Approved: September 11, 2010
Date

MINUTES OF THE SENATE TRANSPORTATION COMMITTEE

The meeting was called to order by Chairman Dwayne Umbarger at 8:35 a.m. on March 18, 2010, in Room 152-S of the Capitol.

All members were present.

Committee staff present:
Bruce Kinzie, Office of the Revisor of Statutes
Jill Shelley, Kansas Legislative Research Department
Cindy Shepard, Committee Assistant

Conferees appearing before the Committee:
Nathan McAlister, Teacher, Royal Valley Middle School
Chuck Ferguson, Deputy Transportation Director, Johnson County Transit
Joe Erskin, Deputy Secretary of Finance, Kansas Department of Transportation

Others attending:
See attached list.

The Chairman called for action on **HB 2650 - Designating part of U.S. 75 highway as the James Lane Freedom Trail memorial highway**.

Nathan McAlister, Royal Valley Middle School history teacher, representing the students that requested **HB 2650**, proposed changing the name to "The Lane Freedom Trail" and distributed his balloon amendment (Attachment 1).

Discussion followed concerning James Lane's questionable reputation and if it would be appropriate to remove his name entirely, designating the section of highway as the Freedom Trail memorial highway. Mr. McAlister stated that it would be historically incorrect to remove James Lane's name completely as the actual trail was known as the Lane Trail.

After further discussion, Senator Schmidt moved, Senator Kultala seconded, to table **HB 2650**. Motion carried.

The Chairman called for action on **HB 2561 - Allowing transit buses to be operated on right shoulder of certain highways**. Chuck Ferguson, Deputy Transportation Director, Johnson County Transit, introduced the consultants for the I-35 Bus on Shoulder (BOS) project, John Dobies, Associate Vice President and Kip Straus, Transportation Engineer, with HNTB Corporation. Mr. Dobies and Mr. Straus gave a power point presentation answering questions regarding BOS operations, requested at the March 16 meeting. Included in their presentation was a video showing examples of BOS operations (Attachment 2).

After discussion, the Chairman indicated he would take further action on **HB 2561** at tomorrow's meeting.

The Chairman called for discussion and possible action on **SB 498 - Transportation works for Kansas program, financing** and **SB 515 - Transportation works for Kansas, financing, sales tax on motor-vehicle fuels**. Joe Erskin, Deputy Secretary of Finance, Kansas Department of Transportation (KDOT), reviewed past program geographic distribution of transportation funding in the six KDOT districts (Attachment 3). Policy considerations for the new comprehensive transportation program include the following:

- Distribution percentages should be met over a long period of time
- Minimum of $5 million per county for highway construction
- A portion should be held back for economic opportunities
- No district shall receive more than 45% of the funding in a new program

A priority list of projects by districts and a traffic flow map was requested from KDOT.

The meeting was adjourned at 9:32 a.m. The next meeting is scheduled on adjournment March 18, 2010.

SENATE TRANSPORTATION COMMITTEE
GUEST LIST

DATE: 3-18-10

NAME	REPRESENTING
Patrick J Hurley	Economic Lifelines
Bernie Koch	KEPC
DAN RAMLOW	KS CONTRACTORS ASSN
Nathan McAlister	Royal Valley Middle School
BRUCE BURDITT	KDOT
Whitney James	KS Good Roads
KEVIN GREGG	KMCA
Joe Moeimann	PMCA of KS
[illegible]	KAPA
Woody Moses	KRMCA

Session of 2010

HOUSE BILL No. 2650

By Committee on Federal and State Affairs

2-4

AN ACT designating part of United States highway 75 as the ~~James~~ Lane Freedom Trail ~~memorial highway~~; amending K.S.A. 68-1051 and repealing the existing section.

