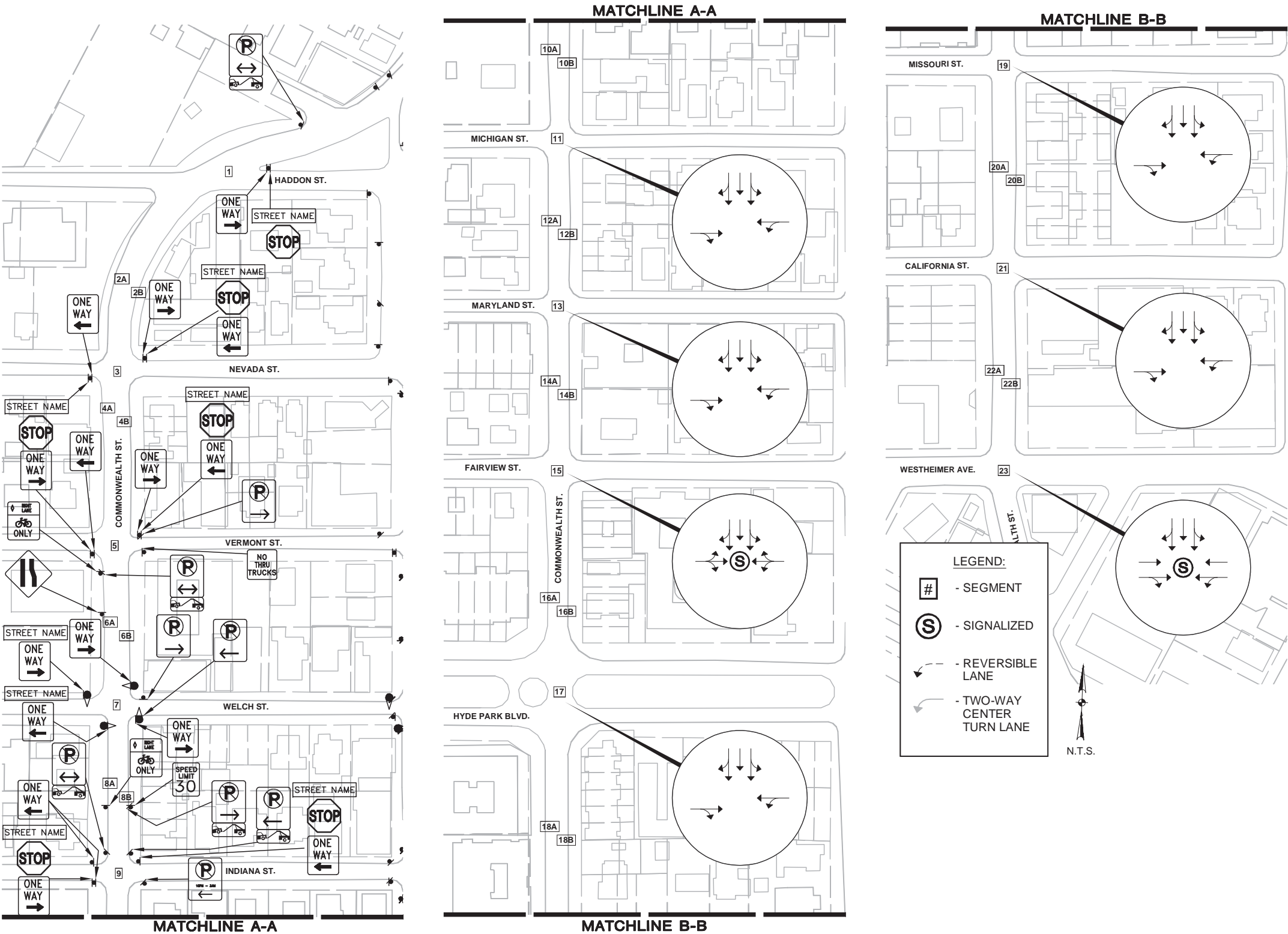


Figure 13-1
Commonwealth Street Lane Configurations

The Commonwealth corridor is primarily used by vehicular traffic. There are four METRO bus routes that operate on or intersect with Commonwealth.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the IH 610 North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 34: Montrose Crosstown is a local route. It runs from the north near IH 45, IH 610 North Loop, and the Height Transit Center, south to the Texas Medical Center traveling along Montrose in the study area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.



**Photo 13-2, Segment 9
Commonwealth at Indiana**
Uneven roadway surface with small cracks.

**Table 13-1
Commonwealth Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	Haddon	Nevada	Commercial	No
2B			Commercial/ Residential	No
4A	Nevada	Vermont	Commercial/ Residential	No
4B			Residential	No
6A	Vermont	Welch	Commercial	No
6B			Residential/ Commercial	No
8A	Welch	Indiana	Residential/ Commercial	No
8B			Residential	No
10A	Indiana	Michigan	Residential	No
10B			Commercial/ Residential	No
12A	Michigan	Maryland	Residential	No
12B			Residential	No
14A	Maryland	Fairview	Residential	No
14B			Residential	No
16A	Fairview	Hyde Park	Residential/ Commercial	No
16B			Residential	No
18A	Hyde Park	Missouri	Residential	No
18B			Residential	No
20A	Missouri	California	Residential/ Commercial	No
20B			Residential	No
22A	California	Westheimer	Commercial/ Residential	No
22B			Commercial	No



**Photo 13-3, Segment 12A
Commonwealth between Michigan and Maryland**
Cracking with small sections of pavement missing that create pot holes.



**Photo 13-4, Segment 17
Commonwealth at Hyde Park**
One section of the pavement is raised above the rest, creating an abrupt speed bump.

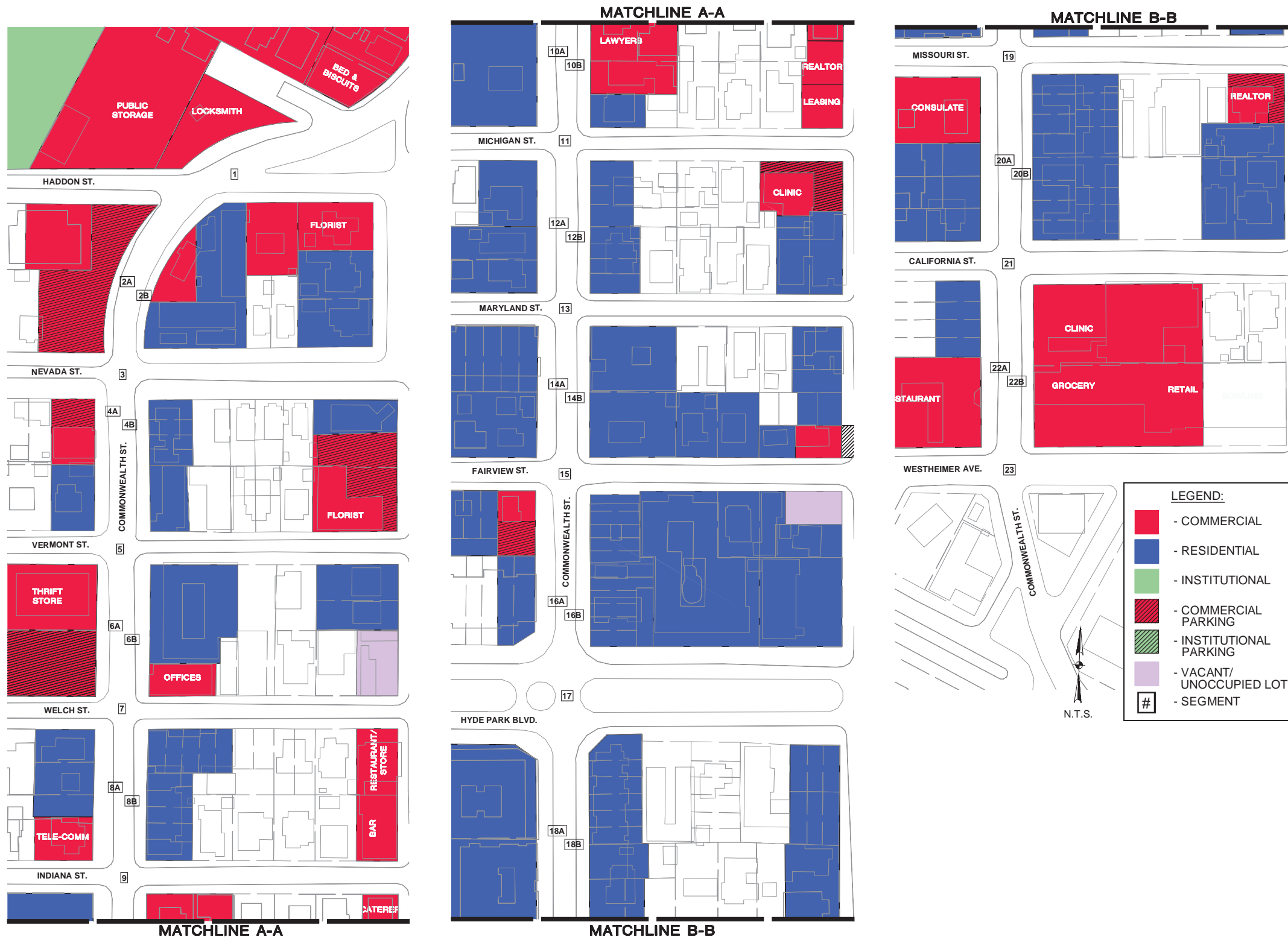


Figure 13-2
Commonwealth Street Parking and Land Use

13.1 PARKING EVALUATION

In the District, parking is allowed along select blocks of Commonwealth. On-street parking is allowed along several of the smaller cross streets. Most of the businesses have their own parking lots. Commonwealth is primarily residential with a mix of commercial development as can be seen in **Figure 13-2**.

A visual inspection of parking lots along Commonwealth throughout the week revealed no locations where available parking lots were full and parking began to spilling out in the surrounding neighborhood (**Table 13-1**).

At this time there did not appear to be the need to establish potential public parking garage locations due to adequate existing parking.



Photo 13-5, Segment 22A
Commonwealth between California and Westheimer
Alligator cracking near intersection

13.2 PAVEMENT AND MEDIAN EVALUATION

Commonwealth is a two lane, southbound street in the Montrose Management District. The pavement is concrete with curb and gutter. Commonwealth pavement conditions were studied by means of visual observations and photos. Pavement conditions along Commonwealth varied between good, acceptable, and poor. **Table 13-2** summarizes the results of the pavement and median review. **Figure 13-3** graphically depicts the pavement conditions observed along Commonwealth. **Photos 11-1** through **11-5** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 13-6, Segment 2B
Commonwealth between Haddon and Nevada
Missing sidewalk.

Table 13-2
Commonwealth Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Commonwealth at Haddon			Good	N/A	
2A		Haddon	Nevada	Good/ Acceptable	N/A	
2B				Good/ Acceptable	N/A	
3	Commonwealth at Nevada			Good/ Acceptable/ Poor	N/A	
4A		Nevada	Vermont	Good	N/A	
4B				Good	N/A	
5	Commonwealth at Vermont			Acceptable	N/A	
6A		Vermont	Welch	Good	N/A	
6B				Good	N/A	
7	Commonwealth at Welch			Poor	N/A	
8A		Welch	Indiana	Poor/ Acceptable	N/A	
8B				Acceptable	N/A	
9	Commonwealth at Indiana			Acceptable	N/A	
10A		Indiana	Michigan	Good	N/A	
10B				Good	N/A	
11	Commonwealth at Michigan			Poor	N/A	
12A		Michigan	Maryland	Poor	N/A	
12B				Good	N/A	
13	Commonwealth at Maryland			Acceptable	N/A	
14A		Maryland	Fairview	Good/ Acceptable	N/A	
14B				Good/ Acceptable	N/A	
15	Commonwealth at Fairview			Acceptable	N/A	
16A		Fairview	Hyde Park	Good	N/A	
16B				Acceptable	N/A	
17	Commonwealth at Hyde Park			Good/ Acceptable	N/A	
18A		Hyde Park	Missouri	Acceptable/ Poor	N/A	
18B				Acceptable/ Poor	N/A	
19	Commonwealth at Missouri			Poor	N/A	
20A		Missouri	California	Poor/ Acceptable/ Good	N/A	
20B				Poor/ Acceptable/ Good	N/A	
21	Commonwealth at California			Acceptable	N/A	
22A		California	Westheimer	Good	N/A	
22B				Good	N/A	
23	Waugh at Westheimer			Acceptable	N/A	

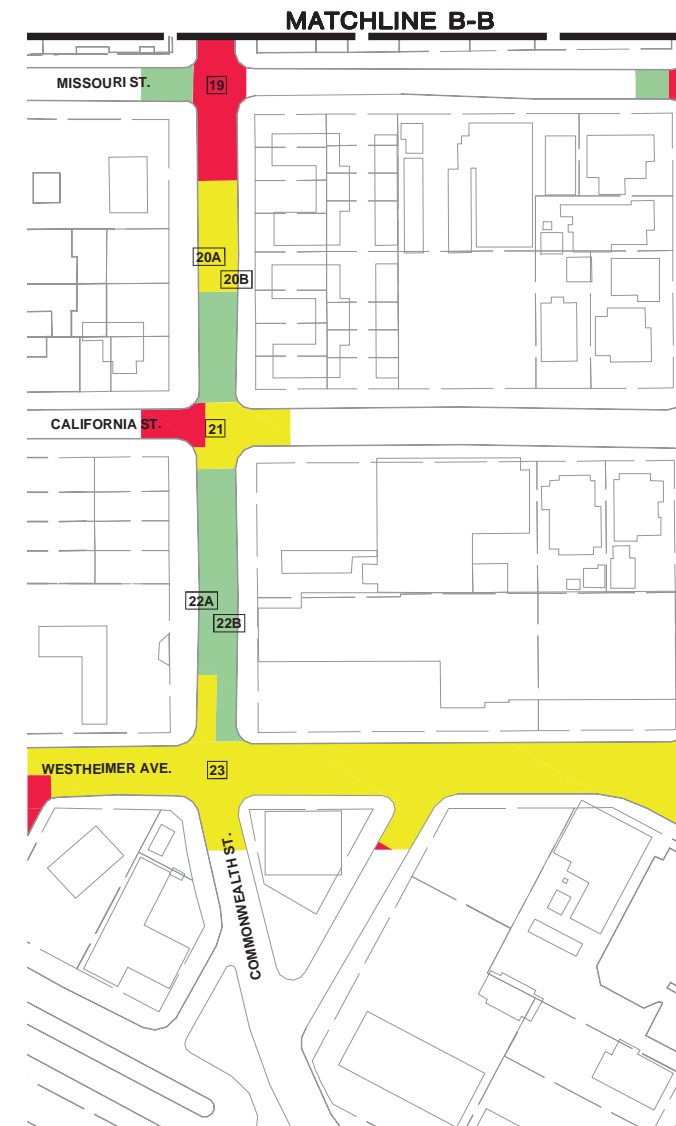
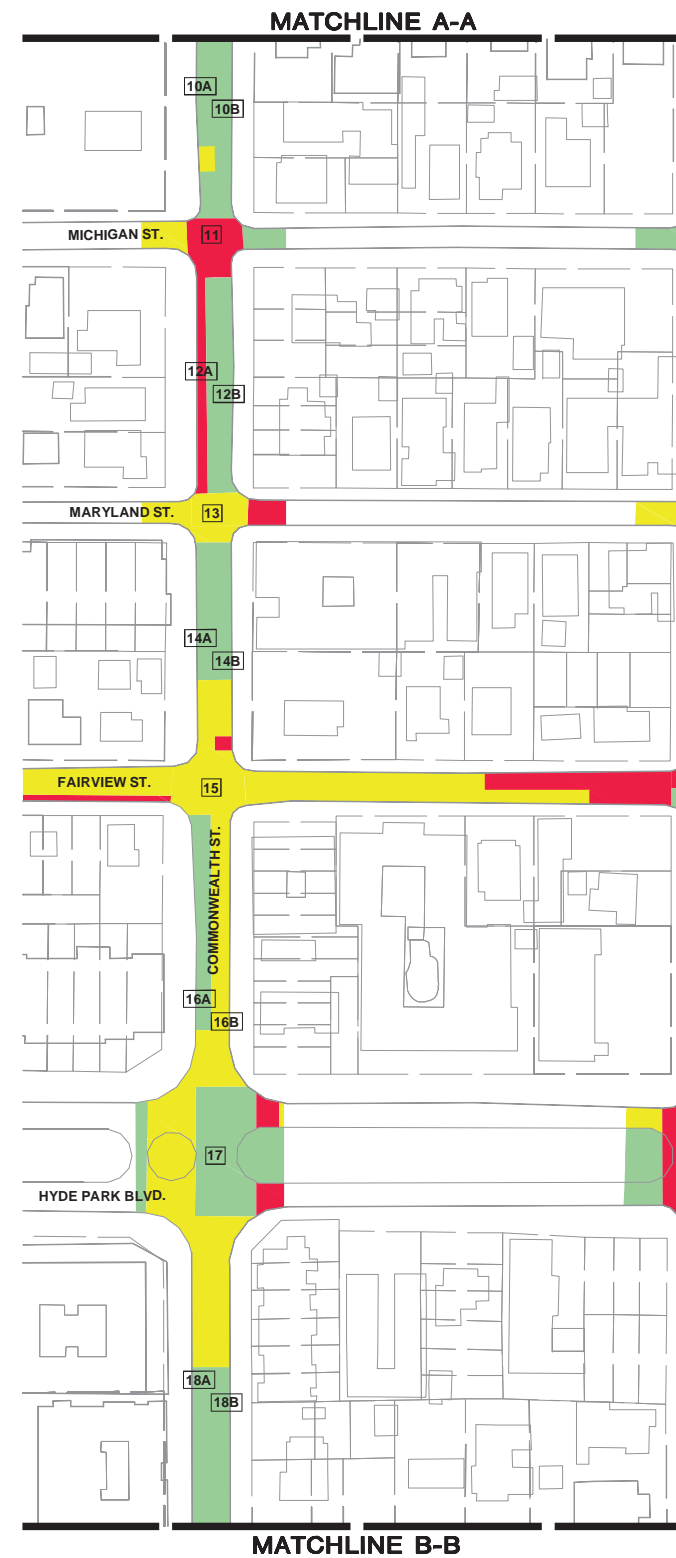
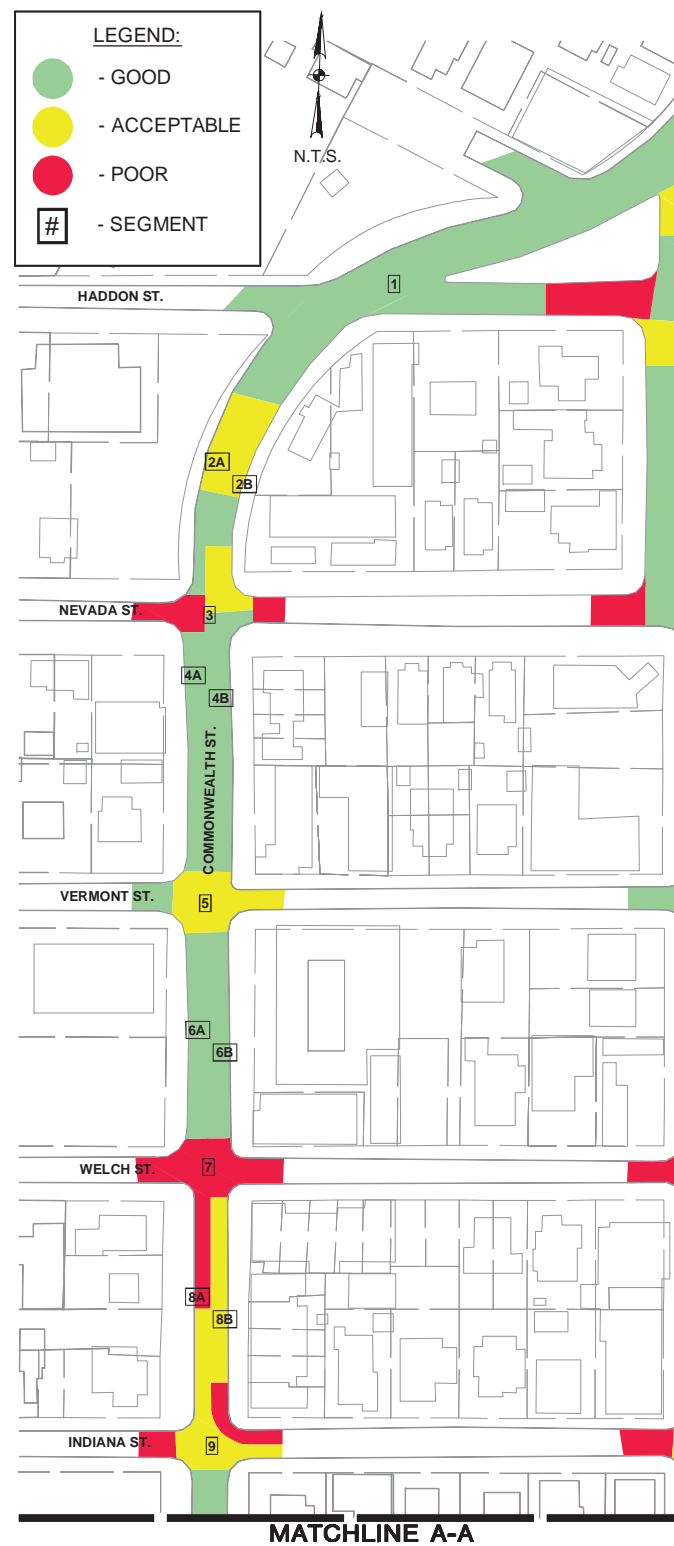


Figure 13-3
Commonwealth Street Pavement Conditions



Photo 13-7, Segment 3
Commonwealth at Nevada
Missing sidewalk and ramp



Photo 13-8, Segment 8A
Commonwealth between Welch and Indiana
Sidewalk has settled and is no longer flush with the adjacent pavement, creating a tripping hazard.

13.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figures 13-4**, this section of Commonwealth has only three traffic signals. Intersections that are not signal controlled are two-way stop controlled on the minor approaches.

There is parking allowed along select blocks on Commonwealth. Generally, sight distances appear sufficient. However, there are a few instances where sight distances are impeded by vegetation growing on adjacent properties. Vegetation is currently blocking drivers' view of northbound or southbound traffic when vehicles are trying to turn onto Commonwealth. Vegetation protruding into the public right of way should be trimmed.

In general, pavement markings were in good condition, and do not need to be either refreshed or repainted along Commonwealth.



Photo 13-9, Segment 8B
Commonwealth between Welch and Indiana
Sidewalk section has shifted, creating both a slant and a tripping hazard.

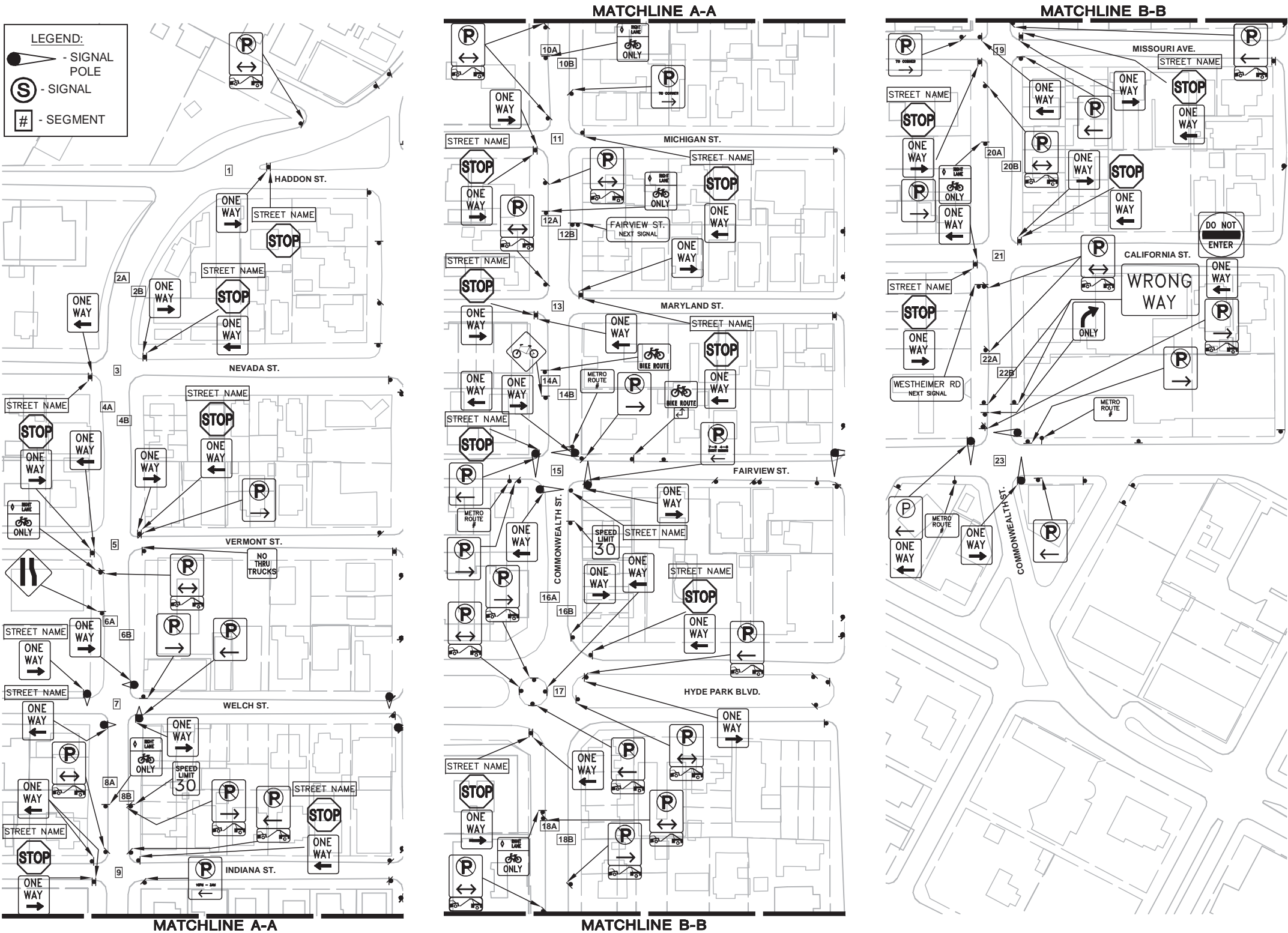


Figure 13-4
Commonwealth Street Signs and Intersection Control

13.4 SIDEWALK AND CROSSWALK EVALUATION
 Sidewalks, ramps, and crosswalks on Commonwealth between W. Gray and Westheimer were studied by means of visual observation and photos. **Table 13-3** summarizes sidewalk conditions, **Table 13-4** summarizes ramp conditions, and **Table 13-5** summarizes crosswalk conditions along Commonwealth. **Figure 13-5** graphically depicts the results of the sidewalk and ramp evaluation along Commonwealth. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and pavement, broken ramps, steepness, and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, and/or worn of crosswalk pavement markings. **Photos 13-6** through **13-13** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 13-10, Segment 12A
Commonwealth between Michigan and Maryland
 Path to a house has settled in comparison to the adjacent sidewalk, creating of tripping hazards.