Be it enacted by the Legislature of the State of Kansas:

New Section 1. United States highway 75 from the southern city limits of Holton then south on United States highway 75 to the junction of United States highway 75 and N.W. 46th street in Shawnee county is hereby designated as the ~~James~~ Lane Freedom Trail ~~memorial highway~~. The secretary of transportation shall place signs along the highway right-of-way at proper intervals to indicate that the highway is the ~~James~~ Lane Freedom Trail ~~memorial highway~~, except that such signs shall not be placed until the secretary has received sufficient moneys from gifts and donations to reimburse the secretary for the cost of placing such signs and an additional 50% of the initial cost to defray future maintenance or replacement costs of such signs. The secretary of transportation may accept and administer gifts and donations to aid in obtaining and installing suitable signs.

Sec. 2. K.S.A. 68-1051 is hereby amended to read as follows: 68-1051. The portion of United States highway 75 where it enters the state on the Kansas-Nebraska border on the north then south to the junction with K-9 then west to the junction of K-9 with K-62 then south to the junction of K-62 with K-16 then east to the junction with United States highway 75 then south on United States highway 75 to *the southern city limits of Holton, then from the junction of United States highway 75 and N.W. 46th street in Shawnee county then south on United States highway 75 to* the Kansas-Oklahoma border, is hereby designated the purple heart/combat wounded veterans highway. The secretary of transportation shall place markers along the highway right-of-way at proper intervals to indicate that the highway is the purple heart/combat wounded veterans highway. The secretary of transportation may accept and administer gifts and donations to aid in obtaining suitable highway signs bearing the proper approved inscription.

Sec. 3. K.S.A. 68-1051 is hereby repealed.

Proposed Amendments to HB No. 2650

Prepared by: Bruce Kinzie
Revisor of Statutes Office

Senate Transportation
3-18-10
Attachment 1

Sec. 4. This act shall take effect and be in force from and after its publication in the statute book.

I-35 Fixed Guideway Phased Implementation Plan

I-35 CORRIDOR

Johnson County's Link to Kansas City

Presentation to the Senate Transportation Committee
Allowing Buses to Drive on I-35 Shoulders

March 18, 2010

Agenda

- What is Bus on Shoulder operation?
- Traffic and Safety Impacts
- Where would Bus on Shoulder be used?

What are Bus on Shoulders?

Bus On Shoulder (BOS) is an innovative way to move more people on existing I-35.

- Peak periods when traffic is moving slower than 35 mph.
- Reliable and efficient because buses run on schedule regardless of congestion.
- Buses using shoulders do not travel more than 45 mph.
- Buses must yield to any vehicle entering, merging or exiting through the shoulder.
- Buses must re-enter the mainline where the shoulder is obstructed (vehicle debris, incident, etc).

Traffic Analysis

- Existing and future traffic analyzed in cooperation with KDOT
- BOS has no negative effect on existing traffic
- Service vs. system interchange operations
- Benefits
  - Significant time savings on "normal" days (3-5 minutes)
  - Greater opportunity for travel time savings when there are incidents or inclement weather.

Traffic

- Minneapolis Video
  - Bus on Shoulder
  - Merge to mainline
  - Stalled car
  - Transition through off-ramp
- I-35 Simulation
  - Northbound AM Peak Hour, Quivira to US 69

Safety

- Bus drivers are trained professional drivers
  - Accountable to the operating rules
  - Able to handle more complex driving decisions
- Buses are easily seen by other motorists
- Shoulder use is limited to a small number of vehicles
- Speeds are low

Senate Transportation
3-18-10
Attachment 2

Safety - Public Education

Objective and Goals:
Educate public about Bus on Shoulder operations and benefits.

Key Audiences: highway users, commuters, bus users, community leaders, law enforcement, special interest groups.

Safety

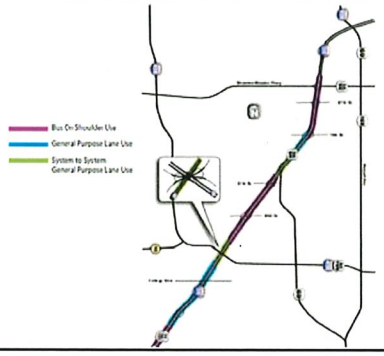
Crash rates are extremely low for Bus on Shoulder

Miami-Dade: "no incidents or accidents due to the Bus-on-Shoulders operation," Miami Dade MPO, *Bus On Shoulders Service Evaluation*

Minneapolis: "Mn/DOT performed an accident study that found that between 1991 and 2001 there were only 20 accidents on the shoulder involving a bus and all of these crashes caused property damage only. Most accidents consist of minor scrapes or mirror clips," *Bus-Only Shoulders in the Twin Cities Report*

San Diego: "no accidents have occurred as a result of the demonstration project," *Freeway Transit Lane Demonstration Project Status Report*

Where would Bus on Shoulder be implemented?



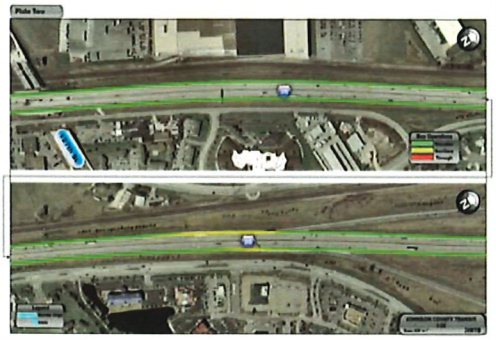
Shoulder Criteria & Considerations

I-35 Bus on Shoulder Evaluation Tech Memo

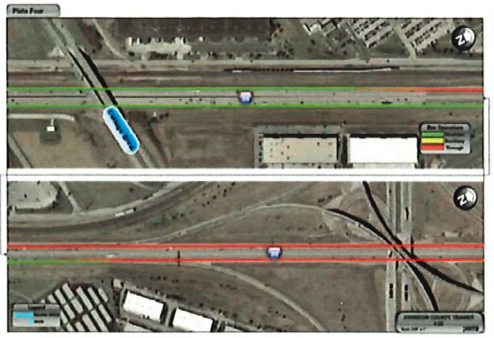
- Typical Signing
- Shoulder Width
- Shoulder Depth
- Rumble Strips & Inlets
- Interchanges
- Limiting Bus Movement
- Traffic

BOS Typical Signing Plan

I-35 Shoulder Evaluation



I-35 Shoulder Evaluation



I-35 Shoulder Evaluation

I-35 Fixed Guideway Phased Implementation Plan

Questions & Comments

Technical Memorandum

Appendix B: I-35 Fixed Guideway Phased Implementation Study

Subject: I-35 Bus on Shoulder Evaluation
Date: April 20, 2009

Shoulders along the I-35 corridor were preliminarily evaluated to determine their suitability for Bus on Shoulder (BOS) operations. This evaluation indicated that, in general, the shoulders along I-35 are suitable for BOS use; however, there are locations that, for a variety of reasons, do not lend themselves to this type of operation. This may be the result of physical and/or operational deficiencies. Illustrated on the attached project plates are the results of this evaluation, which recommend where BOS operations would be reasonably acceptable and reflect evaluation of the following shoulder features.

Shoulder Width. A minimum 10' shoulder width was recommended to allow for safe operation of a vehicle the size of a transit bus alongside adjacent traffic and occasional fixed structural objects. The shoulder must be continuous and free from any object that may encroach upon the 10' minimum width, such as sign foundations, retaining walls, bridge piers, roadside protection, etc. These criteria essentially eliminate use of the inside shoulders and shoulder along auxiliary, acceleration, and deceleration lanes.

Shoulder Depth. Shoulder pavement sections need to be substantial enough to withstand the wheel loads imparted by transit buses over a period of time. An as-built and visual investigation indicate that, given the projected BOS volumes, the existing shoulders within the corridor could support BOS operations for a decade or more with minimal maintenance. Many shoulders within the corridor have been reconstructed in the relatively recent past and appear able to support BOS well into the future. Nonetheless, a more extensive evaluation of existing shoulder pavement structure will be needed prior to implementation of BOS to determine an accurate up-front and life-cycle cost estimate for the various portions of the corridor, especially within the few aging pavement sections.