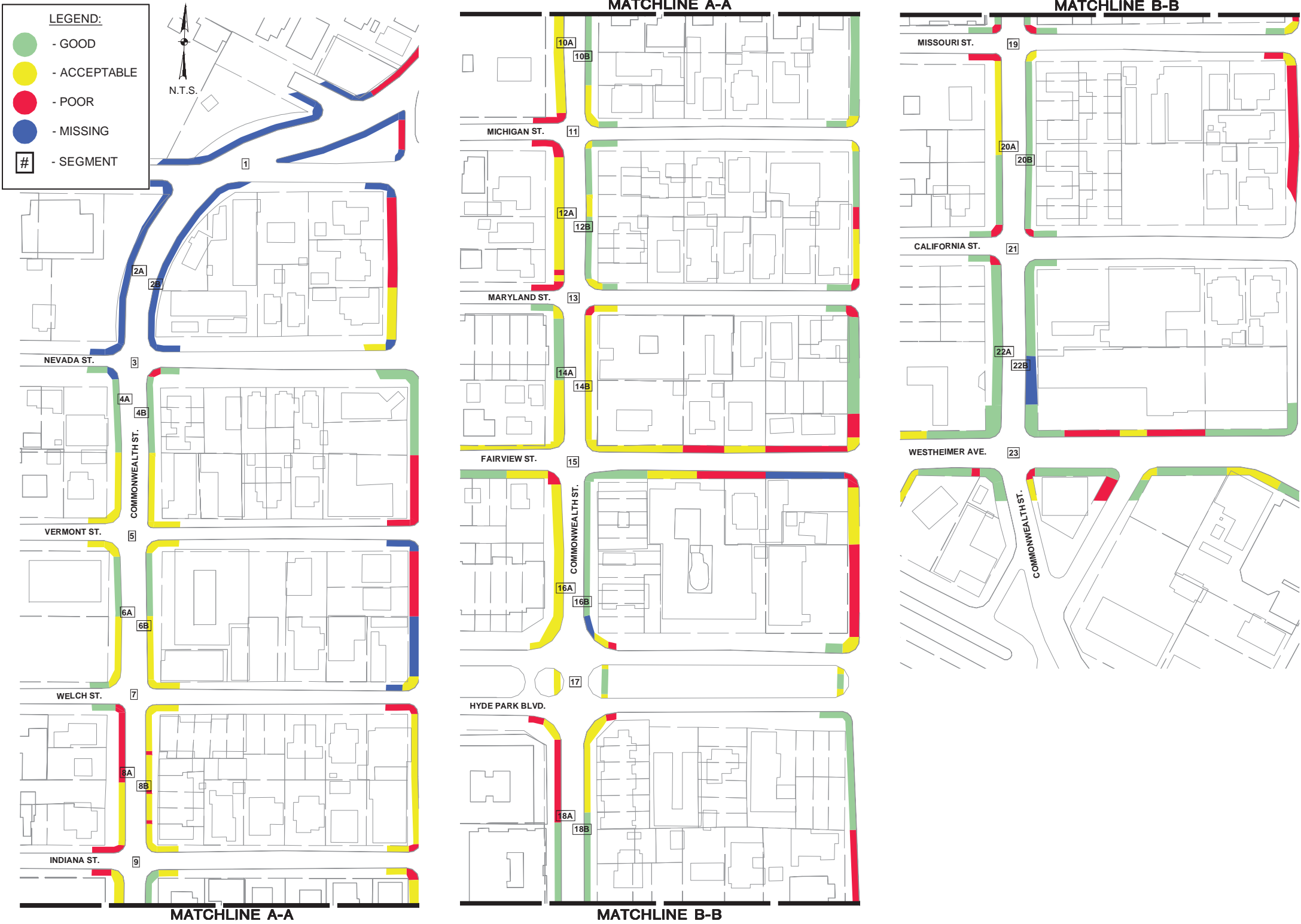


Figure 13-5
Commonwealth Street Sidewalk and Ramp Conditions



Photo 13-11, Segment 15
Commonwealth at Fairview
Appears to be a non-compliant ramp (too steep and too short)



Photo 13-12, Segment 18A
Commonwealth between Hyde Park and Missouri
Sidewalk settling and cracking



Photo 13-13, Segment 21
Commonwealth at California
Ramp appears to be non-compliant to ADA standards

Table 13-3
Commonwealth Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	Haddon	Nevada	Missing	
2B			Missing	
4A	Nevada	Vermont	Good/ Acceptable	
4B			Good/ Acceptable	
6A	Vermont	Welch	Good/ Acceptable	
6B			Good/ Acceptable	
8A	Welch	Indiana	Good/ Acceptable	with section of poor
8B			Acceptable	
10A	Indiana	Michigan	Acceptable	
10B			Good/ Acceptable	
12A	Michigan	Maryland	Acceptable	
12B			Good/ Acceptable	
14A	Maryland	Fairview	Good/ Acceptable	
14B			Acceptable	
16A	Fairview	Hyde Park	Acceptable	
16B			Good	with missing section
18A	Hyde Park	Missouri	Good/ Poor	
18B			Good/ Acceptable	
20A	Missouri	California	Acceptable/ Good	
20B			Good	
22A	California	Westheimer	Good	
22B			Good/ Missing	

Table 13-4
Commonwealth Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Commonwealth at Haddon	Missing	Missing	Missing	Missing
3	Commonwealth at Nevada	Missing	Missing	Missing	Poor
5	Commonwealth at Vermont	Acceptable	Acceptable	Acceptable	Acceptable
7	Commonwealth at Welch	Acceptable	Acceptable	Poor	Acceptable
9	Commonwealth at Indiana	Poor	Acceptable	Acceptable	Good
11	Commonwealth at Michigan	Poor	Acceptable	Poor	Acceptable
13	Commonwealth at Maryland	Poor	Acceptable	Acceptable	Poor
15	Commonwealth at Fairview	Acceptable	Acceptable	Poor	Good
17	Commonwealth at Hyde Park	Acceptable	Acceptable	Acceptable	Acceptable
19	Commonwealth at Missouri	Poor	Poor	Poor	Acceptable
21	Commonwealth at California	Poor	Poor	Poor	Good
23	Commonwealth at Westheimer	Good	Good	Good	Poor

Table 13-5
Commonwealth Street Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Commonwealth at Haddon	Missing	Missing	N/A	N/A
3	Commonwealth at Nevada	Missing	Missing	N/A	N/A
5	Commonwealth at Vermont	Missing	Missing	N/A	N/A
7	Commonwealth at Welch	Missing	Missing	N/A	N/A
9	Commonwealth at Indiana	Missing	Missing	N/A	N/A
11	Commonwealth at Michigan	Missing	Missing	N/A	N/A
13	Commonwealth at Maryland	Missing	Missing	N/A	N/A
15	Commonwealth at Fairview	Poor	Acceptable	Acceptable	Acceptable
17	Commonwealth at Hyde Park	Missing	Missing	N/A	N/A
19	Commonwealth at Missouri	Missing	Missing	N/A	N/A
21	Commonwealth at California	Missing	Missing	N/A	N/A
23	Commonwealth at Westheimer	Good	Good	Good	Good

13.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

- **Prune Vegetation:**
 - The length of the Commonwealth corridor
- **Pavement Reconstruction:**
 - Commonwealth between Haddon and Nevada
 - Commonwealth at Vermont
 - Commonwealth from Welch to Indiana
 - Commonwealth from north of Michigan to Maryland
 - Commonwealth from north of Fairview to south of Hyde Park
 - Commonwealth from north of Missouri to California
 - Commonwealth at Westheimer

- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Construct missing ramps and reconstruct existing ramps
 - Commonwealth at all intersections
 - Construct missing sidewalk and Reconstruct existing sidewalk
 - Commonwealth from W. Gray to Nevada
 - Commonwealth north of Vermont
 - Commonwealth from north of Welch to Indiana
 - West side of Commonwealth from Indiana to south of Hyde Park
 - East side of Commonwealth north of Michigan
 - East side of Commonwealth between Maryland and Fairview
 - East side of Commonwealth south of Hyde Park
 - West side of Commonwealth south of Missouri
 - East side of Commonwealth north of Westheimer
 - Reconstruct sidewalk at buckled locations
 - East side of Commonwealth between Michigan and Maryland

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

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SECTION 14: DUNLAVY STREET

Dunlavy Street is a north-south collector in the Houston area. It begins at Bissonnet Street just north of Rice University and continues northward to Allen Parkway. In the study area, between US 59 and W. Dallas, Dunlavy is two lanes in each direction. There are six signalized intersections in this section of Dunlavy.

- Dunlavy at W. Dallas
- Dunlavy at W. Gray
- Dunlavy at Fairview
- Dunlavy at Westheimer
- Dunlavy at W. Alabama
- Dunlavy at Richmond

Figures 14-1 shows the lane configurations for this segment of Dunlavy.

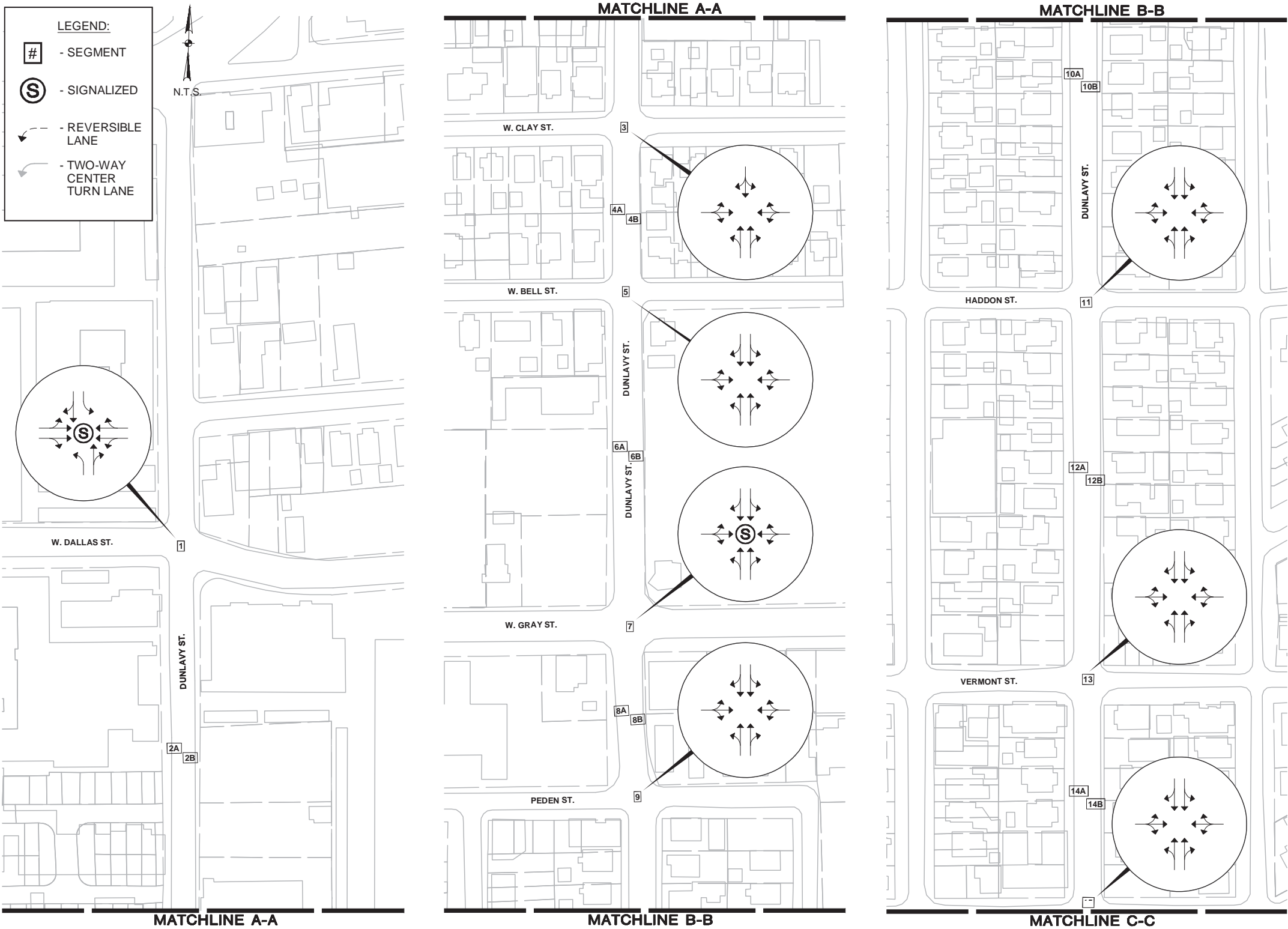


Figure 14-1
Dunlavy Street Lane Configurations

Route 313: The Allen Parkway Special is a local route. It runs between Downtown and S. Shepherd traveling along W. Dallas in the study area.





Figure 14-1 (continued)
Dunlavy Street Lane Configurations

14.1 PARKING EVALUATION

In the Montrose District, there is parking allowed along select blocks the length of Dunlavy. On-street parking is allowed along several of the smaller cross streets and most of the businesses have their own parking lots. This section of Dunlavy is a mix of commercial and residential development as can be seen in Figure 14-2.

A visual inspection of parking lots along Dunlavy throughout the week revealed no locations where available parking lots were full and parking began to spilling out in the surrounding neighborhood.

At this time there did not appear to be the need to establish potential public parking garage locations due the adequate existing parking.



Figure 14-2
Dunlavy Street Parking and Land Use

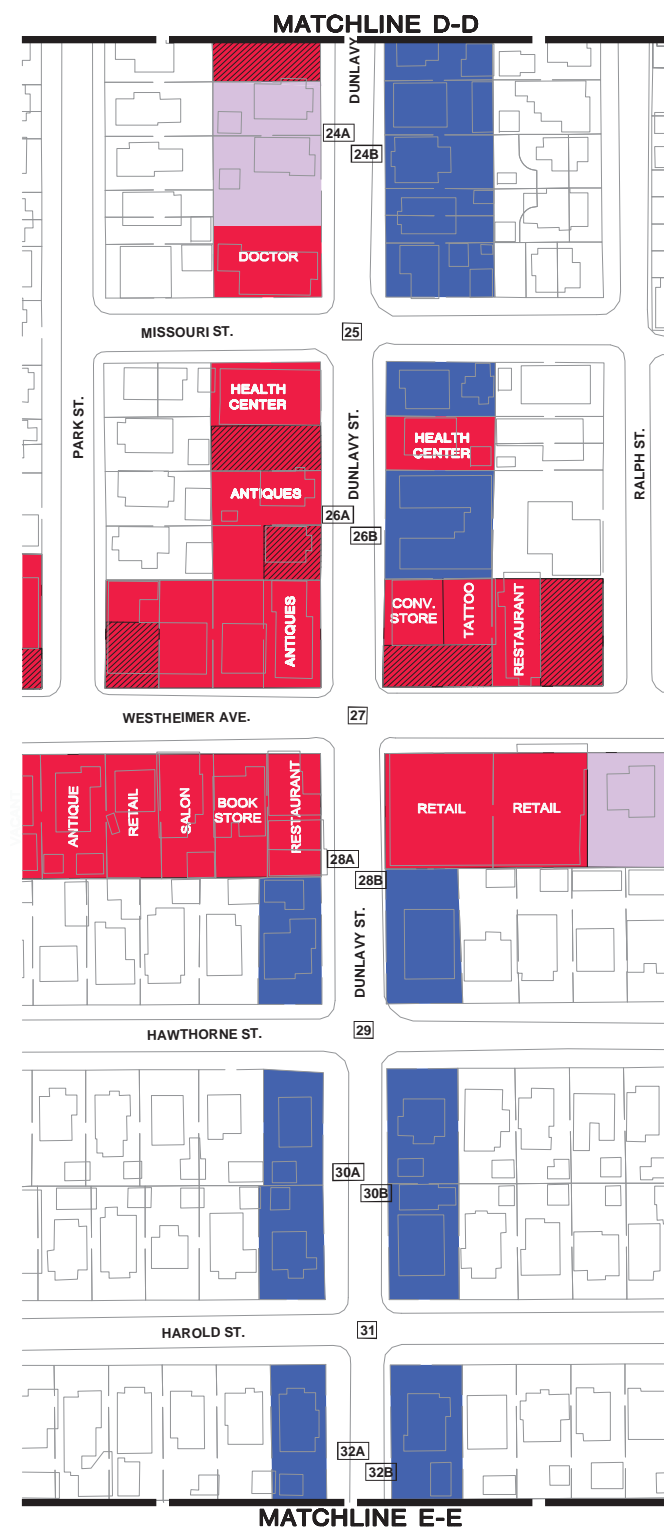
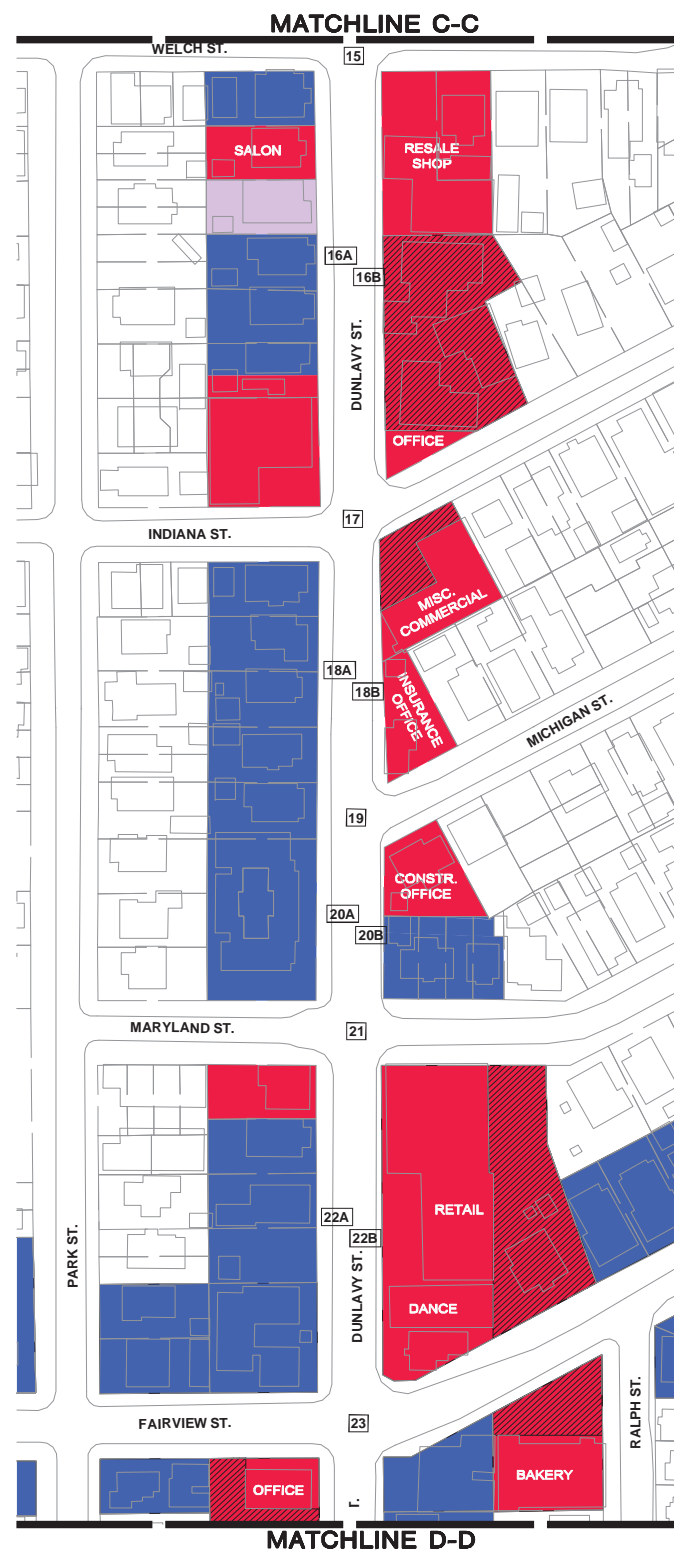


Figure 14-2 (continued)
Dunlavy Street Parking and Land Use



Photo 14-1, Segment 1
Dunlavy at W. Dallas
Patching creates an uneven riding surface



Photo 14-2, Segment 6A and 6B
Dunlavy between W. Bell and W. Gray
Patch is lower than the surrounding pavement, creating a depressed section.



Photo 14-3, Segment 12B
Dunlavy between Haddon and Vermont
 Previous patch shows extreme wear and is uneven.



Photo 14-5, Segment 22A
Dunlavy between Maryland and Fairview
 Uneven pavement and pot holes, with evidence of possible patching.



Photo 14-4, Segment 17
Dunlavy at Indiana
 Previous patch is cracking at the edges



Photo 14-6, Segment 31
Dunlavy at Harold
 Ground settling creates uneven riding surface



**Table 14-1
Dunlavy Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	W. Dallas	W. Clay	Residential/ Vacant	No
2B			Commercial/ Residential	No
4A	W. Clay	W. Bell	Residential	No
4B			Residential	No
6A	W. Bell	W. Gray	Commercial	No
6B			Commercial	No
8A	W. Gray	Peden	Commercial	No
8B			Commercial	No
10A	Peden	Haddon	Residential/ Vacant	No
10B			Residential/ Commercial	No
12A	Haddon	Vermont	Residential/ Commercial	No
12B			Residential	No
14A	Vermont	Welch	Residential	No
14B			Residential/ Commercial	No
16A	Welch	Indiana	Commercial/ Residential/ Vacant	No
16B			Commercial	No
18A	Indiana	Michigan	Residential	No
18B			Commercial	No
20A	Michigan	Maryland	Residential	No
20B			Residential/ Commercial	No
22A	Maryland	Fairview	Residential/ Commercial	No
22B			Commercial	No
24A	Fairview	Missouri	Commercial/ Vacant	No
24B			Residential	No
26A	Missouri	Westheimer	Commercial	No
26B			Commercial/ Residential	No
28A	Westheimer	Hawthorne	Commercial/ Residential	No
28B			Commercial/ Residential	No
30A	Hawthorne	Harold	Residential	No
30B			Residential	No
32A	Harold	Kipling	Residential	No
32B			Residential	No
34A	Kipling	Marshall	Residential	No
34B			Residential	No

**Table 14-1 (continued)
Dunlavy Street Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
36A	Marshall	W. Alabama	Residential	No
36B			Residential	No
38A	W. Alabama	W. Main	Commercial/ Residential	No
38B			Commercial	No
40A	W. Main	Colquitt	Residential	No
40B			Residential	No
42A	Colquitt	Richmond	Residential/ Commercial	No
42B			Residential	No
44A	Richmond	Bonnie Brae	Vacant	No
44B			Residential/ Vacant	No
46A	Bonnie Brae	Norfolk	Residential	No
46B			Residential	No
48A	Norfolk	Castle	Park	Yes
48B			Residential	No
50A	Castle	US 59	Park	Yes
50B			Residential	No



**Photo 14-7, Segment 33
Dunlavy at Kipling**

Wear of pavement at intersection has created a bumpy
divot.