Shoulder Slope. The vast majority of shoulders within the corridor are sloped at a standard 4.2% and match the adjacent lane cross-slope in superelevated situations. There are, however, isolated locations with variable sloped shoulders and shoulders with rounding and adverse cross-slope while in superelevation. These unique situations, if not modified, will need to be evaluated relative to impacts on bus handling.

Rumble Strips and Inlets. While not eliminating a shoulder from BOS use, the presence of rumble strips and/or stormwater inlets are important to keep in mind. Rumble strips are undesirable in BOS locations and will need to be removed via grinding, mill and overlay, or other suitable method prior to implementation of BOS. So too is the case for storm inlets. All inlets will require a structural evaluation to ensure resistance to bus loads and some inlets may need to be extended, raised, or replaced to eliminate excessive sumps. Hydraulic reviews of inlets will ensure capacity and point out possible impacts of spread on the drivability of the shoulder.

Interchanges. There are two types of interchanges along the segment of I-35, 1) a service interchange where the freeway intersects an arterial roadway, and 2) a system interchange which is the juncture of two freeways. BOS operations approaching a service interchange will typically continue off the shoulder and onto a deceleration lane as it is developed. The deceleration lane will then be used before re-entering the shoulder though the exit ramp gore. Then buses will leave the shoulder by passing through the entrance gore area, yielding to entrance ramp traffic, and utilizing the ramp acceleration lane before re-entering the shoulder as the acceleration lane tapers away. Due to typically higher speeds and higher traffic volumes, it is recommended to not allow BOS operations through a system interchange with ramps entering or exiting from the right. Instead, buses should enter a through traffic lane in advance of the interchange and re-enter the shoulder at a point downstream of the interchange.

Interchange BOS operation is evaluated in greater detail in the traffic analysis.

Limiting Bus Movement

There are occasions to limit bus movement and minimize going against driver expectation in order to increase safety by not utilizing the shoulders for BOS operations even though the shoulders may meet all other criteria for use. These situations provide little opportunity to achieve a benefit from shoulder use relative to the amount of merging and through traffic disruption that occurs. For this reason the use of shoulders is not recommended along auxiliary lanes between interchanges, in the vicinity of a high speed or high volume system interchange with ramps entering/exiting on the right, or along multi-lane exit ramps.

Signing BOS

Along with a public awareness campaign and proper training of bus drivers as to the acceptable when/where/how of BOS operations, an effective signing scheme is necessary to inform the traveling public of where BOS operations can occur. The signing needs to alert drivers in advance of the possibility of encountering buses operating on the shoulder so as not to surprise or distract them when they are encountered. The attached Signing Plate depicts a typical signing layout based on both current and historical signage of BOS operations in other U.S. cities and on the Federal Transit Administration sponsored "Synthesis 64" report produced by the Transportation Research Board. In conjunction with the State's signing philosophy and standards, modifications to this typical signing plan can be made to mark the beginning and end of BOS zones or to fit unique signing situations.

BOS Implementation Costs

The costs to implement BOS operations vary significantly based on the condition of the existing shoulders. Typical costs in each direction can range from $2,500 per mile for simple signing and shoulder cleaning to $550,000 per mile for full depth shoulder reconstruction and drainage modifications. Additional costs to consider include the long-term maintenance costs including both everyday shoulder maintenance and future shoulder replacement costs.
I-35 Fixed Guideway Implementation Study

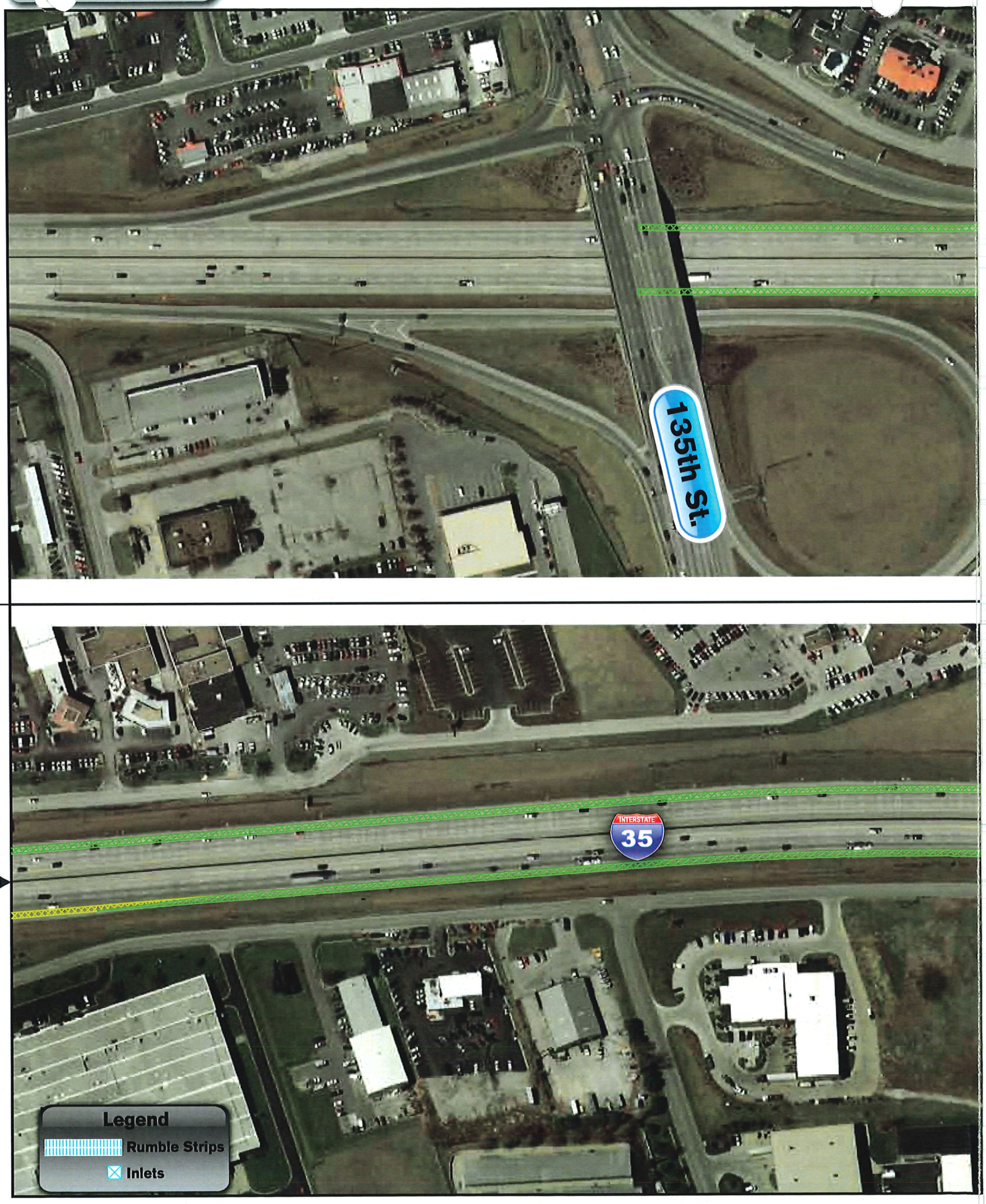


Plate 1 (a)

Plate 2 (a)


INTERSTATE
35
Bus Operations
Shoulder
Auxiliary
Through
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 2 (b)