**Photo 14-8, Segment 34A
Dunlavy between Kipling and Marshall**

Alligator cracking with evidence of previous patching

14.2 PAVEMENT AND MEDIAN EVALUATION

Dunlavy is a four lane, undivided street in the Montrose Management District. The pavement is concrete with curb and gutter. Dunlavy pavement conditions were studied by means of visual observations and photos. Pavement conditions along Dunlavy varied between good, acceptable, and poor. **Table 14-2** summarizes the results of the pavement and median review. **Figure 14-7** graphically depicts the pavement conditions observed along Dunlavy. **Photos 14-1** through **14-12** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 14-9, Segment 34B
Dunlavy between Kipling and Marshall
Alligator cracking and uneven settling, with evidence of previous patches

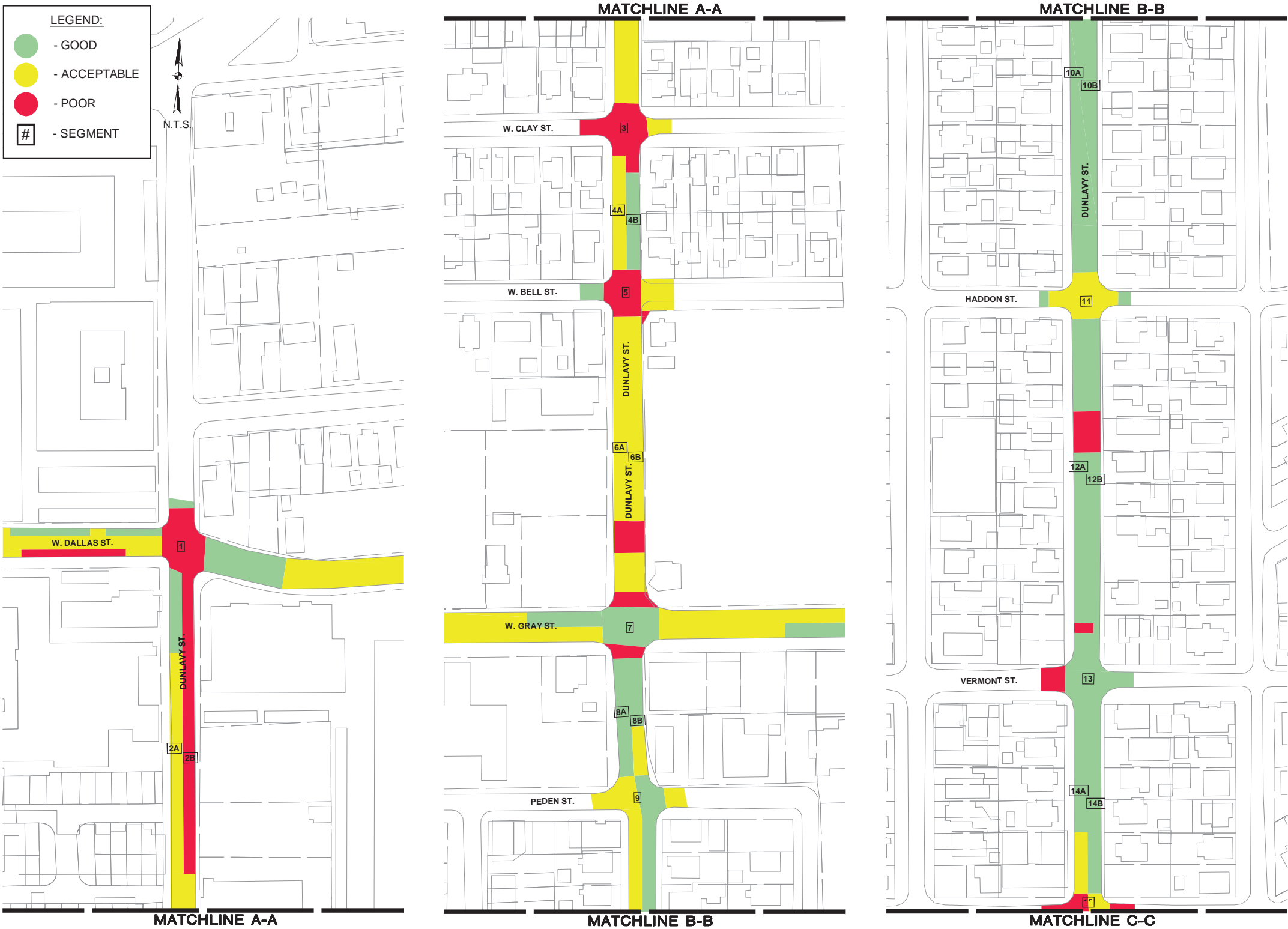


Figure 14-3
Dunlavy Street Pavement Conditions

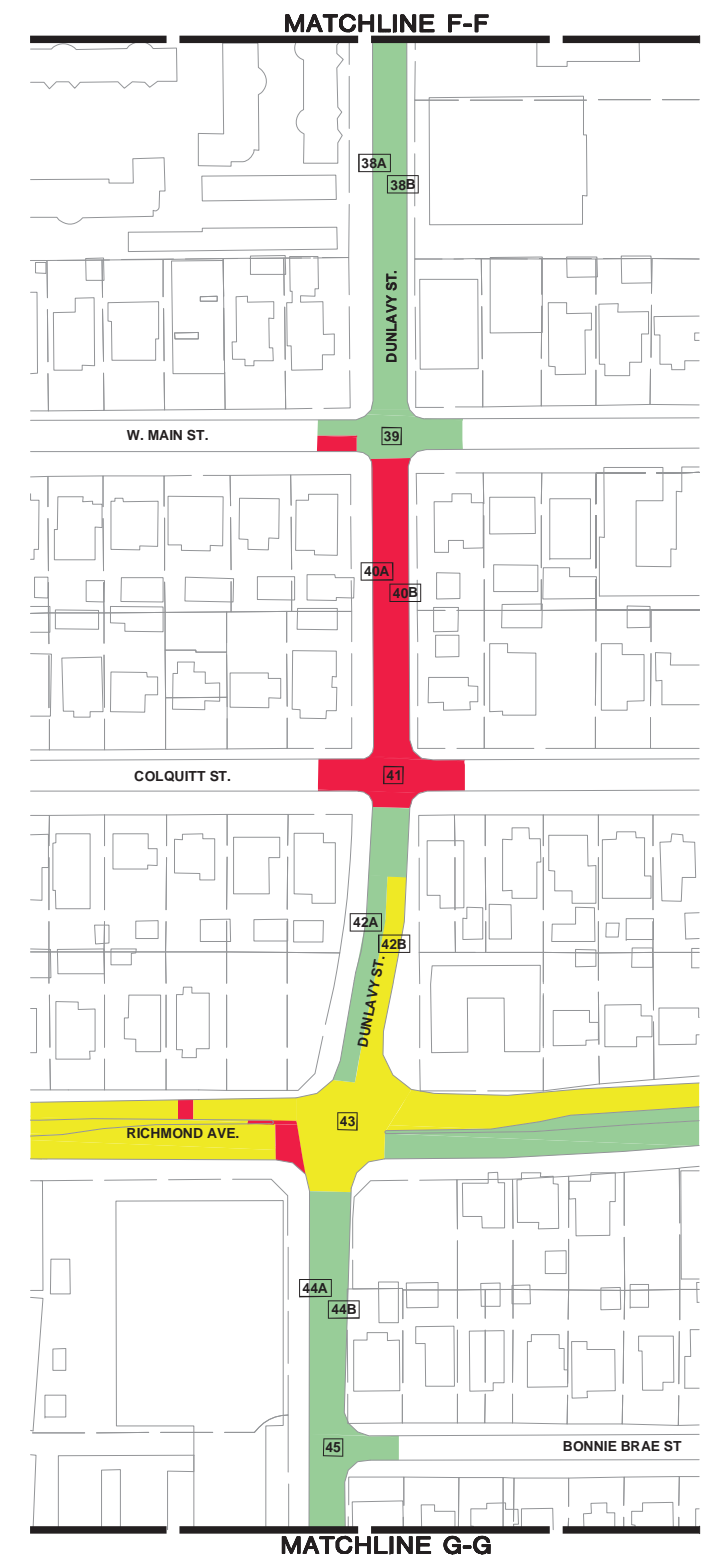
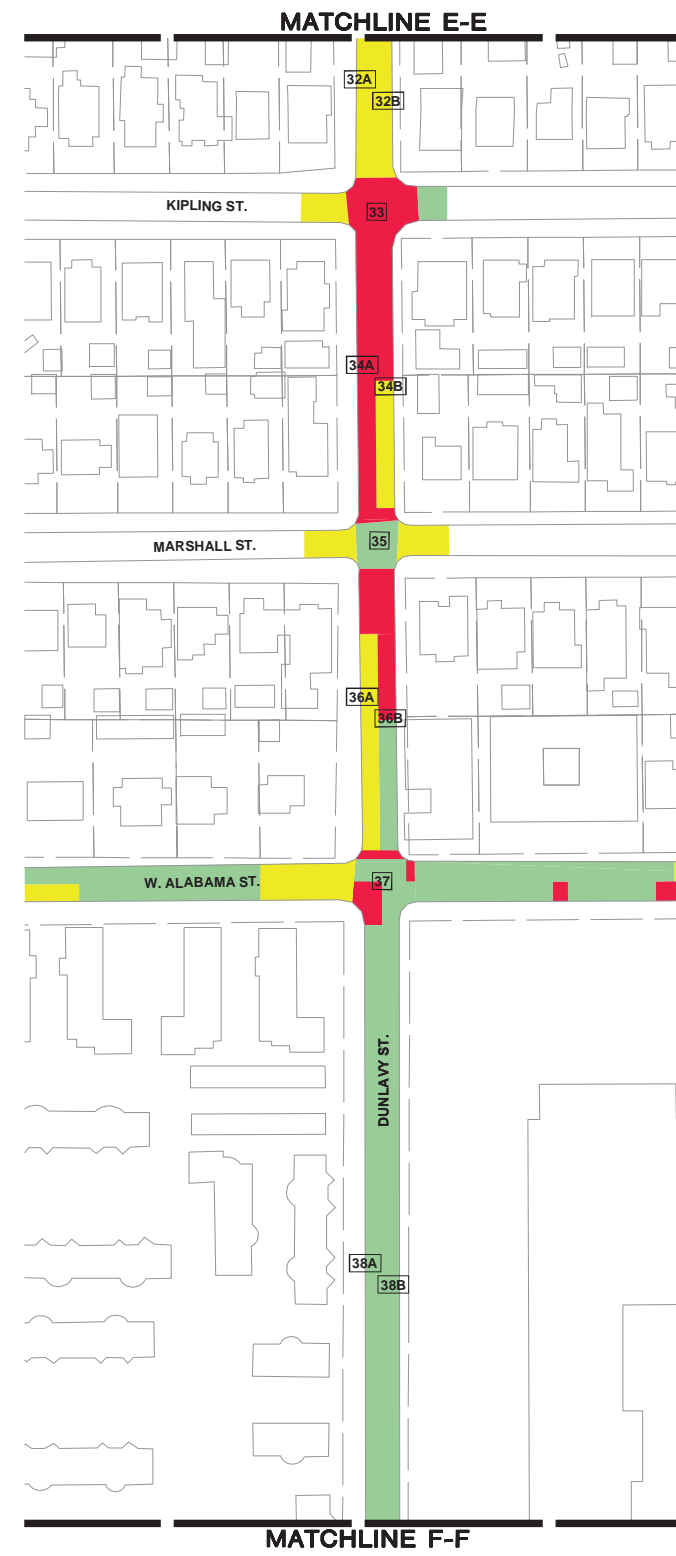
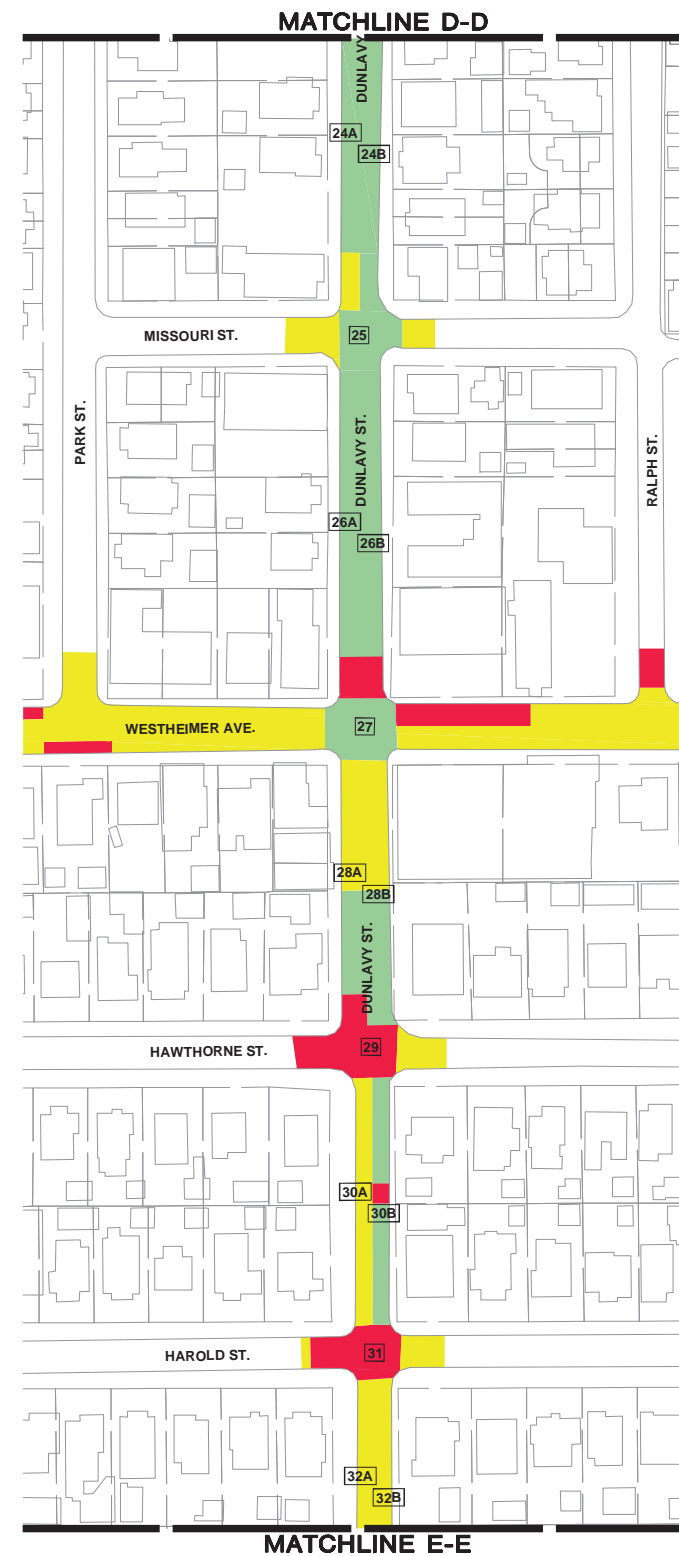
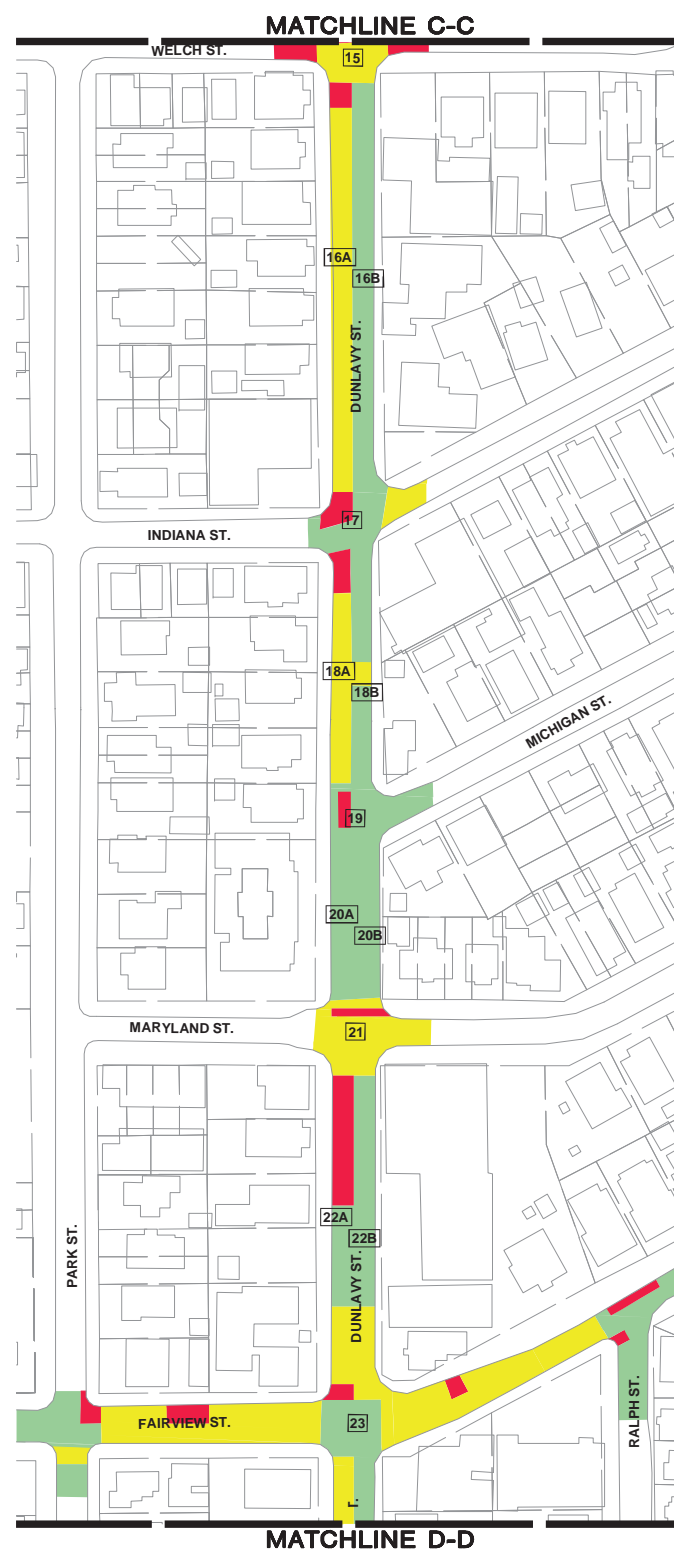


Figure 14-3 (continued)
Dunlavy Street Pavement Conditions

Table 14-2
Dunlavy Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Dunlavy at W. Dallas			Poor	N/A	
2A		W. Dallas	W. Clay	Good/ Acceptable	N/A	
2B				Poor/ Acceptable	N/A	
3	Dunlavy at W. Clay			Poor	N/A	
4A		W. Clay	W. Bell	Acceptable	N/A	
4B				Good	N/A	
5	Dunlavy at W. Bell			Poor	N/A	
6A		W. Bell	W. Gray	Acceptable	N/A	with section of poor
6B				Acceptable	N/A	with section of poor
7	Dunlavy at W. Gray			Good	N/A	
8A		W. Gray	Peden	Good	N/A	
8B				Good/ Acceptable	N/A	
9	Dunlavy at Peden			Acceptable/ Good	N/A	
10A		Peden	Haddon	Good/ Acceptable	N/A	
10B				Good	N/A	
11	Dunlavy at Haddon			Acceptable	N/A	
12A		Haddon	Vermont	Good	N/A	
12B				Good	N/A	
13	Dunlavy at Vermont			Good	N/A	
14A		Vermont	Welch	Good/ Acceptable	N/A	
14B				Good	N/A	
15	Dunlavy at Welch			Acceptable	N/A	
16A		Welch	Indiana	Acceptable	N/A	
16B				Good	N/A	
17	Dunlavy at Indiana			Good	N/A	
18A		Indiana	Michigan	Acceptable/ Good	N/A	
18B				Good	N/A	
19	Dunlavy at Michigan			God/ Poor	N/A	
20A		Michigan	Maryland	Good	N/A	
20B				Good	N/A	
21	Dunlavy at Maryland			Acceptable	N/A	
22A		Maryland	Fairview	Poor/ Good/ Acceptable	N/A	
22B				Good/ Acceptable	N/A	
23	Dunlavy at Fairview			Good	N/A	
24A		Fairview	Missouri	Good	N/A	
24B				Good	N/A	
25	Dunlavy at Missouri			Good	N/A	
26A		Missouri	Westheimer	Good	N/A	
26B				Good	N/A	

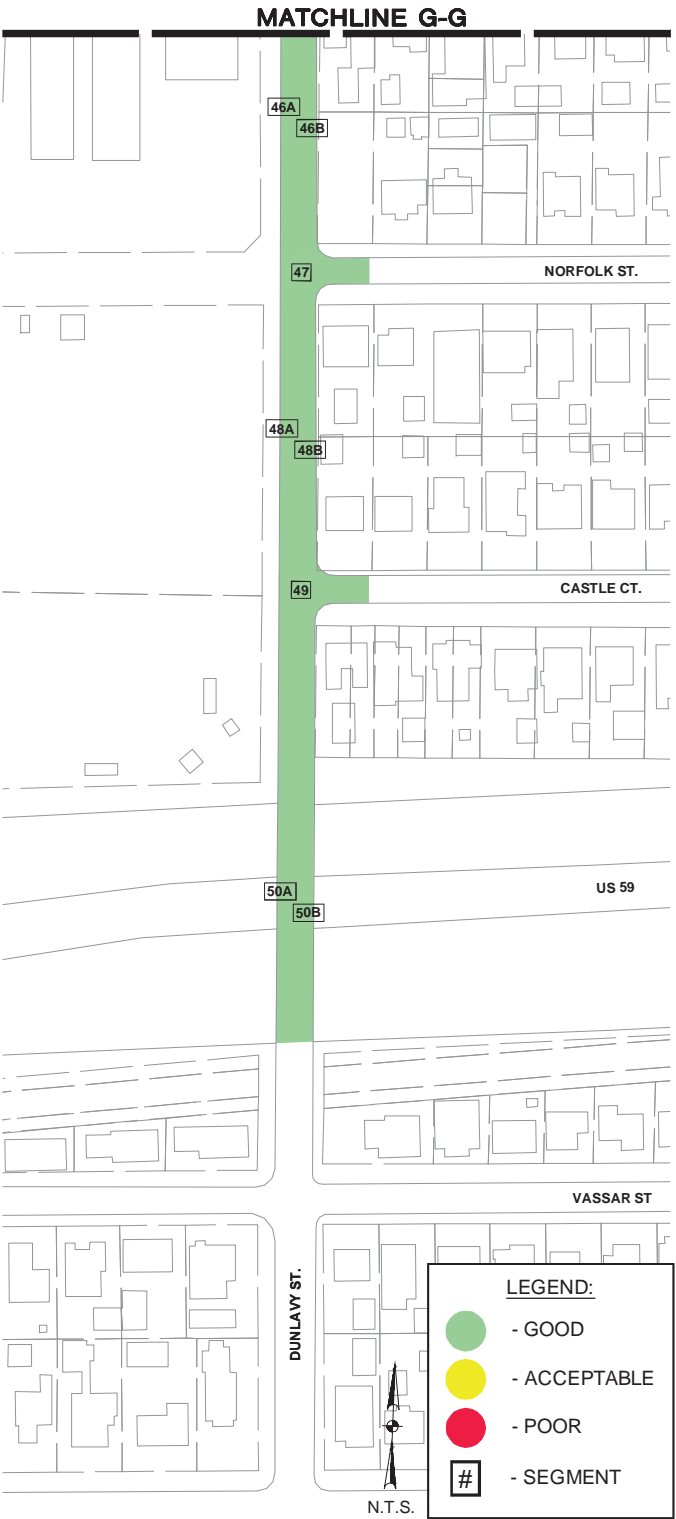


Figure 14-3 (continued)
Dunlavy Street Pavement Conditions

Table 14-2 (continued)
Dunlavy Street Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
27	Dunlavy at Westheimer			Good	N/A	
28A		Westheimer	Hawthorne	Acceptable/ Good	N/A	
28B				Acceptable/ Good	N/A	
29	Dunlavy at Hawthorne			Poor	N/A	
30A		Hawthorne	Harold	Acceptable	N/A	
30B				Good	N/A	
31	Dunlavy at Harold			Poor	N/A	
32A		Harold	Kipling	Acceptable	N/A	
32B				Acceptable	N/A	
33	Dunlavy at Kipling			Poor	N/A	
34A		Kipling	Marshall	Poor	N/A	
34B				Poor/ Acceptable	N/A	
35	Dunlavy at Marshall			Good	N/A	
36A		Marshall	W. Alabama	Poor/ Acceptable	N/A	
36B				Poor/ Good	N/A	
37	Dunlavy at W. Alabama			Good/ Poor	N/A	
38A		W. Alabama	W. Main	Good	N/A	
38B				Good	N/A	
39	Dunlavy at W. Main			Good	N/A	
40A		W. Main	Colquitt	Poor	N/A	
40B				Poor	N/A	
41	Dunlavy at Colquitt			Poor	N/A	
42A		Colquitt	Richmond	Good	N/A	
42B				Acceptable	N/A	
43	Dunlavy at Richmond			Acceptable	N/A	
44A		Richmond	Bonnie Brae	Good	N/A	
44B				Good	N/A	
45	Dunlavy at Bonnie Brae			Good	N/A	
46A		Bonnie Brae	Norfolk	Good	N/A	
46B				Good	N/A	
47	Dunlavy at Norfolk			Good	N/A	
48A		Norfolk	Castle	Good	N/A	
48B				Good	N/A	
49	Dunlavy at Castle			Good	N/A	
50A		Castle	US 59	Good	N/A	
50B				Good	N/A	



Photo 14-10, Segment 38A
Dunlavy between W. Alabama and W. Main
 During early observations, this section of Dunlavy was uneven with some pavement missing. [This section has been rebuilt since the photo as part of a developer project.]



Photo 14-11, Segment 40A and 40B
Dunlavy between W. Main and Colquitt
 Alligator cracking in travel lanes

14.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 14-4**, this section of Dunlavy has six traffic signals. Intersections that are not signal controlled are two-way stop controlled on the minor approaches.

There is parking allowed on select blocks along the length of Dunlavy in the study area. Generally, sight distances appear sufficient. However, there are a few instances where sight distances are impeded by vegetation growing on adjacent properties. Vegetation protruding into the public right of way should be trimmed.

In general, pavement markings along Dunlavy were in good condition, and it is not recommended that they be refreshed or replaced immediately.