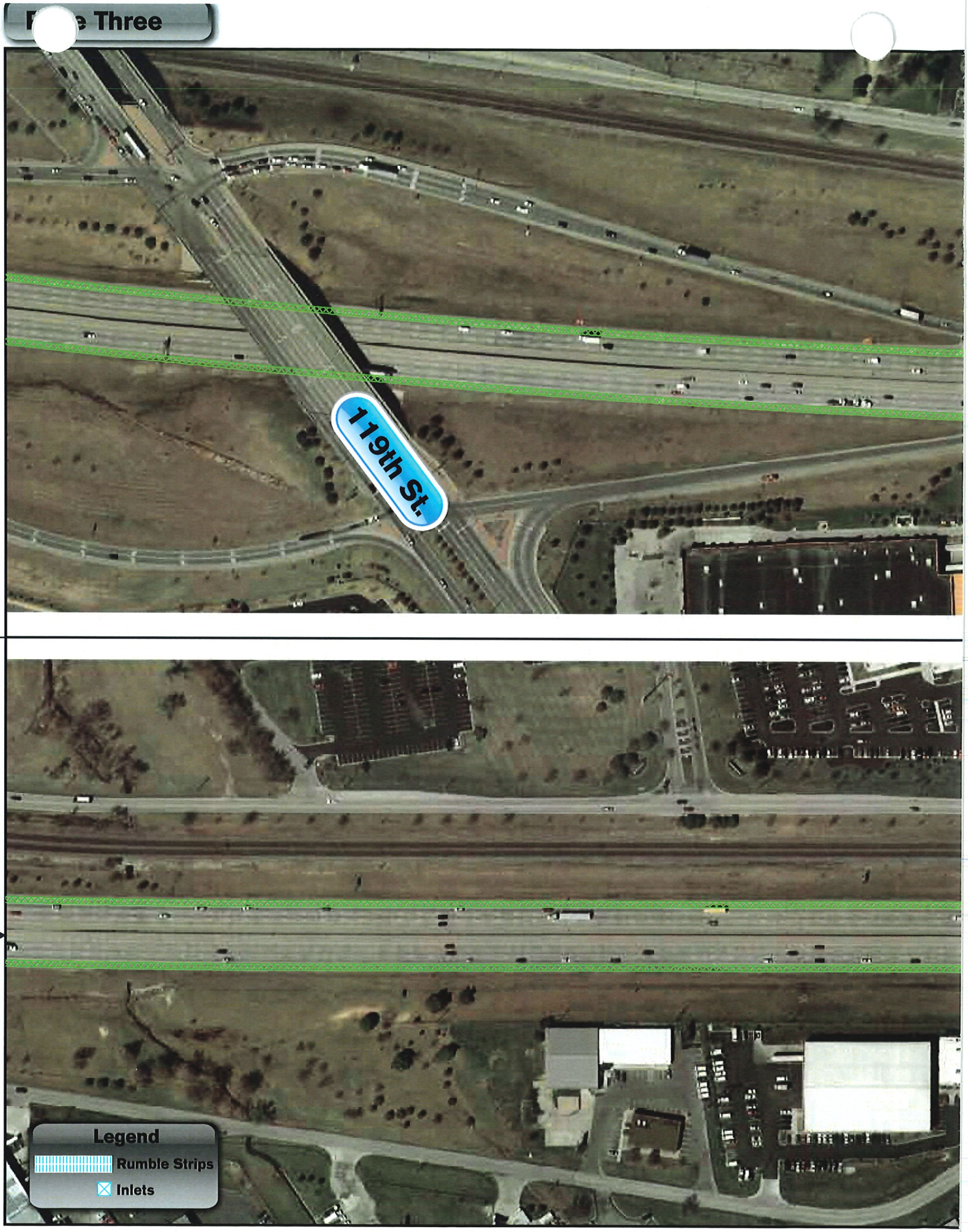


Plate 3 (a)