Photo 14-12, Segment 41
Dunlavy at Colquitt
Cracking in the intersection and numerous previous patches

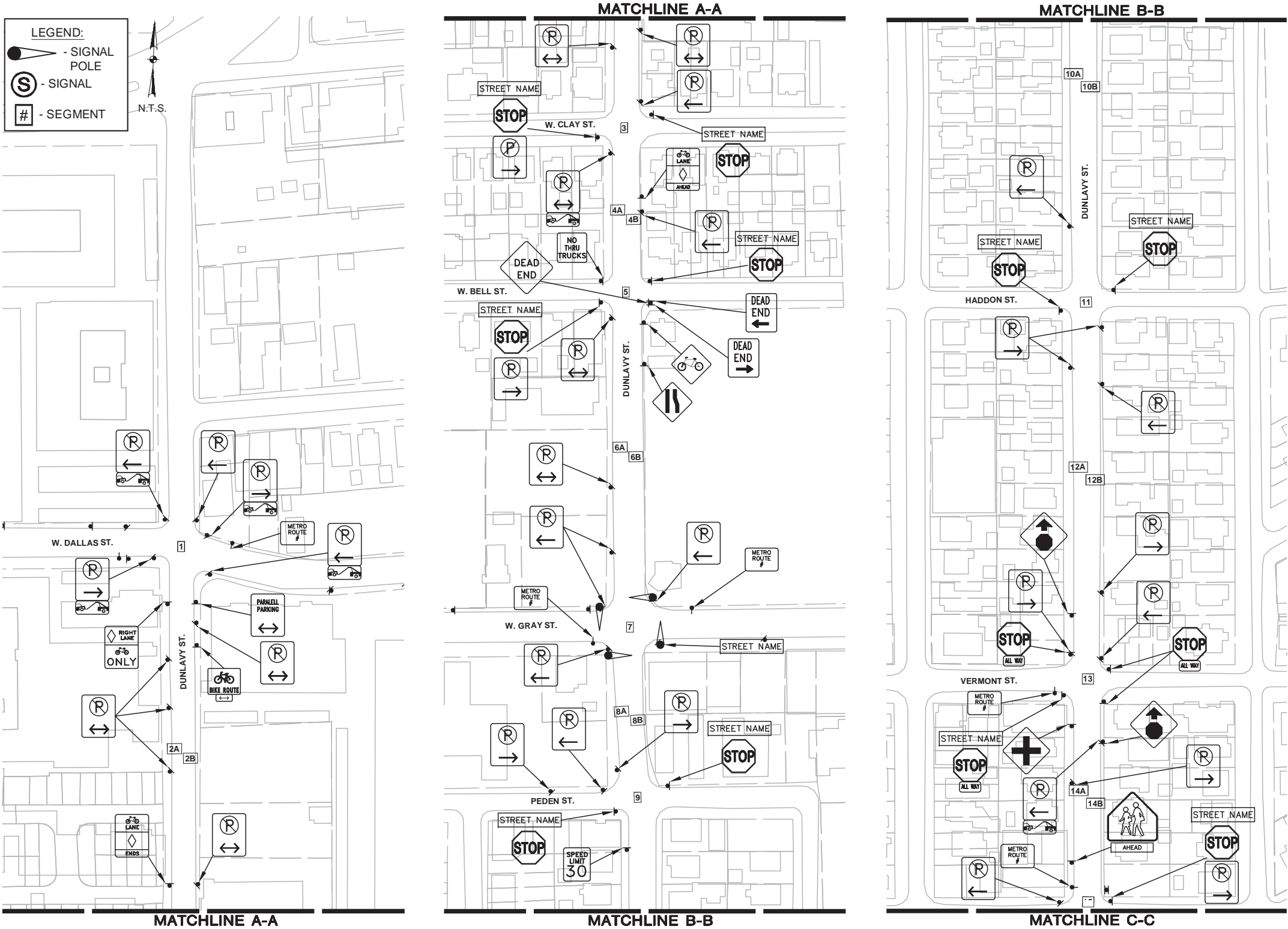


Figure 14-4
Dunlavy Street Signs and Intersection Control

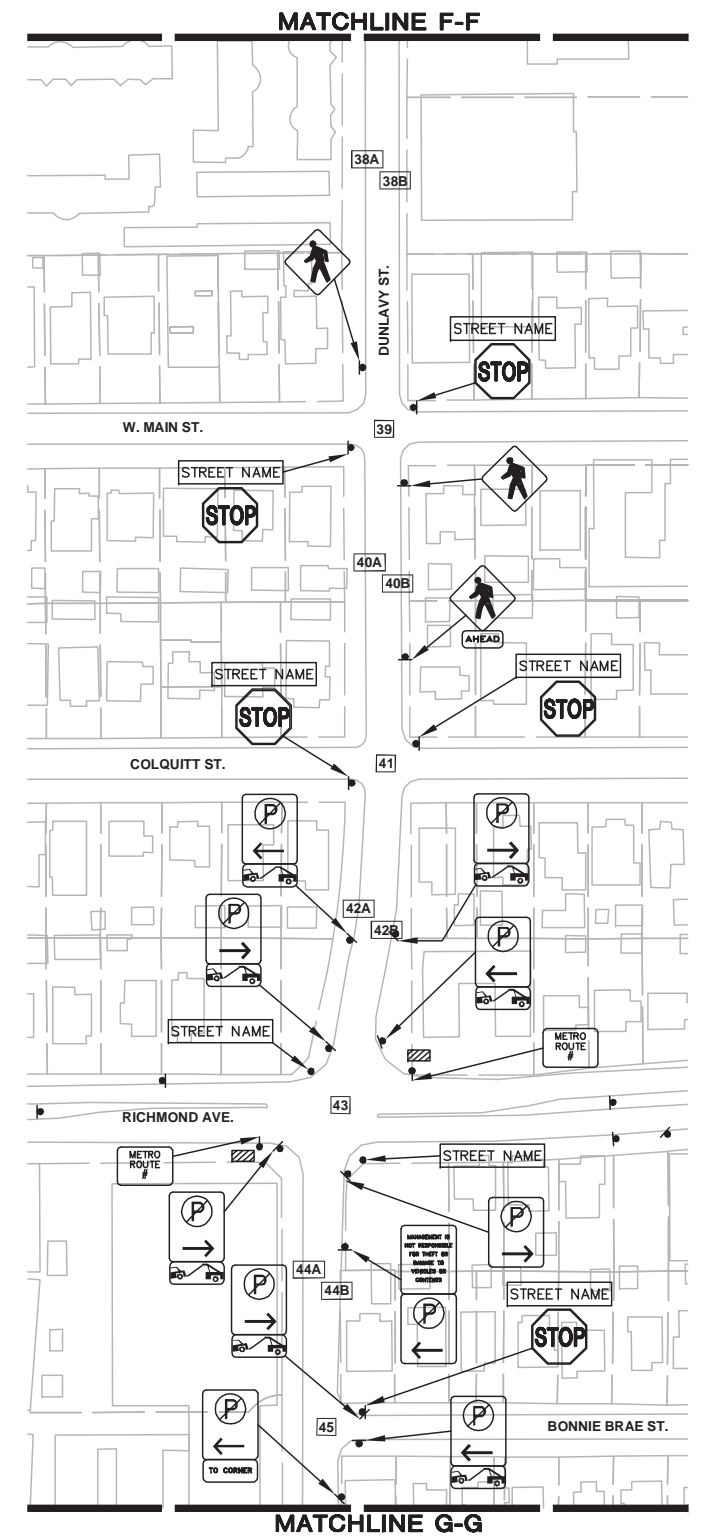
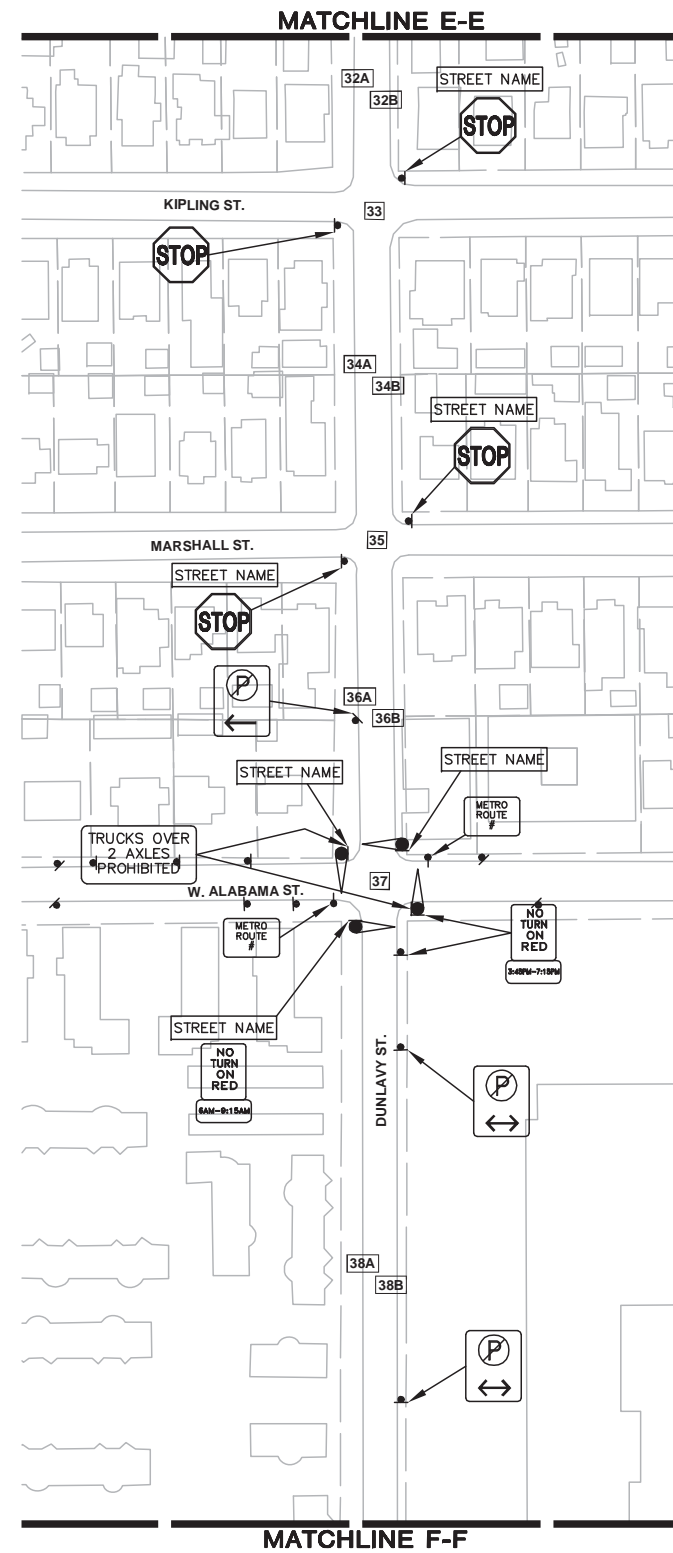
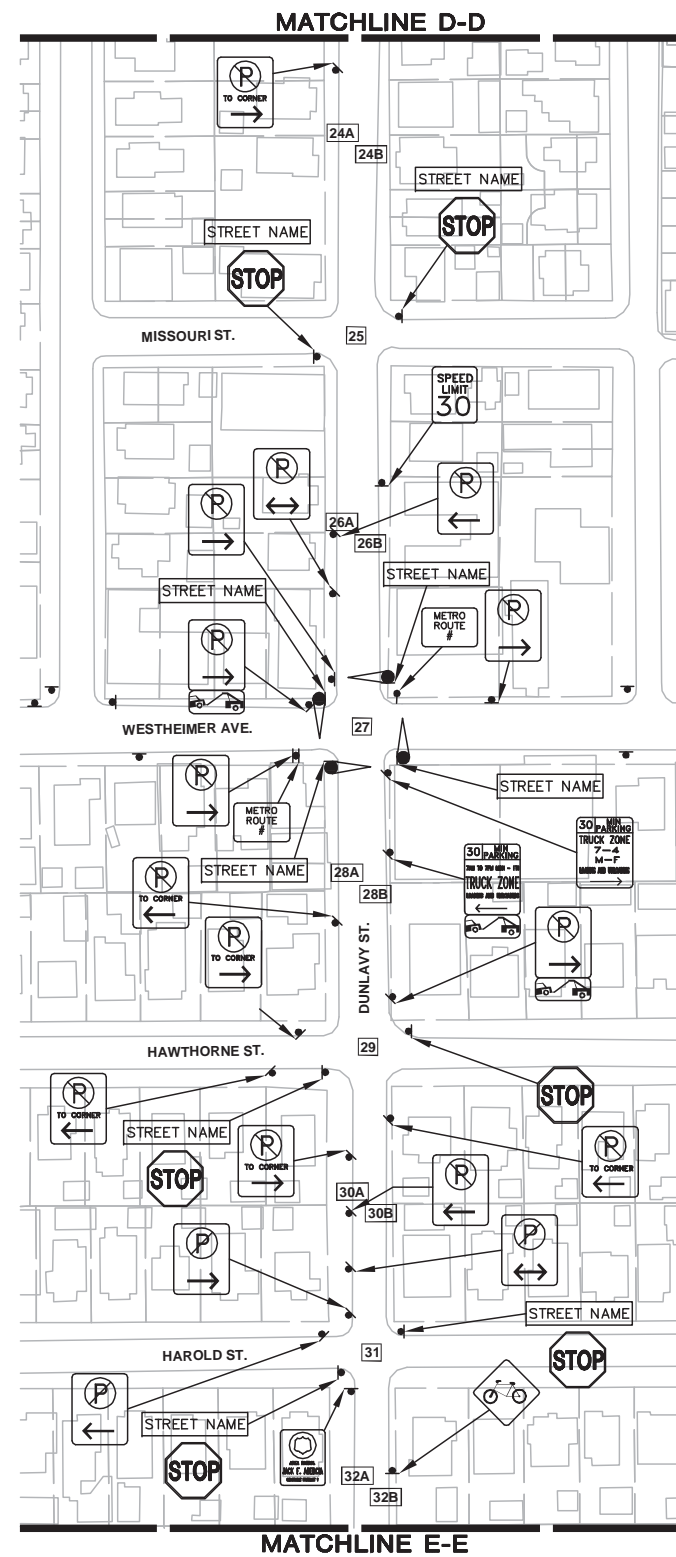
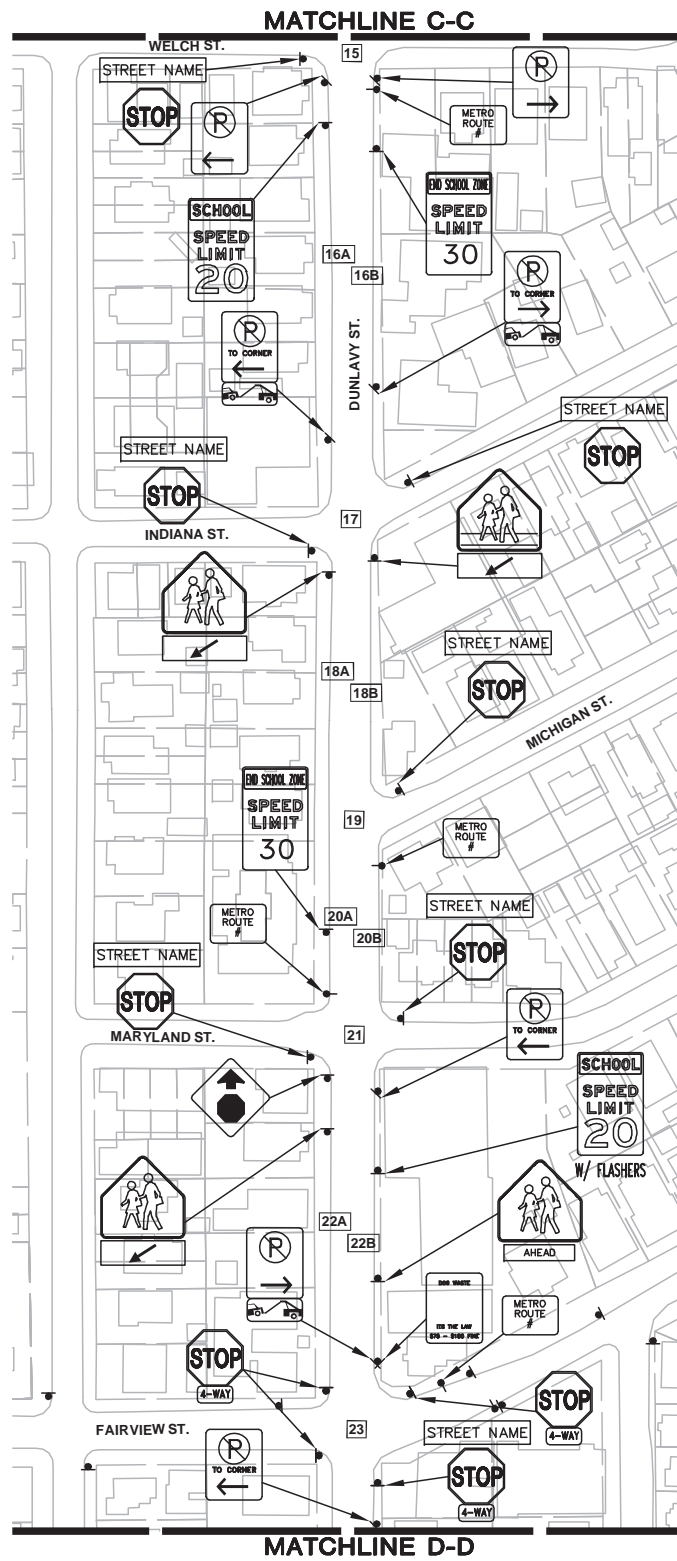


Figure 14-4 (continued)
Dunlavy Street Signs and Intersection Control

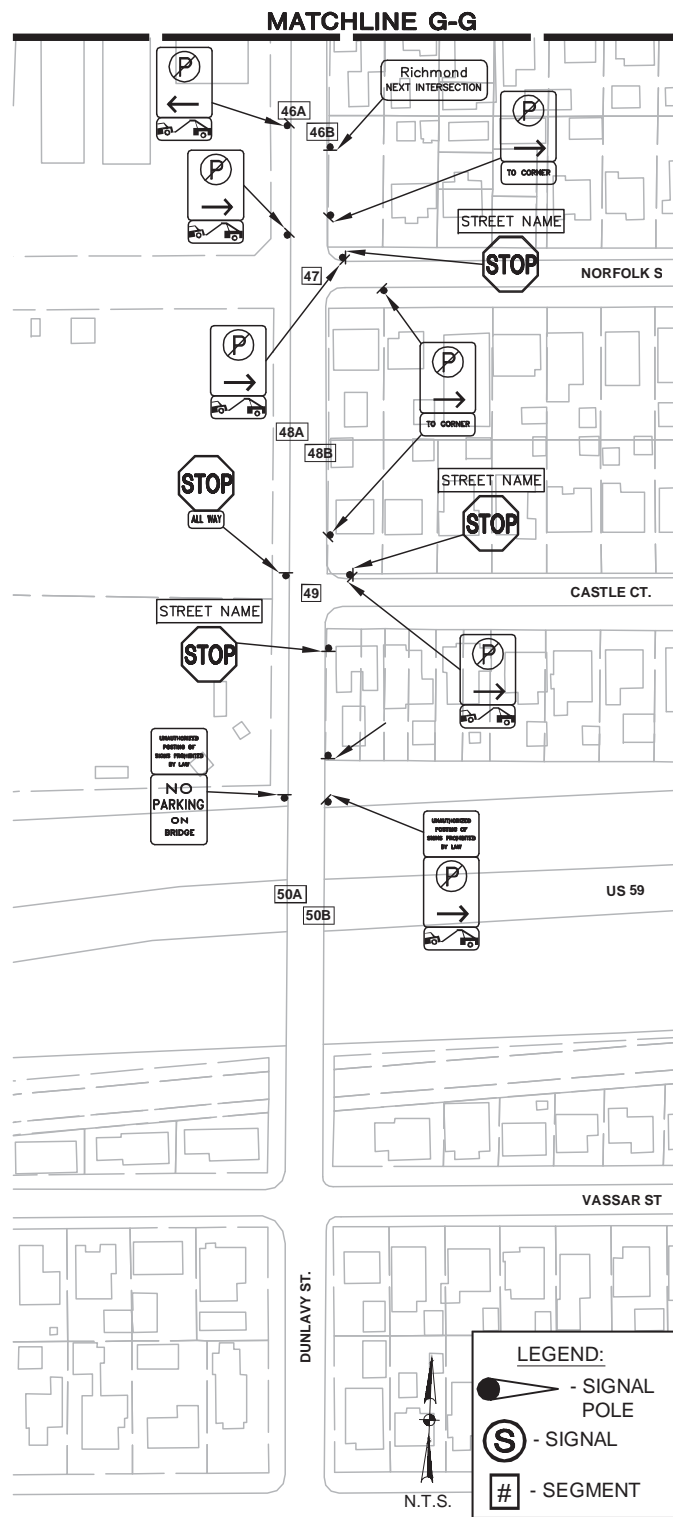


Figure 14-4 (continued)
Dunlavy Street Signs and Intersection Control

14.4 SIDEWALK AND CROSSWALK EVALUATION
Sidewalks, ramps, and crosswalks on Dunlavy were studied by means of visual observation and photos.

Table 14-3 summarizes sidewalk conditions, **Table 14-4** summarizes ramp conditions, and **Table 14-5** summarizes crosswalk conditions along Dunlavy. **Figure 14-5** graphically depicts the results of the sidewalk and ramp evaluation along Dunlavy. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and pavement, broken ramps, steepness, and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks and/or worn crosswalk pavement markings. Photos 14-13 through 14-21 illustrate examples of poor sidewalks and ramps which suggest immediate repair/ replacement.



Photo 14-13, Segment 2A
Dunlavy between W. Dallas and W. Clay
Sidewalk missing

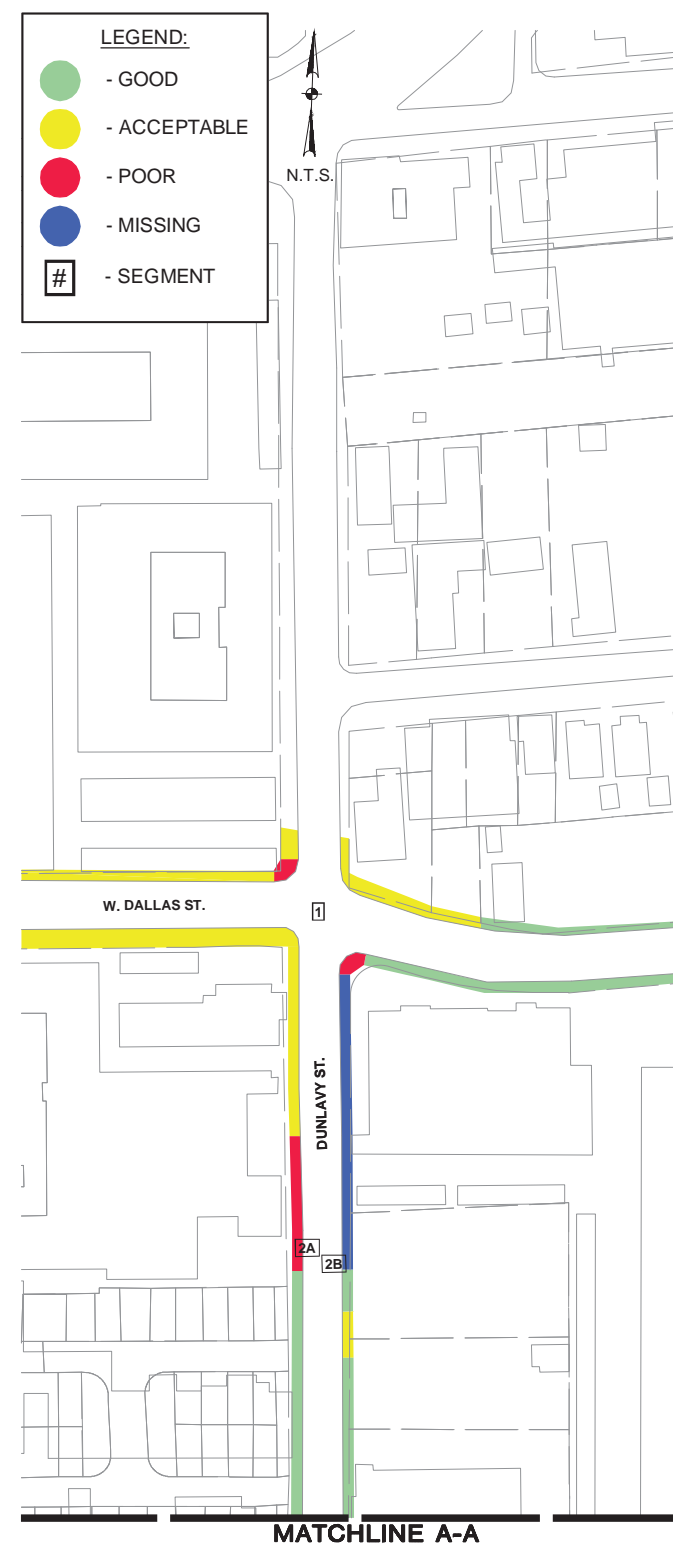


Figure 14-5
Dunlavy Street Sidewalk and Ramp Conditions

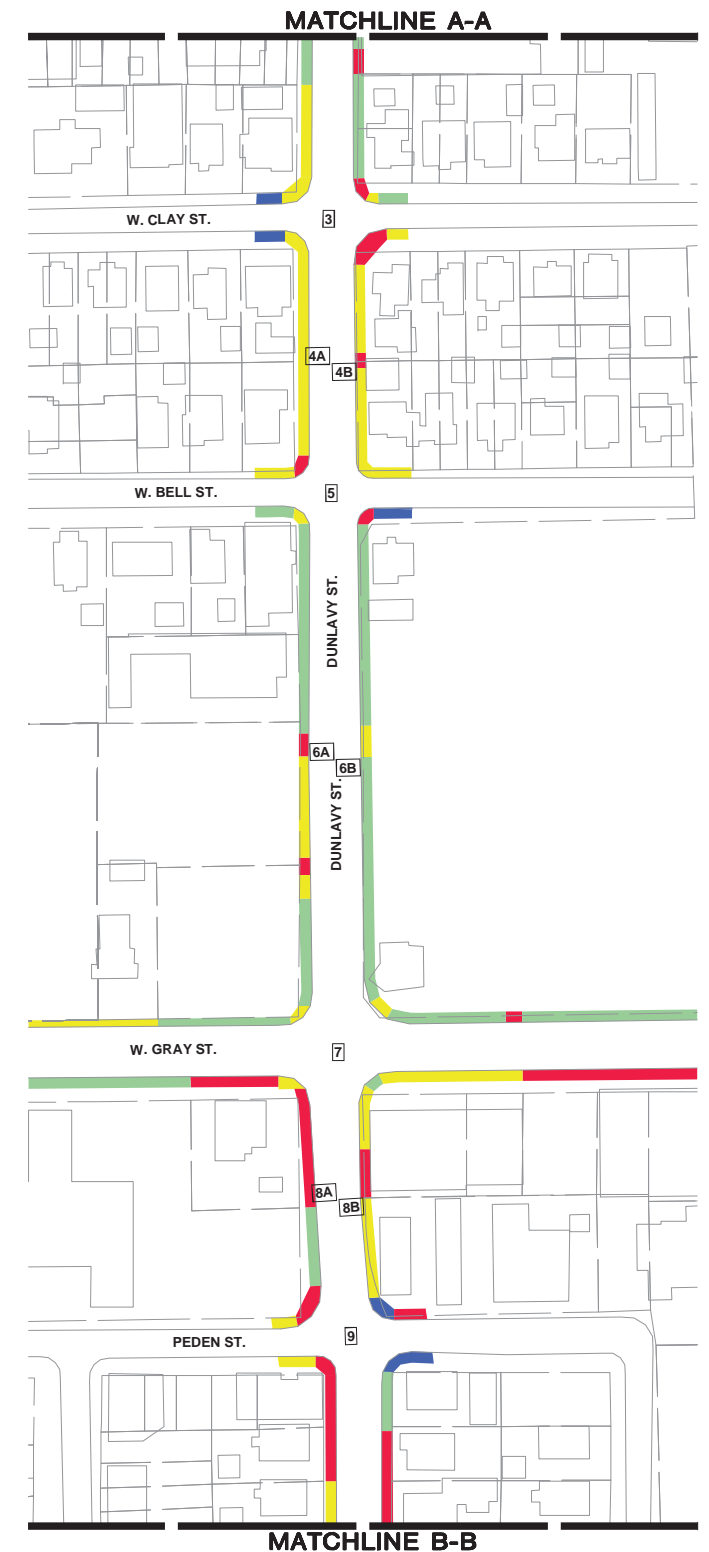




Figure 14-5 (continued)
Dunlavy Street Sidewalk and Ramp Conditions

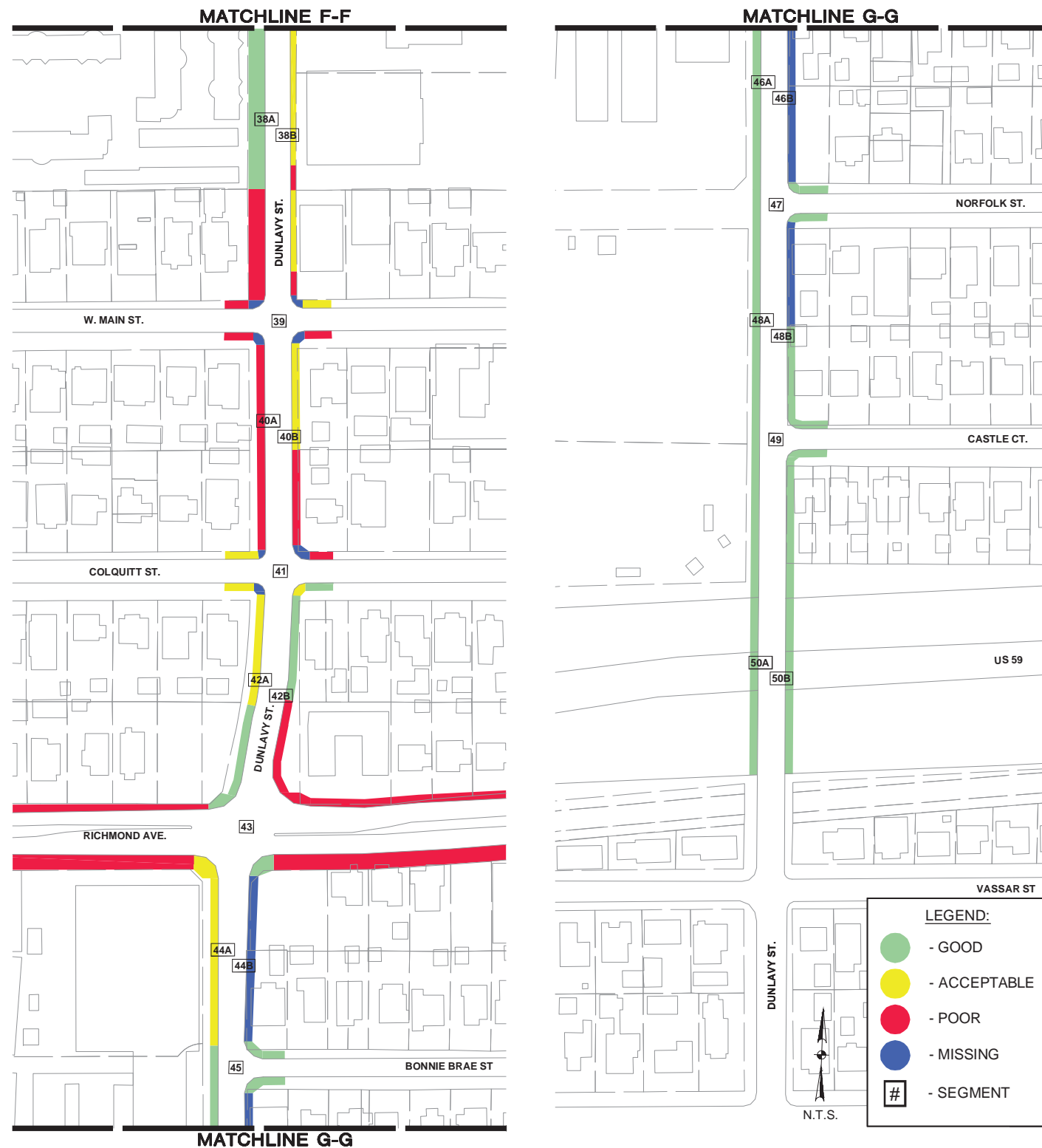


Photo 14-14, Segment 8B
Dunlavy between W. Gray and Peden
 Settling and obstructions



Photo 14-16, Segment 14A
Dunlavy between Vermont and Welch
 Settling and cracking



Photo 14-15, Segment 12B
Dunlavy between Haddon and Vermont
 Missing section of sidewalk



Photo 14-17, Segment 30A
Dunlavy between Hawthorne and Harold
 Sidewalk sections have shifted, creating tripping hazards at joints.

Table 14-3
Dunlavy Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	W. Dallas	W. Clay	Good/ Acceptable/ Poor	
2B			Good/ Missing	with sections of acceptable and poor
4A	W. Clay	W. Bell	Acceptable	
4B			Acceptable	with section of poor
6A	W. Bell	W. Gray	Good/ Acceptable	with two sections of poor
6B			Good	with section of acceptable
8A	W. Gray	Peden	Poor/ Good	
8B			Acceptable/ Poor	
10A	Peden	Haddon	Poor/ Acceptable/ Good	
10B			Good/ Poor	
12A	Haddon	Vermont	Acceptable/ Good/ Poor	
12B			Acceptable/ Poor	
14A	Vermont	Welch	Poor/ Acceptable	
14B			Poor/ Acceptable	
16A	Welch	Indiana	Poor	
16B			Poor/ Good	
18A	Indiana	Michigan	Acceptable	
18B			Acceptable	with section of poor
20A	Michigan	Maryland	Acceptable	
20B			Acceptable/ Poor	
22A	Maryland	Fairview	Acceptable	with section of poor
22B			Good/ Acceptable	
24A	Fairview	Missouri	Acceptable/ Good/ Poor	
24B			Acceptable/ Good	
26A	Missouri	Westheimer	Acceptable	with section of poor
26B			Acceptable/ Missing	with section of poor
28A	Westheimer	Hawthorne	Good/ Acceptable/ Poor	
28B			Good/ Acceptable	with section of poor
30A	Hawthorne	Harold	Acceptable	
30B			Good	
32A	Harold	Kipling	Poor/ Good	
32B			Good/ Acceptable	
34A	Kipling	Marshall	Acceptable/ Poor	
34B			Acceptable/ Poor	

Table 14-3 (continued)
Dunlavy Street Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
36A	Marshall	W. Alabama	Poor	
36B			Poor/ Acceptable	
38A	W. Alabama	W. Main	Good/ Poor	
38B			Good/ Poor/ Acceptable	
40A	W. Main	Colquitt	Poor	
40B			Acceptable/ Poor	
42A	Colquitt	Richmond	Acceptable/ Good	
42B			Good/ Poor	
44A	Richmond	Bonnie Brae	Acceptable	
44B			Missing	
46A	Bonnie Brae	Norfolk	Good	
46B			Missing	
48A	Norfolk	Castle	Good	
48B			Good/ Missing	
50A	Castle	US 59	Good	
50B			Good	

Table 14-4
Dunlavy Street Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Dunlavy at W. Dallas	Poor	Acceptable	Acceptable	Poor
3	Dunlavy at W. Clay	Acceptable	Poor	Acceptable	Poor
5	Dunlavy at W. Bell	Poor	Acceptable	Acceptable	Poor
7	Dunlavy at W. Gray	Acceptable	Good	Acceptable	Good
9	Dunlavy at Peden	Poor	Missing	Poor	Missing
11	Dunlavy at Haddon	Good	Acceptable	Missing	Good
13	Dunlavy at Vermont	Poor	Acceptable	Poor	Acceptable
15	Dunlavy at Welch	Poor	Poor	Acceptable	Acceptable
17	Dunlavy at Indiana	Missing	Missing	Missing	Missing
19	Dunlavy at Michigan	N/A	Acceptable	N/A	Acceptable
21	Dunlavy at Maryland	Acceptable	Acceptable	Acceptable	Acceptable
23	Dunlavy at Fairview	Missing	Poor	Good	Acceptable
25	Dunlavy at Missouri	Missing	Poor	Missing	Missing
27	Dunlavy at Westheimer	Acceptable	Poor	Poor	Acceptable
29	Dunlavy at Hawthorne	Poor	Missing	Acceptable	Good
31	Dunlavy at Harold	Poor	Acceptable	Acceptable	Missing
33	Dunlavy at Kipling	Good	Missing	Good	Missing
35	Dunlavy at Marshall	Good	Acceptable	Good	Poor
37	Dunlavy at W. Alabama	Good	Good	Acceptable	Acceptable
39	Dunlavy at W. Main	Missing	Missing	Missing	Missing
41	Dunlavy at Colquitt	Missing	Missing	Missing	Acceptable
43	Dunlavy at Richmond	Good	Poor	Acceptable	Good
45	Dunlavy at Bonnie Brae	N/A	Good	N/A	Good
47	Dunlavy at Norfolk	N/A	Good	N/A	Good
49	Dunlavy at Castle	N/A	Good	N/A	Good

Table 14-5
Dunlavy Street Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Dunlavy at W. Dallas	Good	Good	Good	Good
3	Dunlavy at W. Clay	Missing	Missing	N/A	N/A
5	Dunlavy at W. Bell	Missing	Missing	N/A	N/A
7	Dunlavy at W. Gray	Acceptable	Acceptable	Poor	Poor
9	Dunlavy at Peden	Poor	Poor	N/A	N/A
11	Dunlavy at Haddon	Poor	Poor	N/A	N/A
13	Dunlavy at Vermont	Acceptable	Acceptable	N/A	N/A
15	Dunlavy at Welch	Poor	Poor	N/A	N/A
17	Dunlavy at Indiana	Good	Poor	Good	Good
19	Dunlavy at Michigan	Missing	N/A	N/A	N/A
21	Dunlavy at Maryland	Missing	Missing	N/A	N/A
23	Dunlavy at Fairview	Good	Acceptable	Good	Good
25	Dunlavy at Missouri	Poor	Poor	N/A	N/A
27	Dunlavy at Westheimer	Good	Good	Good	Good
29	Dunlavy at Hawthorne	Missing	Missing	N/A	N/A
31	Dunlavy at Harold	Missing	Missing	N/A	N/A
33	Dunlavy at Kipling	Missing	Missing	N/A	N/A
35	Dunlavy at Marshall	Missing	Missing	N/A	N/A
37	Dunlavy at W. Alabama	Good	Good	Good	Good
39	Dunlavy at W. Main	Missing	Missing	N/A	N/A
41	Dunlavy at Colquitt	Missing	Missing	N/A	N/A
43	Dunlavy at Richmond	Acceptable	Acceptable	Acceptable	Acceptable
45	Dunlavy at Bonnie Brae	Missing	N/A	N/A	N/A
47	Dunlavy at Norfolk	Missing	N/A	N/A	N/A
49	Dunlavy at Castle	Missing	N/A	N/A	N/A

14.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility. The projects are listed below:

- **Prune Vegetation:**
 - The length of the Dunlavy corridor
- **Pavement Reconstruction:**
 - Dunlavy from W. Dallas to south of Peden
 - Dunlavy at Haddon
 - Dunlavy between Haddon and Vermont
 - Southbound lanes of Dunlavy from north of Welch to Michigan
 - Dunlavy from Maryland to south of Fairview
 - Southbound lanes of Dunlavy north of Missouri
 - Dunlavy north and south of Westheimer
 - Dunlavy from Hawthorne to W. Alabama
 - Dunlavy from W. Main to Richmond
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.
 - Construct missing ramps and reconstruct existing ramps
 - Dunlavy at all intersections north of Richmond
 - Construct missing sidewalk and Reconstruct existing sidewalk
 - Dunlavy from south of W. Dallas
 - Dunlavy from W. Clay to W. Bell
 - Dunlavy from W. Gray to Hawthorne
 - West side of Dunlavy from Hawthorne to south of Harold
 - East side of Dunlavy north of Kipling
 - Dunlavy from Kipling to W. Alabama
 - East side of Dunlavy from W. Alabama to W. Main
 - Dunlavy from north of W. Main to Bonnie Brae
 - East side of Dunlavy from Bonnie Brae to south of Norfolk
 - Reconstruct sidewalk at buckled locations
 - East side of Dunlavy north of W. Clay
 - Dunlavy between W. Bell and W. Gray

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.



Photo 14-18, Segment 32A
Dunlavy between Harold and Kipling
Sidewalk sections have cracked and shifted, creating tripping hazards at the joint and cracks.



Photo 14-20, Segment 36A
Dunlavy between W. Main and Colquitt
Tree root has caused sidewalk to break and lift



Photo 14-19, Segment 34A
Dunlavy between Kipling and Marshall
Cracking and settling



Photo 14-21, Segment 38A
Dunlavy between W. Alabama and W. Main
Cracking and settling

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SECTION 15: SHEPHERD DRIVE

Shepherd Drive is a north-south major thoroughfare in the Houston area. It begins at Rice Boulevard just north of Rice University and continues northward to IH 45. In the study area, between US 59 and W. Dallas, Shepherd is two lanes in each direction. There are eight signalized intersections in this section of Shepherd.

- Shepherd at W. Dallas
- Shepherd at W. Gray
- Shepherd at San Felipe
- Shepherd at Fairview
- Shepherd at Westheimer
- Shepherd at W. Alabama
- Shepherd at Richmond
- Shepherd at US 59 Southbound Frontage Road

Figures 15-1 shows the lane configurations for this segment of Shepherd.



Figure 15-1
Shepherd Drive Lane Configurations

The Shepherd corridor is primarily used by vehicular traffic. There are nine METRO bus routes that operate on or intersect with Montrose.

Route 3: Langley/W. Gray is a local route. It runs from Langley near US 59 at the IH 610 North Loop south through Downtown and east along W. Gray to the S. Shepherd area.

Route 25: Richmond is a local route. It travels along Richmond between the Mission Bend Park and Ride out west to the Wheeler Light Rail Station south of Downtown.

Route 26: Outer Loop Counter Clockwise Crosstown is a local route. It runs in a counter clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 27: Inner Loop Clockwise Crosstown is a local route. It runs in a clockwise loop inside the IH 610 Loop, traveling along Shepherd in the study area.

Route 48: Navigation/W. Dallas is a local route. It runs from IH 10 at IH 610 East Loop, Downtown and US 290 at IH 610 West Loop, traveling along W. Dallas in the study area.

Route 78: Alabama/Irvington is a local route. It starts in the north at Little York, travels south through Downtown and Midtown before taking W. Alabama through the study area to the Greenway Plaza area.

Route 81: Westheimer-Sharpstown is a local route. It connects Downtown with the Sharpstown area traveling along Westheimer in the study area.

Route 82: Westheimer-West Oaks is a local route, that runs from Downtown to Eldridge and the Energy Corridor along Westheimer.

Route 313: The Allen Parkway Special is a local route. It runs between Downtown and S. Shepherd traveling along W. Dallas in the study area.

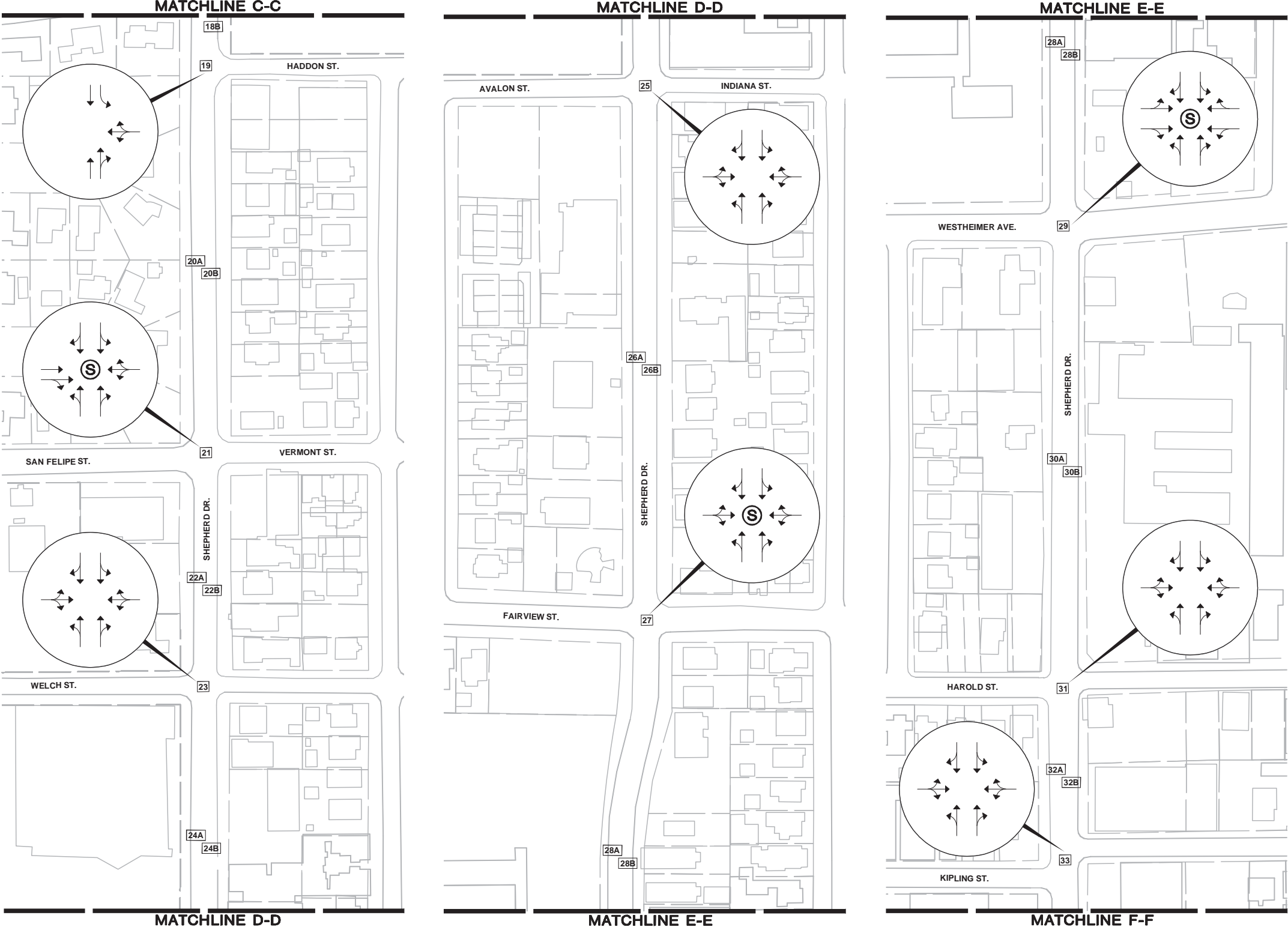


Figure 15-1 (continued)
Shepherd Drive Lane Configurations

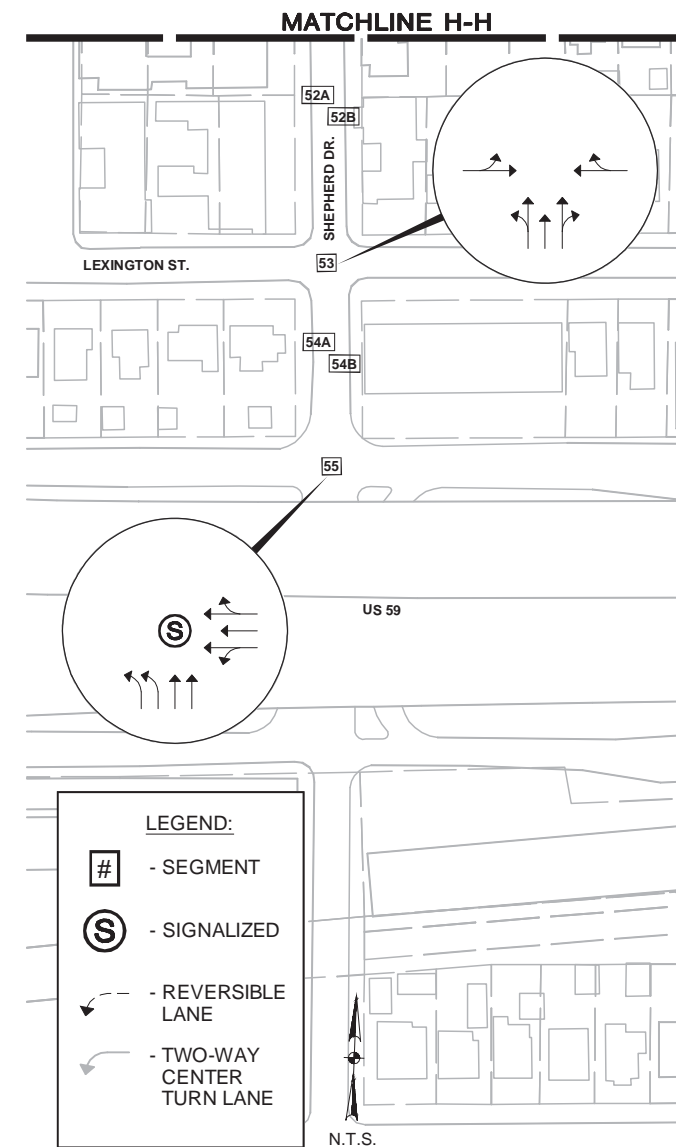
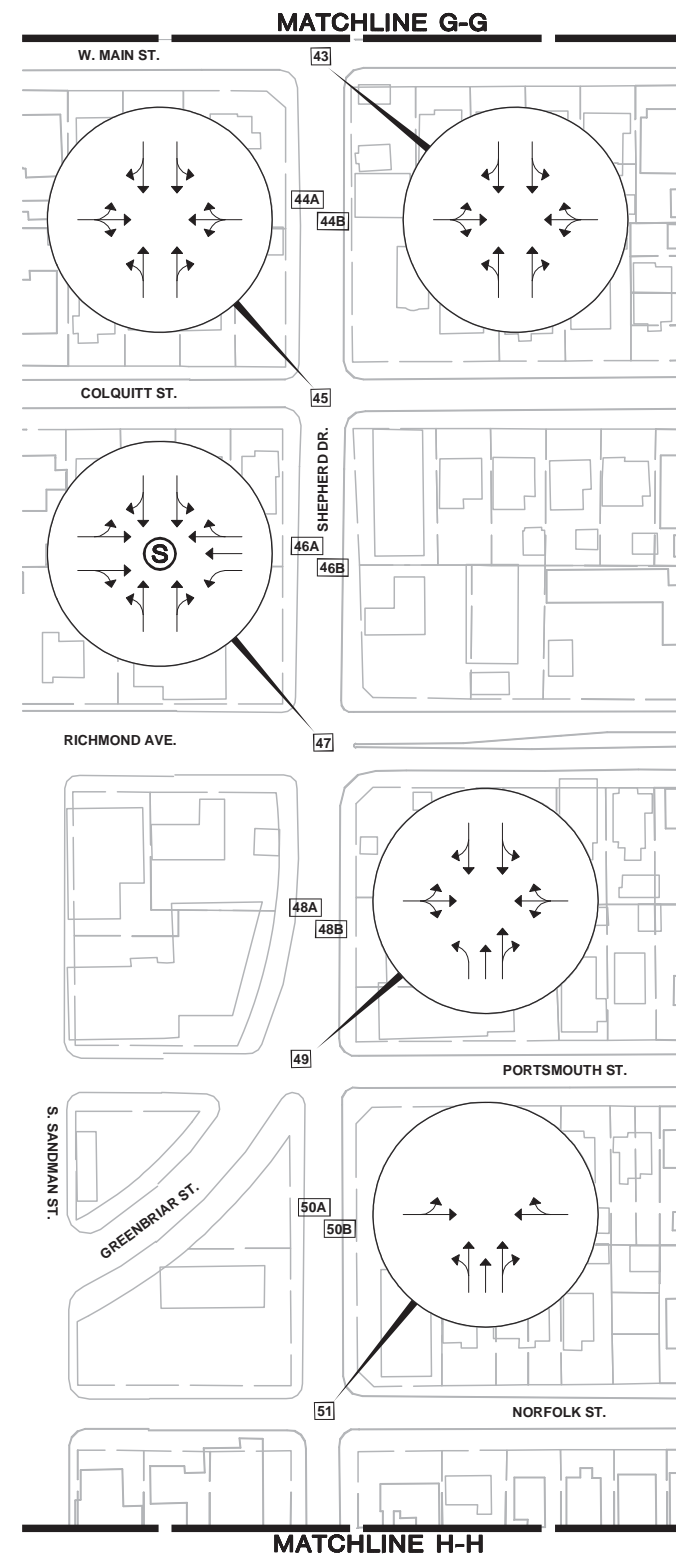
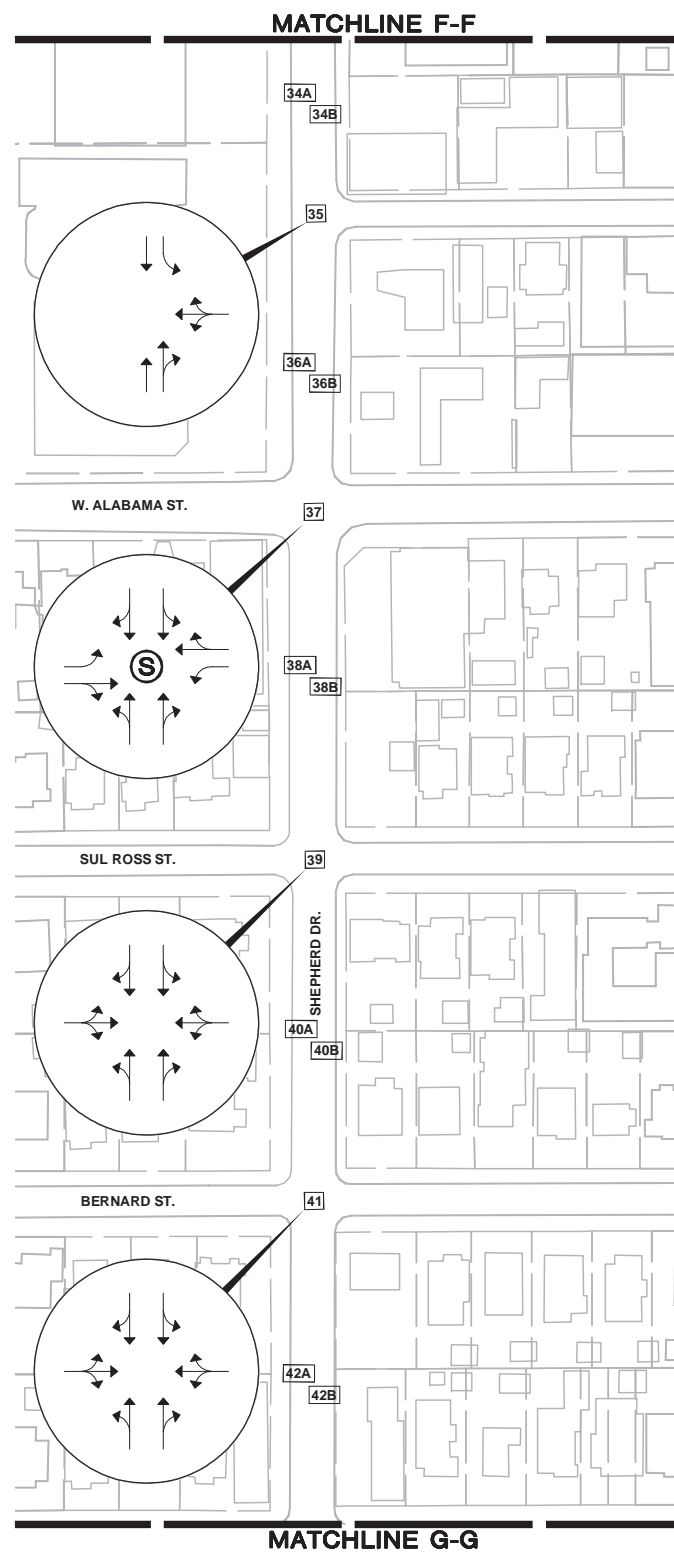


Figure 15-1 (continued)
Shepherd Drive Lane Configurations

15.1 PARKING EVALUATION

In the Montrose District, there is no parking allowed along Shepherd. On-street parking is allowed along several of the smaller cross streets. Most of the businesses have their own parking lots. This length of Shepherd is primarily commercial with a mix of residential development as can be seen in **Figure 15-2**.

A visual inspection of parking lots along Shepherd throughout the week revealed that there were several locations where available parking was full and began to spill out in the surrounding neighborhood (**Table 15-1**). Most of these locations were at bars or restaurants that have high peak hour volumes during the night hours, such as the bar just off of Shepherd at Kipling (segment 33).

Due to the length of Shepherd and the mix of the businesses, there are several locations that might lend themselves to being public parking lots. To maximize the usability of these garages, it is recommended that they be placed at or near the major intersections on Shepherd, in particular W. Gray, Westheimer, and/or W. Alabama.



Figure 15-2
Shepherd Drive Parking and Land Use



Figure 15-2 (continued)
Shepherd Drive Parking and Land Use



Figure 15-2 (continued)
Shepherd Drive Parking and Land Use

**Table 15-1
Shepherd Drive Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
2A	W. Dallas	McDuffie	Residential	No
2B			Residential/ Commercial	No
4A	McDuffie	Newhouse	Residential	No
4B			Commercial	Maybe
6A	Newhouse	Pine Valley	Residential	No
6B			Commercial/ Residential	No
8A	Pine Valley	Denman	Vacant	No
8B			Commercial	No
10A	Denman	Brentwood	Residential	No
10B			Residential	No
12A	Brentwood	W. Gray/ Inwood	Residential	No
12B			Commercial/ Residential	No
14A	W. Gray/ Inwood	Peden/ Del Monte	Residential	No
14B			Commercial	No
16A	Peden/ Del Monte	Pelham	Residential	No
16B			Residential	No
18A	Pelham	Haddon	Residential	No
18B			Residential	No
20A	Haddon	Vermont/ San Felipe	Residential	No
20B			Commercial/ Vacant	No
22A	Vermont/ San Felipe	Welch	Commercial/ Residential	No
22B			Commercial/ Residential	No
24A	Welch	Indiana/ Avalon	Residential	No
24B			Commercial/ Vacant	No
26A	Indiana/ Avalon	Fairview	Commercial	No
26B			Commercial	No
28A	Fairview	Westheimer	Institutional	No
28B			Commercial	No
30A	Westheimer	Harold	Commercial	Maybe
30B			Commercial	No
32A	Harold	Kipling	Commercial	Yes
32B			Commercial	No
34A	Kipling	Marshall	Commercial	No
34B			Commercial	No

**Table 15-1 (continued)
Shepherd Drive Parking**

Segment	From	To	Development Type	Is Additional Parking Needed at Peak Periods?
36A	Marshall	W. Alabama	Commercial	No
36B			Commercial	No
38A	W. Alabama	Sul Ross	Commercial	No
38B			Commercial	No
40A	Sul Ross	Bernard	Commercial	No
40B			Commercial/ Residential	No
42A	Bernard	W. Main	Commercial/ Vacant	No
42B			Commercial	No
44A	W. Main	Colquitt	Commercial	No
44B			Commercial	No
46A	Colquitt	Richmond	Commercial	No
46B			Commercial	No
48A	Richmond	Portsmouth	Commercial	No
48B			Commercial	Maybe
50A	Portsmouth	Norfolk	Commercial	No
50B			Commercial	No
52A	Norfolk	Lexington	Commercial	No
52B			Residential	No
54A	Lexington	US 59	Residential	No
54B			Commercial	No

Table 15-2
Shepherd Drive Pavement and Median Condition Inventory

15.2 PAVEMENT AND MEDIAN EVALUATION
 Shepherd is a four lane undivided street in the Montrose District. The pavement is concrete with curb and gutter. Shepherd pavement conditions were studied by means of visual observations and photos. Pavement conditions along Shepherd were generally acceptable, with sections of poor and good pavement. **Table 15-2** summarizes the results of the pavement and median review. **Figure 15-3** graphically depicts the pavement conditions observed along Shepherd. **Photos 15-1** through **15-8** illustrate some of the poor pavement segments which suggest immediate repair/replacement.



Photo 15-1, Segment 2A
Shepherd between W. Dallas and McDuffie
 Pavement slopes off steeply near curb.

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
1	Shepherd at W. Dallas			Acceptable	N/A	
2A		W. Dallas	McDuffie	Acceptable	N/A	
2B				Acceptable	N/A	
3	Shepherd at McDuffie			Acceptable	N/A	
4A		McDuffie	Newhouse	Acceptable	N/A	
4B				Acceptable	N/A	
5	Shepherd at Newhouse			Good	N/A	
6A		Newhouse	Pine Valley	Acceptable	N/A	
6B				Acceptable	N/A	
7	Shepherd at Pine Valley			Acceptable	N/A	
8A		Pine Valley	Denman	Good	N/A	
8B				Good	N/A	
9	Shepherd at Denman			Acceptable/ Good	N/A	
10A		Denman	Brentwood	Acceptable	N/A	
10B				Acceptable	N/A	
11	Shepherd at Brentwood			Acceptable	N/A	
12A		Brentwood	W. Gray/ Inwood	Good/ Acceptable	Poor	
12B				Acceptable	Poor	
13	Shepherd at W. Gray/ Inwood			Acceptable	N/A	
14A		W. Gray/ Inwood	Peden/ Del Monte	Good	N/A	
14B				Acceptable	N/A	
15	Shepherd at Peden/ Del Monte			Acceptable	N/A	
16A		Peden/ Del Monte	Pelham	Poor/ Good	N/A	
16B				Good	N/A	
17	Shepherd at Pelham			Acceptable	N/A	
18A		Pelham	Haddon	Acceptable	N/A	
18B				Acceptable	N/A	
19	Shepherd at Haddon			Acceptable	N/A	
20A		Haddon	Vermont/ San Felipe	Acceptable/ Poor	N/A	
20B				Acceptable/ Poor	N/A	
21	Shepherd at Vermont/ San Felipe			Good	N/A	
22A		Vermont/ San Felipe	Welch	Acceptable	N/A	
22B				Acceptable	N/A	
23	Shepherd at Welch			Good	N/A	

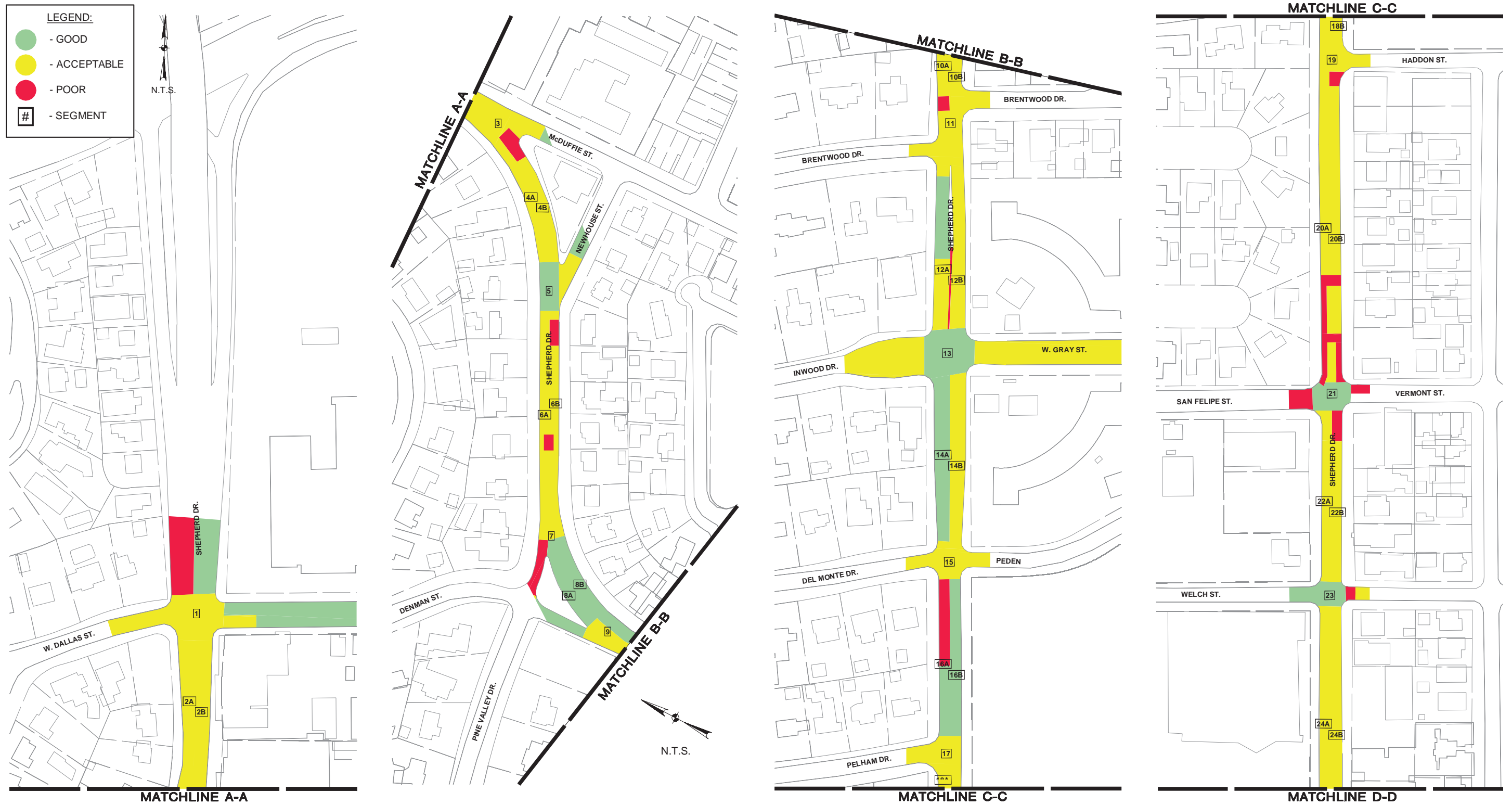


Figure 15-3
Shepherd Drive Pavement Conditions

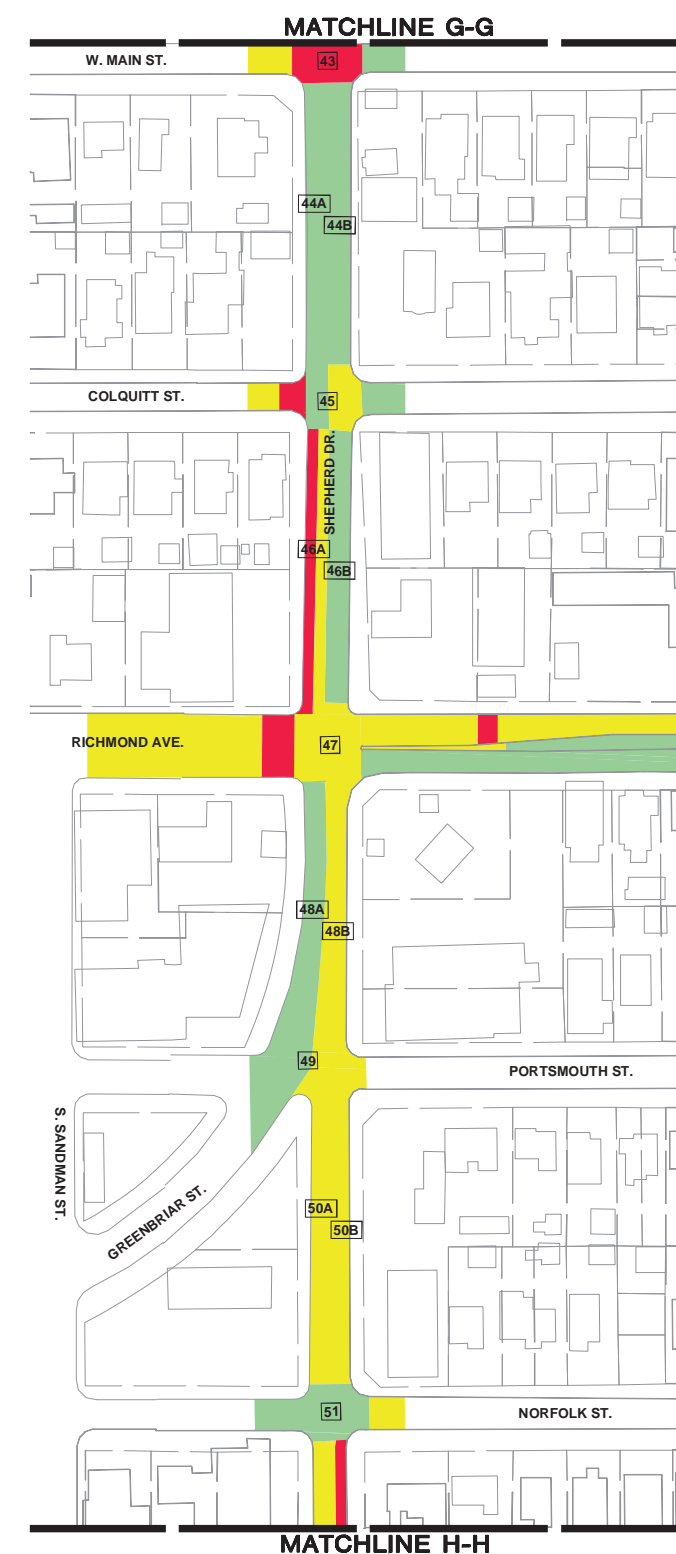
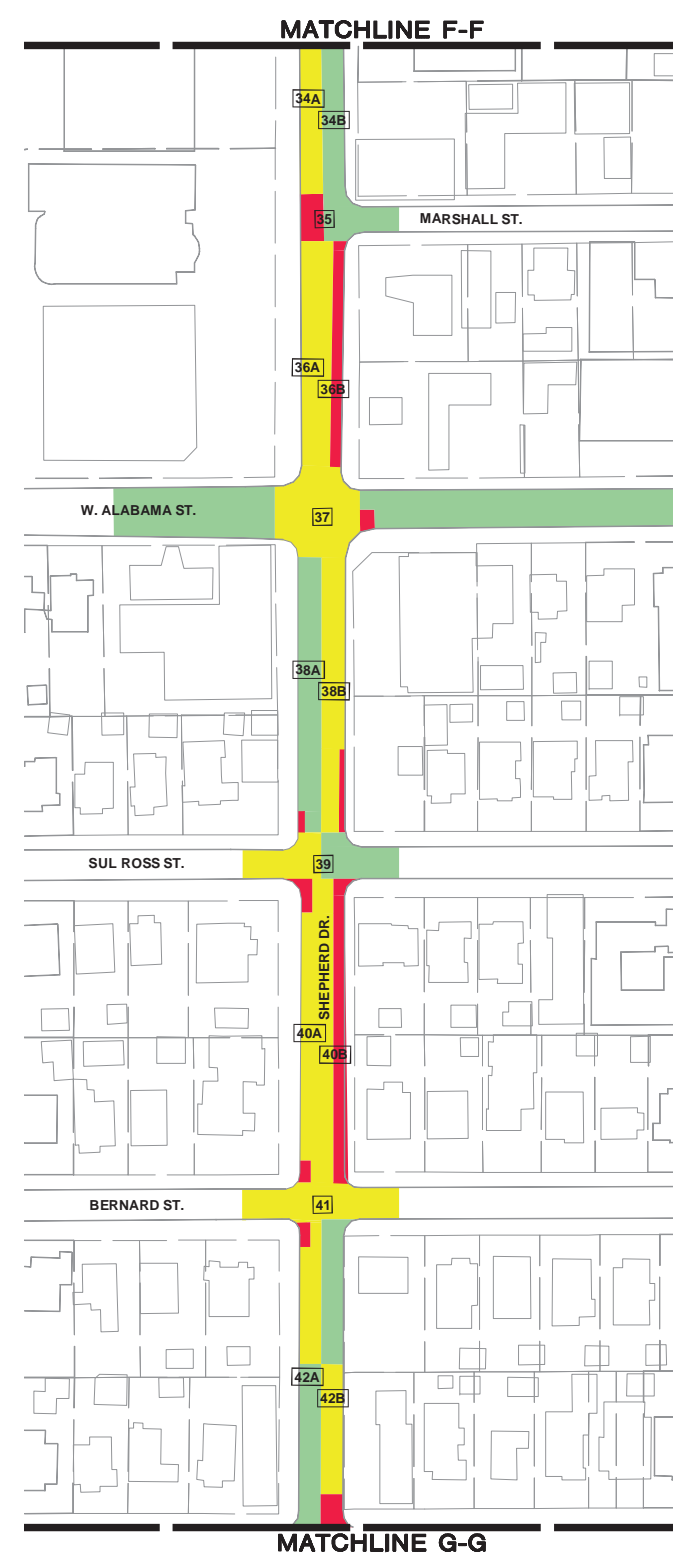
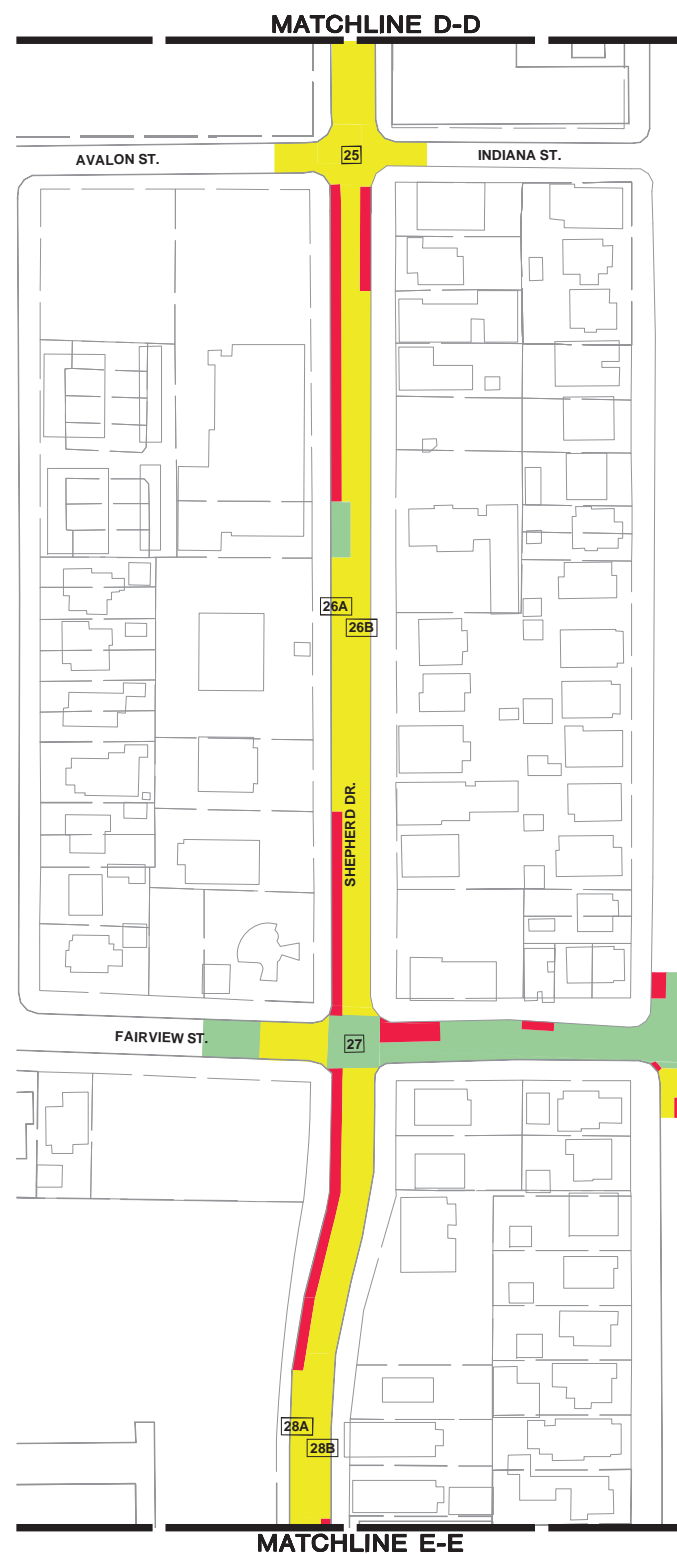


Figure 15-3 (continued)
Shepherd Drive Pavement Conditions

Table 15-2 (continued)
Shepherd Drive Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
24A		Welch	Indiana/ Avalon	Acceptable	N/A	
24B				Acceptable	N/A	
25	Shepherd at Indiana/ Avalon			Poor/ Acceptable	N/A	
26A		Indiana/ Avalon	Fairview	Poor/ Acceptable	N/A	
26B				Acceptable	N/A	
27	Shepherd at Fairview			Good	N/A	
28A		Fairview	Westheimer	Poor/ Acceptable	N/A	Poor outside lane
28B				Acceptable	N/A	Section of poor
29	Shepherd at Westheimer			Good	N/A	
30A		Westheimer	Harold	Good/ Acceptable	N/A	Poor outside lane
30B				Good/ Acceptable	N/A	
31	Shepherd at Harold			Acceptable	N/A	
32A		Harold	Kipling	Good	N/A	
32B				Acceptable	N/A	
33	Shepherd at Kipling			Good	N/A	
34A		Kipling	Marshall	Acceptable	N/A	Section of poor
34B				Good	N/A	
35	Shepherd at Marshall			Poor/ Good	N/A	
36A		Marshall	W. Alabama	Acceptable	N/A	
36B				Acceptable	N/A	Poor outside lane
37	Shepherd at W. Alabama			Acceptable	N/A	
38A		W. Alabama	Sul Ross	Good	N/A	
38B				Acceptable	N/A	
39	Shepherd at Sul Ross			Acceptable/ Good	N/A	
40A		Sul Ross	Bernard	Acceptable	N/A	Sections of poor
40B				Acceptable	N/A	Poor outside lane
41	Shepherd at Bernard			Acceptable	N/A	
42A		Bernard	W. Main	Acceptable/ Good	N/A	Section of poor
42B				Good/ Acceptable	N/A	
43	Shepherd at W. Main			Poor	N/A	
44A		W. Main	Colquitt	Good	N/A	
44B				Good	N/A	
45	Shepherd at Colquitt			Good/ Acceptable	N/A	

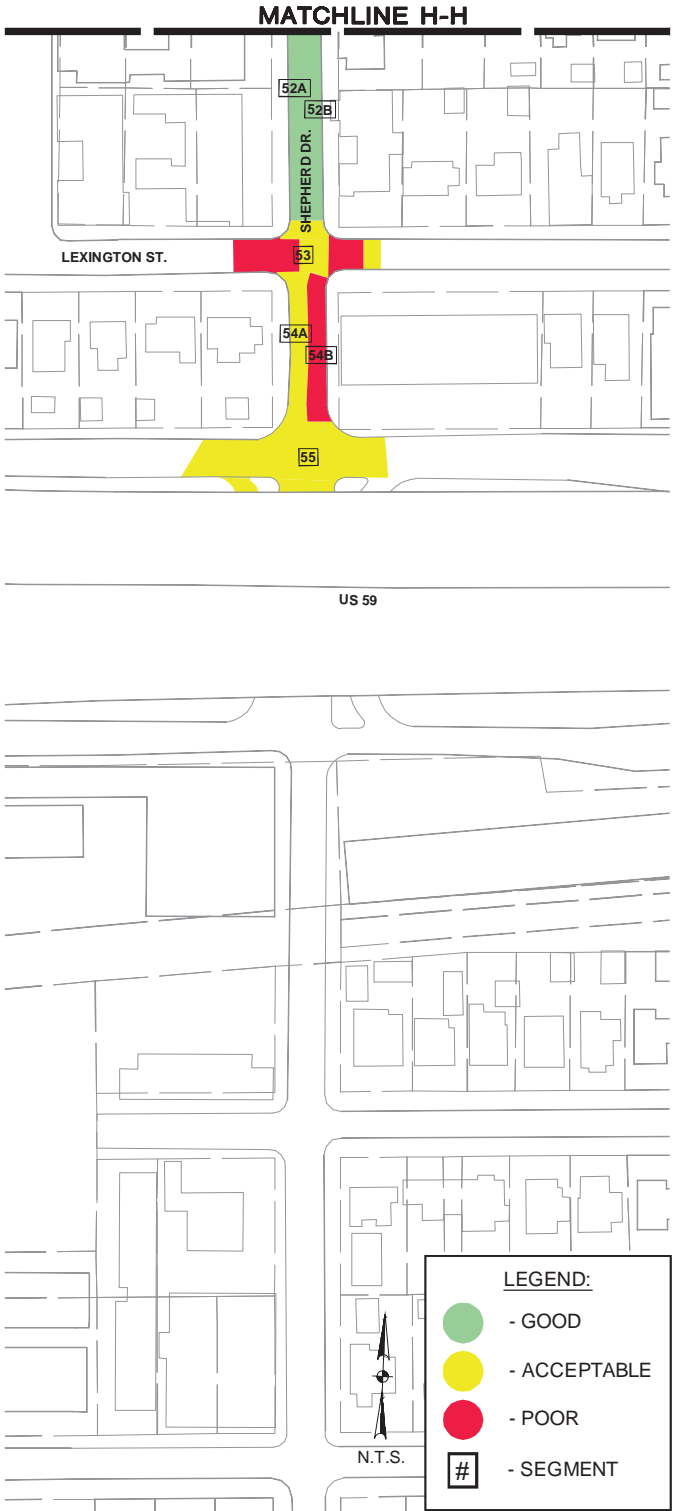


Figure 15-3 (continued)
Shepherd Drive Pavement Conditions

Table 15-2 (continued)
Shepherd Drive Pavement and Median Condition Inventory

Segment	Intersection	From	To	Pavement Condition	Median Condition	Comments
46A		Colquitt	Richmond	Acceptable		Poor outside lane
46B				Good		
47	Shepherd at Richmond			Acceptable		
48A		Richmond	Portsmouth	Good		
48B				Acceptable		
49	Shepherd at Portsmouth			Good/ Acceptable		
50A		Portsmouth	Norfolk	Acceptable		
50B				Acceptable		
51	Shepherd at Norfolk			Good		
52A		Norfolk	Lexington	Acceptable/ Good		
52B				Poor/ Good		
53	Shepherd at Lexington			Acceptable/ Poor		
54A		Lexington	US 59	Acceptable		
54B				Poor		
55	Shepherd at US 59			Acceptable		



Photo 15-2, Segment 4A
Shepherd between McDuffie and Newhouse
 Cracking and scrapes in lane



Photo 15-3, Segment 6B
Shepherd between Newhouse and Pine Valley
 Uneven patched pavement in middle of the road



Photo 15-4, Segment 12A and 12B
Shepherd between Brentwood and W. Gray/Inwood
 Section of the median missing and exposed rebar



Photo 15-5, Segment 20A
Shepherd between Haddon and San Felipe/Vermont
 Severe cracking near curb

15.3 SAFETY STUDY

As part of the safety study, Walter P Moore inventoried all signs in the corridor, as well as the existing intersection control. As can be seen in **Figure 15-4**, this section of Shepherd has many traffic signals. Intersections that are not signal controlled are two-way stop controlled on the minor approaches.

There is no parking along the length of Shepherd in the study area. Generally, sight distances appear sufficient.

While there were several locations where pavement markings were in good condition, in general, they were either in poor condition or acceptable condition due to extreme wear and tear. In particular, lane markings are very worn and barely visible in some locations. It is our recommendation that all pavement markings (lane markings, stop bars, and crosswalks) be either refreshed or completely redone along Shepherd Drive.



Photo 15-6, Segment 22A
Shepherd between San Felipe/Vermont and Welch
Severe cracking near curb



Figure 15-4
Shepherd Drive Signs and Intersection Control



Photo 15-7, Segment 28A
Shepherd between Fairview and Westheimer
 Patching creates drop off at curb and gutter effectively narrowing the lane.



Photo 15-8, Segment 49
Shepherd at Portsmouth
 Median is cracked and broken. Chunks are displaced, creating possible traffic hazards.

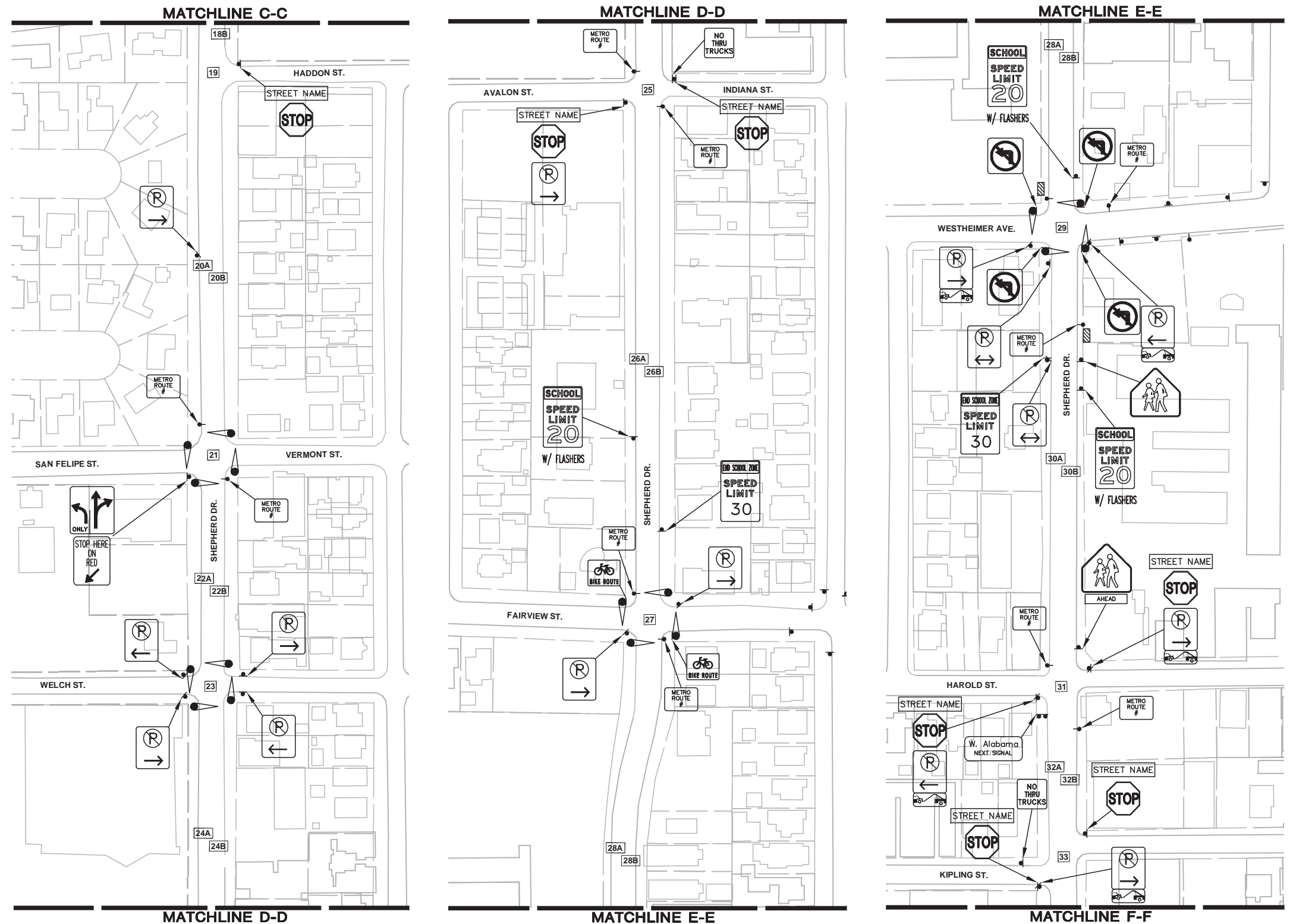


Figure 15-4 (continued)
Shepherd Drive Signs and Intersection Control

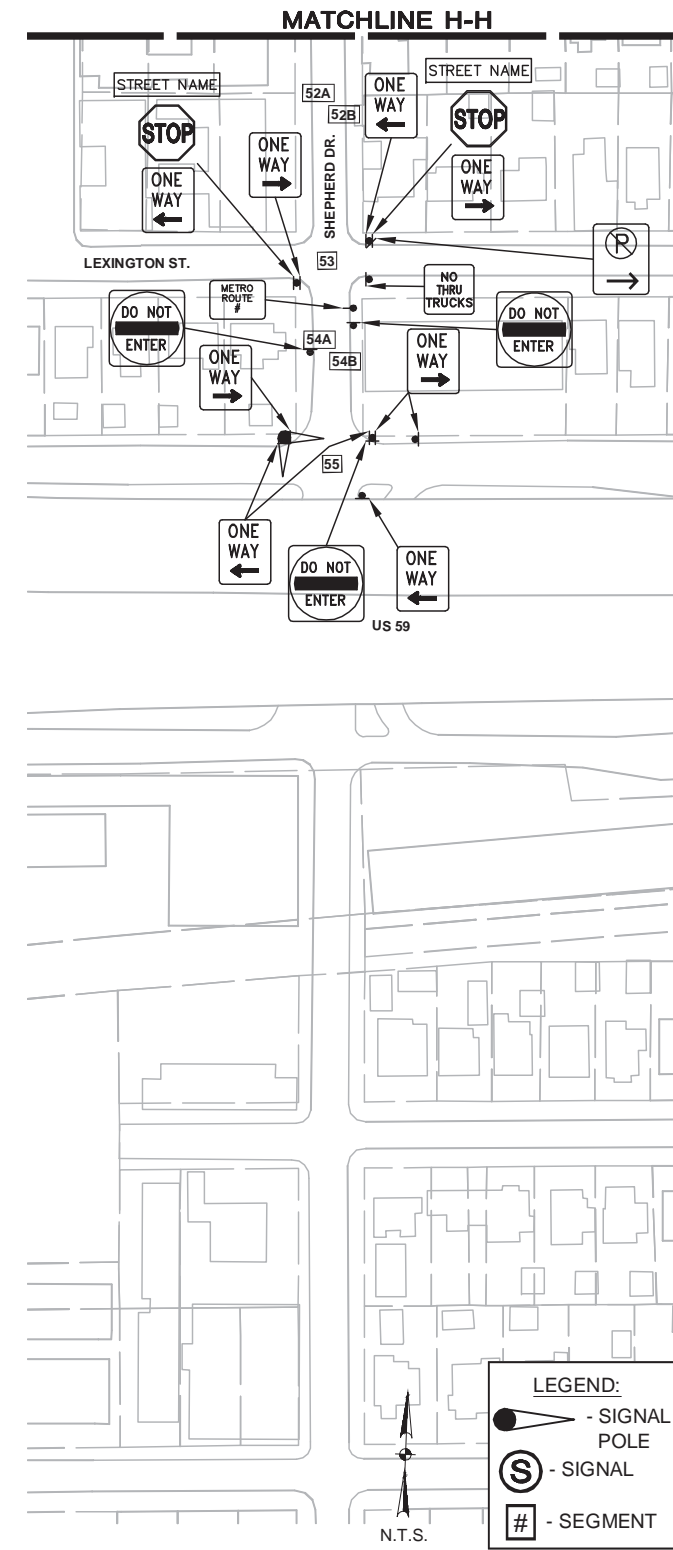
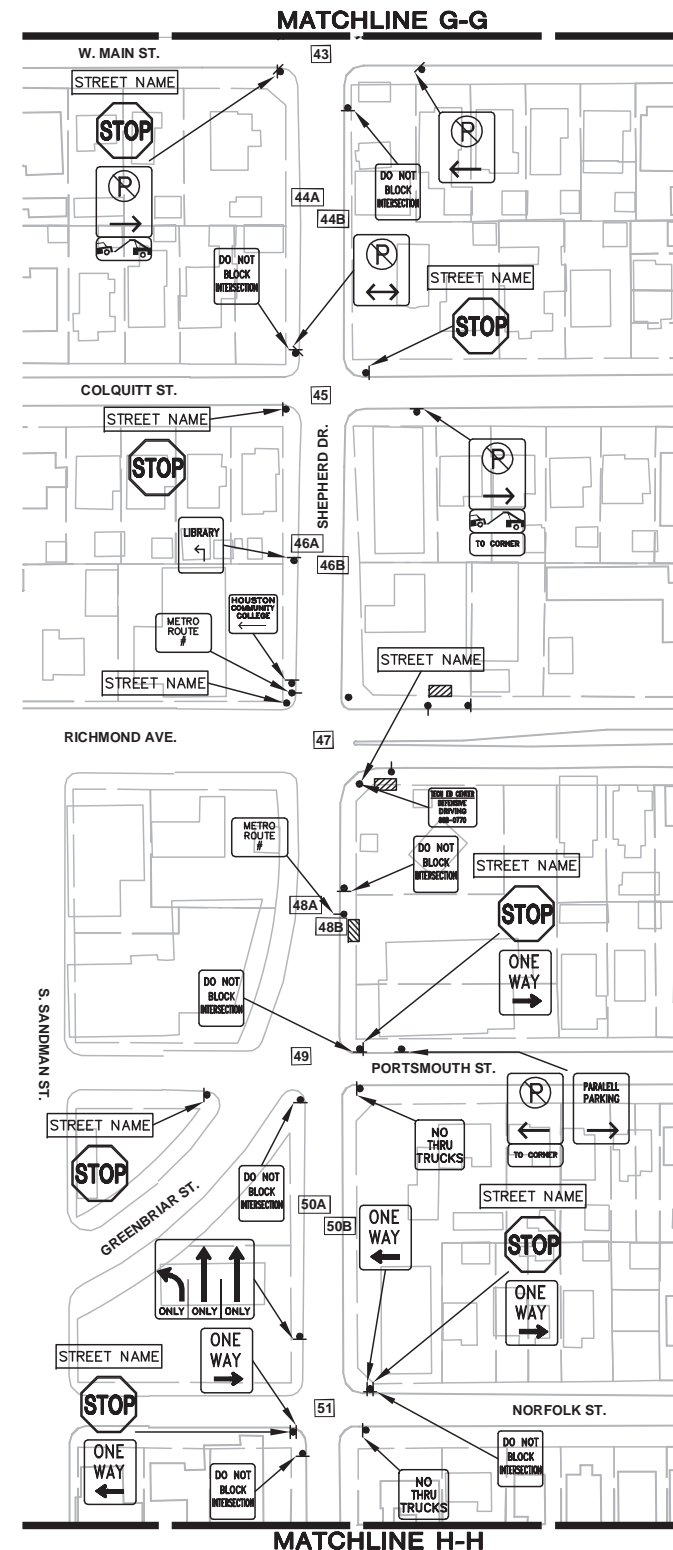
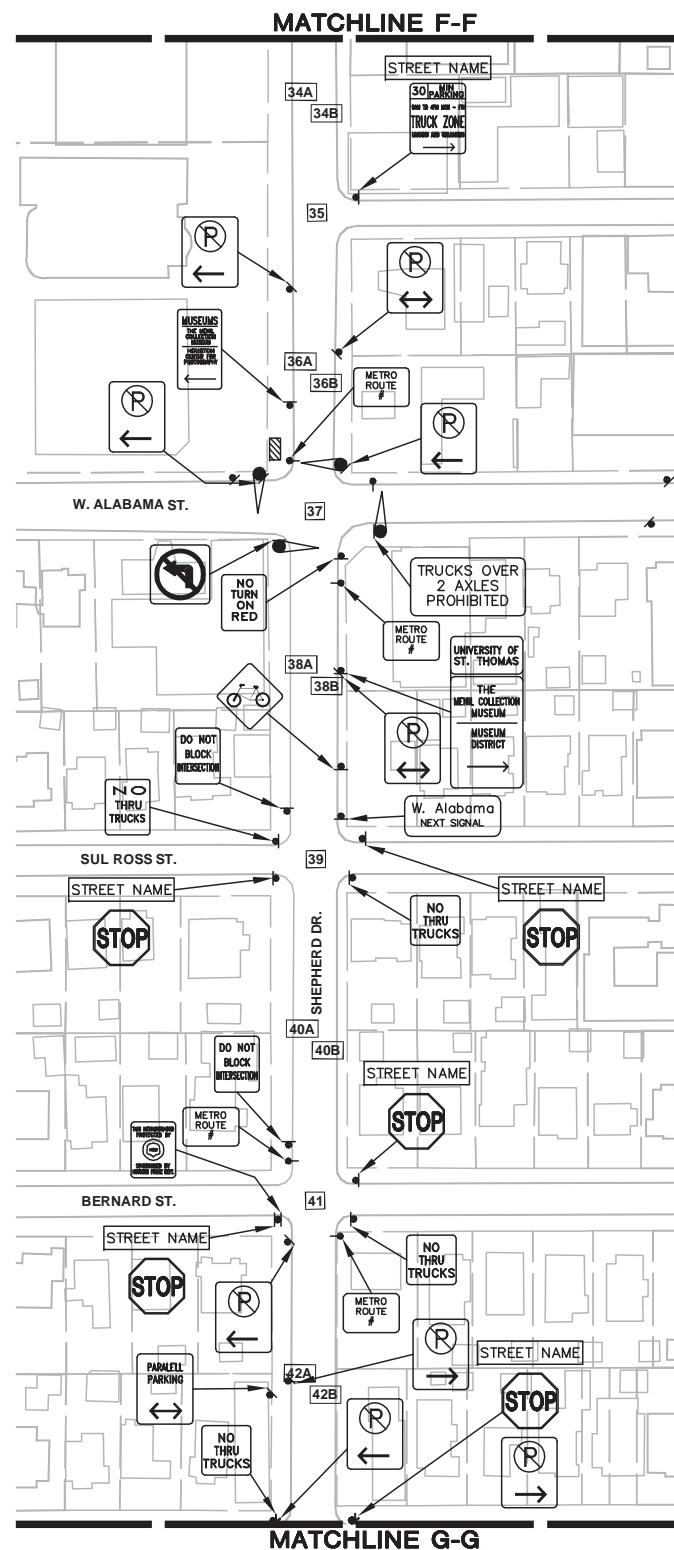


Photo 15-9, Segment 18A
Shepherd between Pelham and Haddon
 Sidewalk section has shifted, causing tripping hazard.



Photo 15-10, Segment 20A
Shepherd between Haddon and San Felipe/Vermont
 Missing sidewalk

Figure 15-4 (continued)
Shepherd Drive Signs and Intersection Control

15.4 SIDEWALK AND CROSSWALK EVALUATION

Sidewalks, ramps, and crosswalks on Shepherd between W. Dallas and US 59 were studied by means of visual observation and photos. **Table 15-3** summarizes sidewalk conditions, **Table 15-4** summarizes ramp conditions, and **Table 15-5** summarizes crosswalk conditions along Shepherd. **Figure 15-5** graphically depicts the results of the sidewalk and ramp crosswalk evaluation along Shepherd. Some of the common issues seen with sidewalks were insufficient width, cracking, upheaval, damaged/missing pavers, and/or presence of dirt, grass, and other obstructions. These issues create tripping hazards making it difficult for pedestrians including persons with disabilities to travel on the sidewalks. Issues observed with ramps were unevenness between ramps and pavement, broken ramps, steepness, and/or absence of ramps. Issues observed with crosswalks were absence of crosswalks, worn crosswalk pavement markings, and/or use of non-standard method of crosswalk delineation. **Photos 15-9** through **15-13** illustrate examples of poor sidewalks and ramps which suggest immediate repair/replacement.



Photo 15-11, Segment 26B
Shepherd between Indiana/Avalon and Fairview
Asphalt over existing concrete is beginning to come up, creating possible tripping hazards.

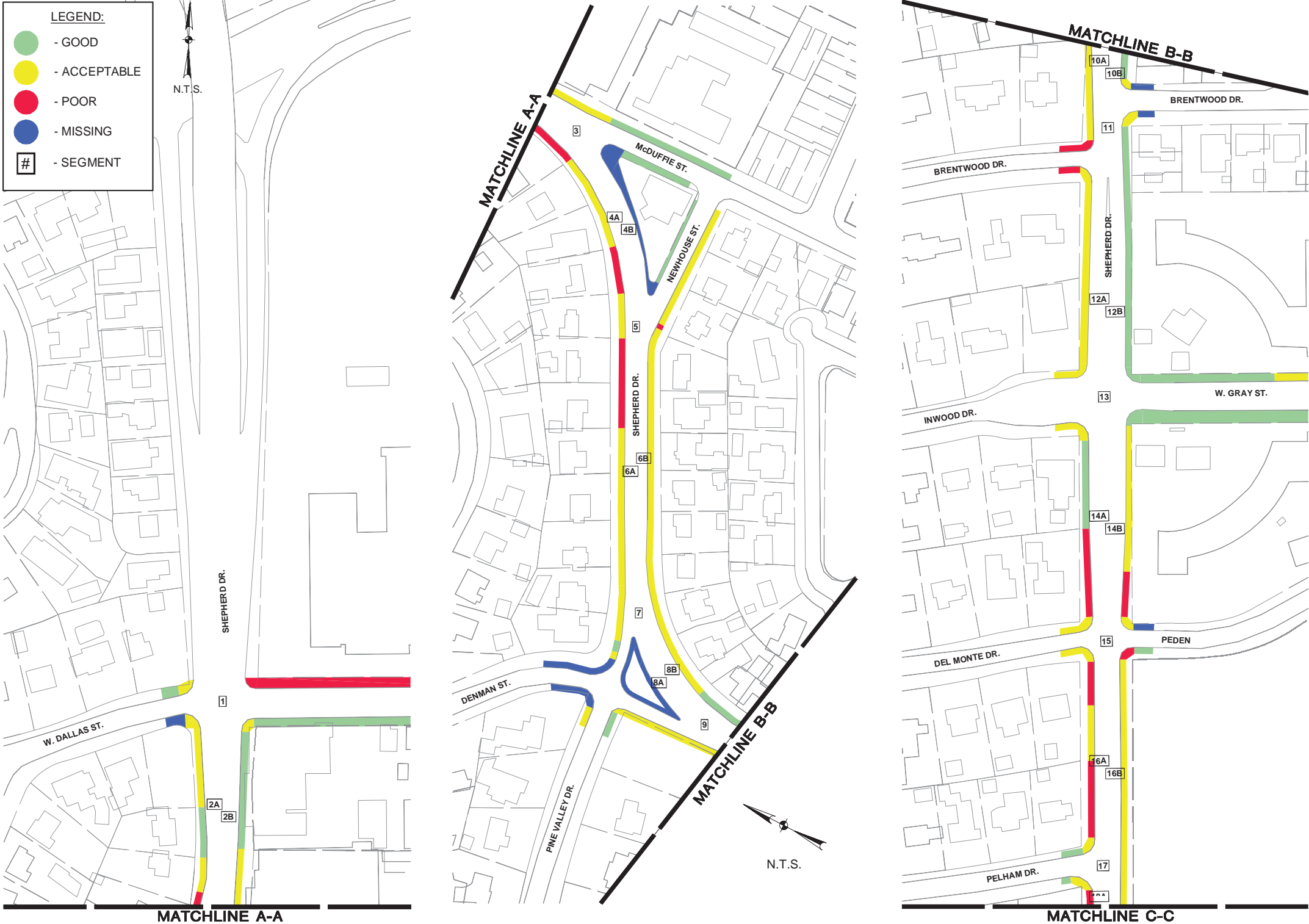


Figure 15-5
Shepherd Drive Pavement and Ramp Conditions



Figure 15-5 (continued)
Shepherd Drive Pavement and Ramp Conditions

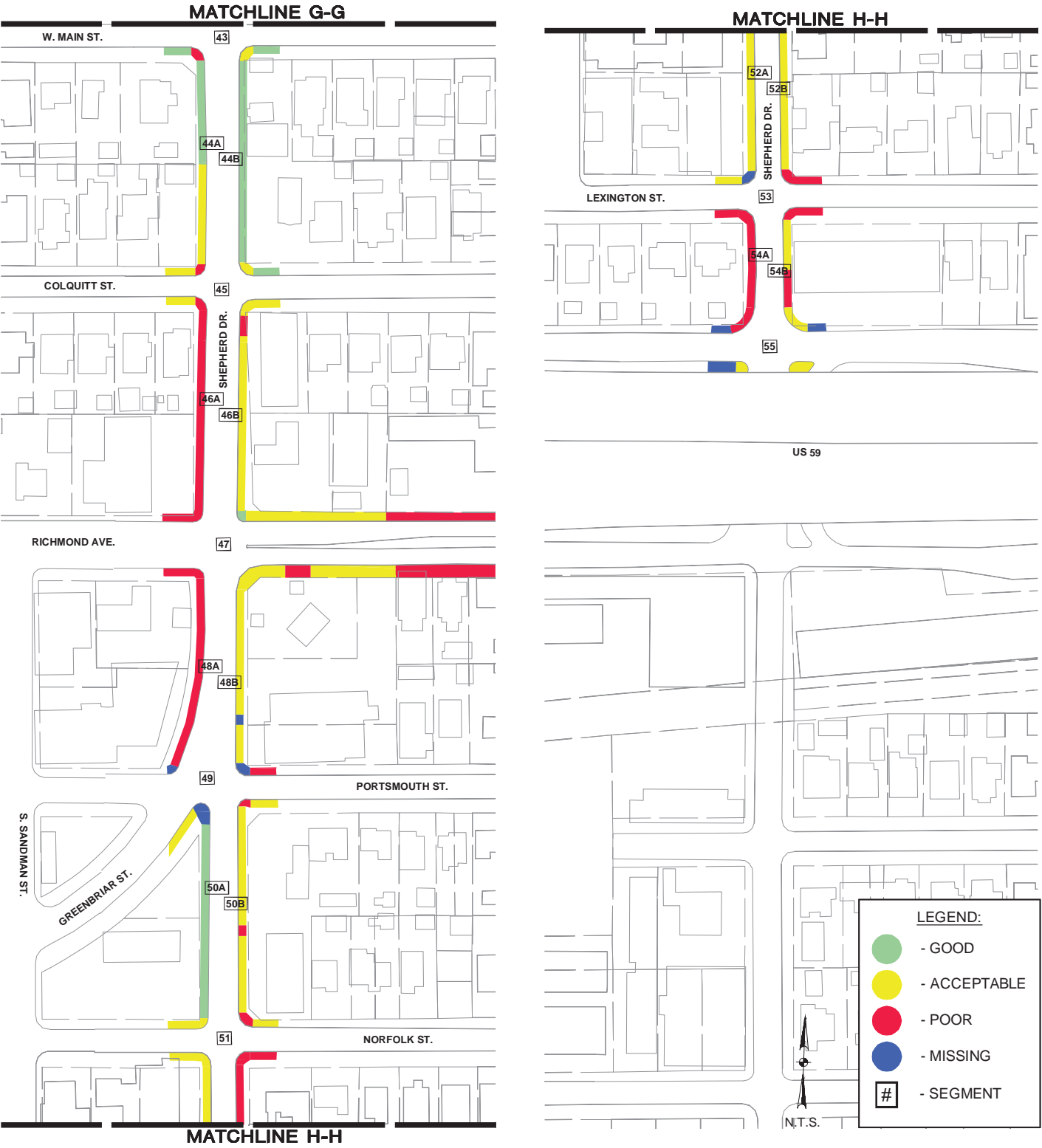


Figure 15-5 (continued)
 Shepherd Drive Pavement and Ramp Conditions

Table 15-3
 Shepherd Drive Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
2A	W. Dallas	McDuffie	Acceptable/ Good/ Poor	
2B			Good/ Acceptable	
4A	McDuffie	Newhouse	Acceptable/ Poor	
4B			Missing	
6A	Newhouse	Pine Valley	Acceptable/ Poor	
6B			Acceptable	
8A	Pine Valley	Denman	Missing	
8B			Acceptable	
10A	Denman	Brentwood	Acceptable	
10B			Good	
12A	Brentwood	W. Gray/ Inwood	Acceptable	
12B			Good	
14A	W. Gray/ Inwood	Peden/ Del Monte	Poor/ Acceptable	
14B			Acceptable/ Poor	
16A	Peden/ Del Monte	Pelham	Poor/ Acceptable	
16B			Acceptable	
18A	Pelham	Haddon	Poor	
18B			Acceptable	
20A	Haddon	Vermont/ San Felipe	Acceptable/ Poor/ Good	
20B			Acceptable/ Good	
22A	Vermont/ San Felipe	Welch	Acceptable/ Good	
22B			Poor/ Acceptable	
24A	Welch	Indiana/ Avalon	Good	
24B			Acceptable/ Poor	
26A	Indiana/ Avalon	Fairview	Acceptable/ Good/ Poor	
26B			Poor/ Good	
28A	Fairview	Westheimer	Good	with section of poor
28B			Acceptable	with section of poor
30A	Westheimer	Harold	Poor/ Acceptable/ Good	
30B			Good	
32A	Harold	Kipling	Acceptable	
32B			Acceptable/ Good	
34A	Kipling	Marshall	Acceptable	
34B			Acceptable	

Table 15-3 (continued)
Shepherd Drive Sidewalk Condition Inventory

Segment	From	To	Condition	Comments
36A	Marshall	W. Alabama	Acceptable	with section of poor
36B			Poor/ Acceptable	
38A	W. Alabama	Sul Ross	Good/ Poor	
38B			Good/ Acceptable/ Poor	
40A	Sul Ross	Bernard	Good	
40B			Poor	
42A	Bernard	W. Main	Poor/ Good	
42B			Acceptable/ Poor	
44A	W. Main	Colquitt	Good/ Acceptable	
44B			Good	
46A	Colquitt	Richmond	Poor	
46B			Acceptable	with section of poor
48A	Richmond	Portsmouth	Poor	
48B			Acceptable	with missing section
50A	Portsmouth	Norfolk	Good	
50B			Acceptable	with section of poor
52A	Norfolk	Lexington	Acceptable	
52B			Acceptable/ Poor	
54A	Lexington	US 59	Poor	
54B			Acceptable/ Poor	

Table 14-4
Shepherd Drive Ramp Condition Inventory

Segment	Intersection	NW	NE	SW	SE
1	Shepherd at W. Dallas	Acceptable	Poor	Acceptable	Acceptable
3	Shepherd at McDuffie	N/A	Missing	N/A	Missing
5	Shepherd at Newhouse	N/A	Missing	N/A	Poor
7	Shepherd at Pine Valley	Missing	N/A	Missing	N/A
9	Shepherd at Denman	Missing	N/A	Acceptable	N/A
11	Shepherd at Brentwood	Poor	Acceptable	Acceptable	Acceptable
13	Shepherd at W. Gray/ Inwood	Acceptable	Good	Acceptable	Good
15	Shepherd at Peden/ Del Monte	Acceptable	Acceptable	Acceptable	Poor
17	Shepherd at Pelham	Acceptable	N/A	Acceptable	N/A
19	Shepherd at Haddon	N/A	Acceptable	N/A	Acceptable
21	Shepherd at Vermont/ San Felipe	Poor	Poor	Poor	Acceptable
23	Shepherd at Welch	Poor	Acceptable	Poor	Acceptable
25	Shepherd at Indiana/ Avalon	Poor	Acceptable	Poor	Poor
27	Shepherd at Fairview	Acceptable	Acceptable	Poor	Acceptable
29	Shepherd at Westheimer	Poor	Poor	Acceptable	Poor
31	Shepherd at Harold	Acceptable	Poor	Poor	Poor
33	Shepherd at Kipling	Acceptable	Acceptable	Acceptable	Poor
35	Shepherd at Marshall	N/A	Poor	N/A	Poor
37	Shepherd at W. Alabama	Acceptable	Poor	Poor	Poor
39	Shepherd at Sul Ross	Poor	Acceptable	Poor	Poor
41	Shepherd at Bernard	Acceptable	Poor	Poor	Poor
43	Shepherd at W. Main	Poor	Acceptable	Poor	Acceptable
45	Shepherd at Colquitt	Poor	Acceptable	Poor	Acceptable
47	Shepherd at Richmond	Poor	Good	Poor	Acceptable
49	Shepherd at Portsmouth	Missing	Missing	Missing	Poor
51	Shepherd at Norfolk	Acceptable	Poor	Acceptable	Poor
53	Shepherd at Lexington	Missing	Poor	Poor	Poor
55	Shepherd at US 59	Poor	Acceptable	Acceptable	Acceptable

Table 14-5
Shepherd Drive Crosswalk Condition Inventory

Segment	Intersection	East	West	North	South
1	Shepherd at W. Dallas	Acceptable	Poor	Acceptable	Good
3	Shepherd at McDuffie	Missing	N/A	N/A	N/A
5	Shepherd at Newhouse	Missing	N/A	N/A	N/A
7	Shepherd at Pine Valley	N/A	Missing	N/A	N/A
9	Shepherd at Denman	N/A	Missing	N/A	N/A
11	Shepherd at Brentwood	Good	Poor	N/A	N/A
13	Shepherd at W. Gray/ Inwood	Acceptable	Good	Acceptable	Acceptable
15	Shepherd at Peden/ Del Monte	Acceptable	Poor	N/A	N/A
17	Shepherd at Pelham	N/A	Poor	N/A	N/A
19	Shepherd at Haddon	N/A	Good	N/A	N/A
21	Shepherd at Vermont/ San Felipe	Good	Good	Good	Good
23	Shepherd at Welch	Poor	Poor	Acceptable	Acceptable
25	Shepherd at Indiana/ Avalon	Missing	Missing	N/A	N/A
27	Shepherd at Fairview	Good	Acceptable	Good	Good
29	Shepherd at Westheimer	Good	Good	Good	Good
31	Shepherd at Harold	Missing	Acceptable	N/A	N/A
33	Shepherd at Kipling	Poor	Acceptable	N/A	N/A
35	Shepherd at Marshall	Missing	N/A	N/A	N/A
37	Shepherd at W. Alabama	Good	Good	Good	Good
39	Shepherd at Sul Ross	Missing	Poor	N/A	N/A
41	Shepherd at Bernard	Missing	Missing	N/A	N/A
43	Shepherd at W. Main	Good	Poor	N/A	N/A
45	Shepherd at Colquitt	Missing	Acceptable	N/A	N/A
47	Shepherd at Richmond	Acceptable	Good	Good	Good
49	Shepherd at Portsmouth	Missing	Missing	N/A	N/A
51	Shepherd at Norfolk	Missing	Missing	N/A	N/A
53	Shepherd at Lexington	Missing	Missing	N/A	N/A
55	Shepherd at US 59	Good	Good	Good	Good

15.5 CORRIDOR RECOMMENDATIONS

Based on our observations, several improvement projects are recommended. These projects should be prioritized based on safety having the highest priority followed by mobility.

▪ **Pavement Reconstruction:**

- Shepherd from W. Dallas to Pine Valley
- Shepherd from Denman to W. Gray/Inwood
- Northbound lanes of Shepherd from W. Gray/ Inwood to Peden
- Shepherd at Peden/Del Monte
- Southbound lanes of Shepherd south of Peden/Del Monte
- Shepherd from Pelham to Westheimer
- Southbound lanes of Shepherd from south of Westheimer to Harold
- Northbound lanes of Shepherd from north of Harold to Kipling
- Southbound lanes of Shepherd from Kipling to W. Alabama
- Northbound lanes of Shepherd from Marshall to Sul Ross
- Shepherd from Sul Ross to W. Main
- Shepherd at Colquitt
- Southbound lanes of Shepherd from Colquitt to Richmond
- Shepherd from Richmond to US 59

▪ **Refresh Pavement Markings:** A low cost solution to improve safety in the corridor, refreshing pavement markings improves safety in the corridor, particularly at crosswalks.

- Shepherd between W. Dallas and US 59.

▪ **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility.

- Construct missing ramps and reconstruct existing ramps
- Shepherd at all intersections

▪ Construct missing sidewalk and Reconstruct existing sidewalk

- West side of Shepherd from W. Dallas to McDuffie
 - Shepherd from McDuffie to Denman
 - West side of Shepherd from Denman to W. Gray/Inwood
 - Shepherd from W. Gray/Inwood to Welch
 - East side of Shepherd from Welch to Indiana/Avalon
 - Shepherd from Indiana/Avalon to north of Fairview
 - East side of Shepherd from Fairview to Westheimer
 - West side of Shepherd from Westheimer to Harold
 - Shepherd from Harold to W. Alabama
 - East side of Shepherd south of W. Alabama
 - West side of Shepherd north of Sul Ross
 - East side of Shepherd from Sul Ross to W. Main
 - West side of Shepherd south of Bernard
 - West side of Shepherd north of Colquitt
 - Shepherd from Colquitt to Portsmouth
 - East side of Shepherd from Portsmouth to Norfolk
 - Shepherd from Norfolk to US 59
- Reconstruct sidewalk at buckled locations
- East side of Shepherd north of Fairview

Adherence to all current City of Houston design codes and guidelines is important during design and construction.

When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.



Photo 15-12, Segment 48B
Shepherd between Richmond and Portsmouth
 Missing sidewalk



Photo 15-13, Segment 50B
Shepherd between Portsmouth and Norfolk
 One section of sidewalk has settled, creating tripping hazards.

SECTION 16: CUT-THROUGH TRAFFIC

There are several locations in the Montrose Management District that have become known cut-through routes for vehicles cruising the neighborhood, particularly at night. **Figure 16-1** shows where signs have been posted to help deter cut-through traffic. To better understand the cut-through routes, traffic patterns were observed during weekend night ride-alongs with the Houston Police Department officers that serves as the safety officer on weekend nights in Montrose. During these ride-alongs, it was observed that despite the prohibited left turn signs along Westheimer and Montrose, there were still cut-through routes were confined within the neighborhoods and off of Fairview. The cut-through routes were being used for a multitude of reasons, from trying to find a parking space to cruising the bars and associated street corners.

The officer on duty, who works during the day at the store front on Westheimer, noted that there are two primary things that might help limit cut-through traffic. One would be additional parking near the bars and clubs so that drivers do not have to circle multiple times trying to find a parking space. Second, increasing patrol in areas of known prostitution so that the street corners can be kept clear. A reduction in the number of vehicles circling has already been noticed in areas where this has been implemented. It was cautioned these methods work best when patrol is vigilant and there are multiple officers keeping the corners clear all days of the week and all times of the day. Coordination with officers working the patrol beat would be necessary.

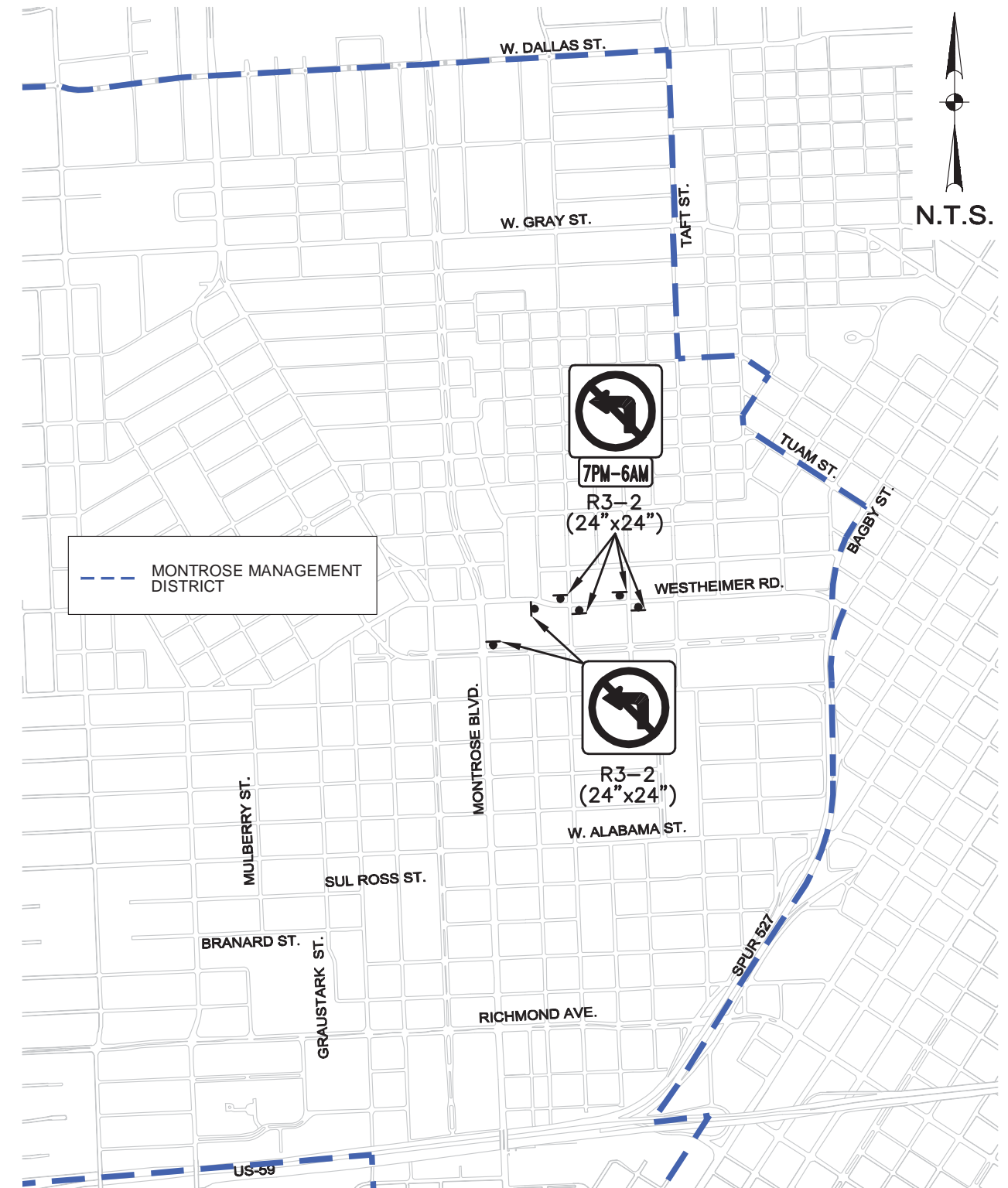


Figure 16-1
Prohibited Left Turns to Limit Cut-Through Traffic

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SECTION 17: DISTRICT WIDE PARKING SOLUTIONS

As discussed in the corridor evaluations, there are several areas in the Montrose Management District that might lend themselves to District wide parking solutions. This is particularly true near the intersection of Montrose and Westheimer, where there are many restaurants, bars, and clubs. The majority of these establishments are located along Westheimer and Fairview, but they are also tucked into the neighborhood between Westheimer and Fairview. Many people coming to the area during the evening hours, and parking becomes scarce. It is for this reason that a parking garage located near or between Westheimer and fairview close to Montrose might alleviate some of the spillover parking in the surrounding neighborhood. A visual inspection yielded several possible locations for parking structures.

- On Shepherd near W. Alabama or Richmond
- On Westheimer, near the current Katz Deli surface parking lot.
- On Westheimer, west of Kuester
- Just off of Fairview between Montrose and Converse, there is a surface parking lot that could be converted to a structured parking garage.

These locations were identified because they were locations already used for parking purposes or are vacant. Other tracts of property in the area that are currently occupied by buildings may be redeveloped into parking structures to serve multiple businesses. In the future, when light rail is constructed on Richmond, the viability of parking structures near stations should be considered, as development density increases along that corridor. At this time, it does not appear that there are other locations in the Montrose Management District that would benefit from a large shared parking structure, because the density of commercial and retail development is not yet high enough.

SECTION 18: CONCLUSIONS

Throughout this mobility study, many areas have been identified as needing improvements to address existing issues.

18.1 PRIORITIZATION

As with all repair and rehabilitation efforts, priority should be given to those projects which will have the most impact and in the areas that are in the most need. It is recommended that initial efforts be spent on the repair and Reconstruct ion of pavement and sidewalks in areas that have been identified as poor, with a particular focus on the intersections where multiple improvements can be made at the same time.

It is also recommended to delay any major repairs on Richmond until plans for the University Light Rail Line have been finalized. Richmond repairs should be coordinated with METRO to avoid duplication of effort.

18.2 CITY OF HOUSTON CAPITAL IMPROVEMENT PLAN

After reviewing the City of Houston’s Capital Improvement Plan, there were several projects with potential impacts on the planned improvements for this corridor. The following is a list of current and planned CIP projects in the Montrose District:

- M-000267-0001: Drainage and storm water improvements for the northern half of Shepherd (design)
- M-000290-0001: Montrose Area and Midtown drainage and storm water improvements based on previous study (design)
- N-001037-0052: Resurfacing Montrose from Bissonnet to US 59 (design)
- N-001037-0057: Resurfacing W. Dallas from Shepherd to Montrose (under construction)
- M-000126-0063: Local drainage project north of Westheimer between Dunlavy and Commonwealth (design)
- N-000400-0001: A roadway project on local streets east of Montrose, between W. Alabama and Richmond (design)
- N-00610A-00C3: Sidewalk project W. Gray at Woodhead and Alabama from Wesleyan to

- Woodhead (design)
- N-00610A-0111: Sidewalk project various north-south streets between Shepherd and Milam, from W. Alabama to US 59; including Dunlavy from W. Alabama to US 59 (design)
- S-000035-00W9: Water line replacement around the University of St. Thomas area will affect sections of Montrose. (design)
- S-000035-0127: Avondale water main replacement will affect a section of Westheimer. (design)
- Overlay Project: Resurfacing Hazard US 59 to Richmond (under construction)
- Overlay Project: Resurfacing many of the smaller local roads within the neighborhoods east on Montrose from south of W. Dallas to W. Alabama (planned)

18.3 IMPROVEMENT SUMMARY

In summary, the improvements recommended for the major corridors in the Montrose Management District can be grouped into six areas as listed below:

- **Prune Vegetation:** Limited sight distance often is a safety hazard and as such it should have a high priority. Implementing this improvement is relatively low in cost.
- **Pavement Reconstruction:** Because this corridor is primarily used by vehicles, the pavement that they drive on is a safety and mobility factor.
- **Refresh Pavement Markings:** Another low cost solution to improve safety in the corridor, refreshing pavement markings improves safety in the corridor, particularly at crosswalks.
- **Ramps and Sidewalks:** Improving the ramps and crosswalks will increase pedestrian activity in the corridor, as it will improve their mobility. When improvements are made, at any corner, the entire intersection should be updated to current ADA standards.

- **Medians:** Repairing the medians enhances safety for drivers, but the needed repairs are relatively minor and can be reconstructed as parts of other reconstruction projects on the adjacent sidewalks and ramps.
- **General Safety:**
 - Remove or better identify/enforce times and restrictions on reversible center lane on W. Alabama.
 - Remove power poles the length of the Fairview corridor to improve sight distances on minor streets and to clear sidewalks for easier passage.
- **General Mobility:**
 - Coordinate signal timings throughout the district to improve flow on arterial streets.
 - Consider using flashing yellow arrows at intersections with protected left turns to increase level of service for left turns.

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REFERENCES

1. *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities; An ITE Proposed Recommended Practice*, Institute of Transportation Engineers, Washington, D.C. 2006.
2. *Design and Safety of Pedestrian Facilities; An ITE Proposed Recommended Practice*, Institute of Transportation Engineers, Washington, D.C. 1998.
3. *Guide for the Development of Bicycle Facilities*, American Association of State Highway and Transportation Officials, Washington, D.C. 1999.
4. *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, American Association of State Highway and Transportation Officials, Washington, D.C. 2004.
5. *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials, Washington, D.C. 2004.
6. *Texas Manual on Uniform Traffic Control Devices*, Texas Department of Transportation, Austin, TX. 2006.
7. *Traffic Control Devices Handbook*, Institute of Transportation Engineers, Washington, D.C. 2001.

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