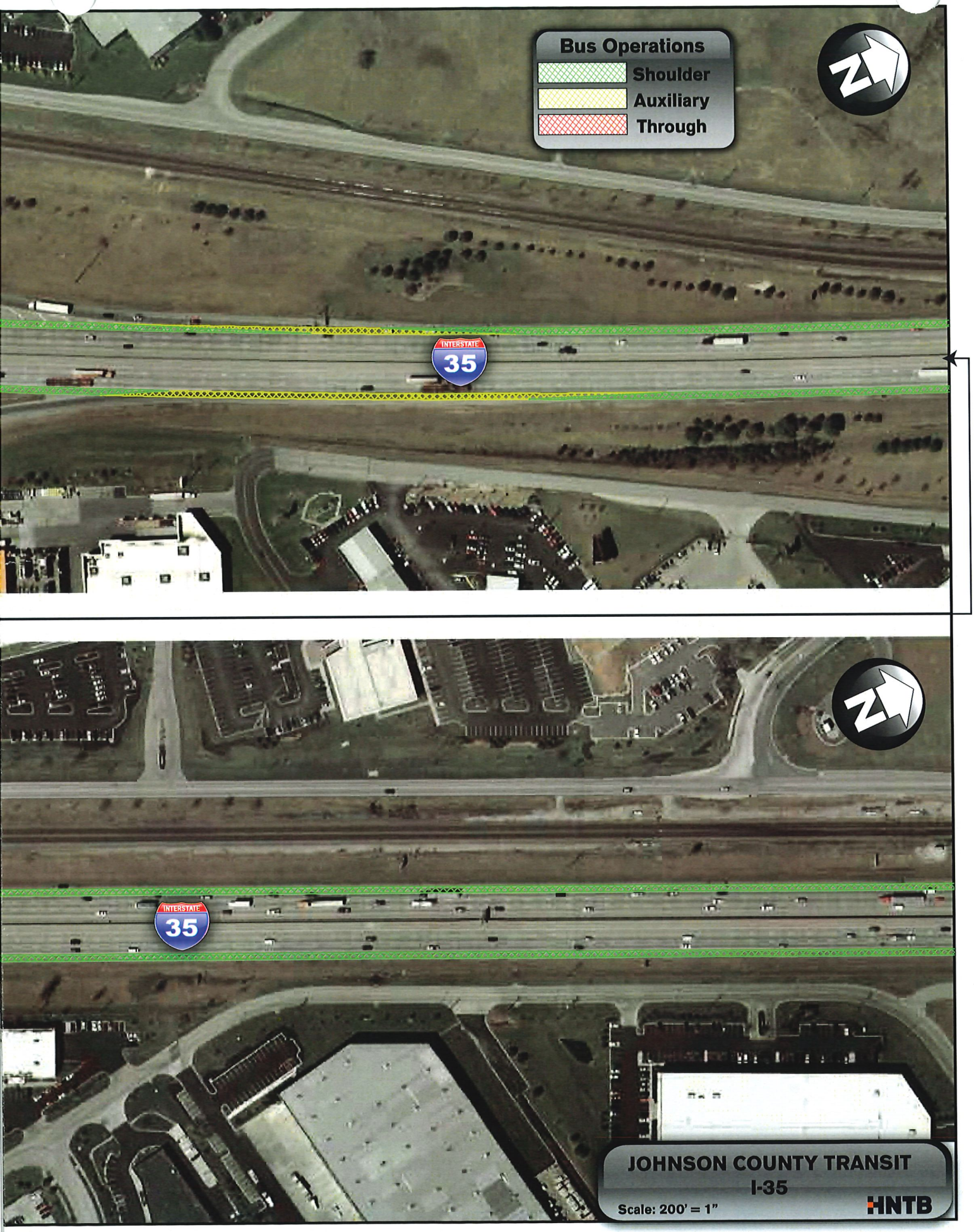

Bus Operations
Shoulder
Auxiliary
Through
INTERSTATE
35
INTERSTATE
35
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 3 (b)

Plate Four

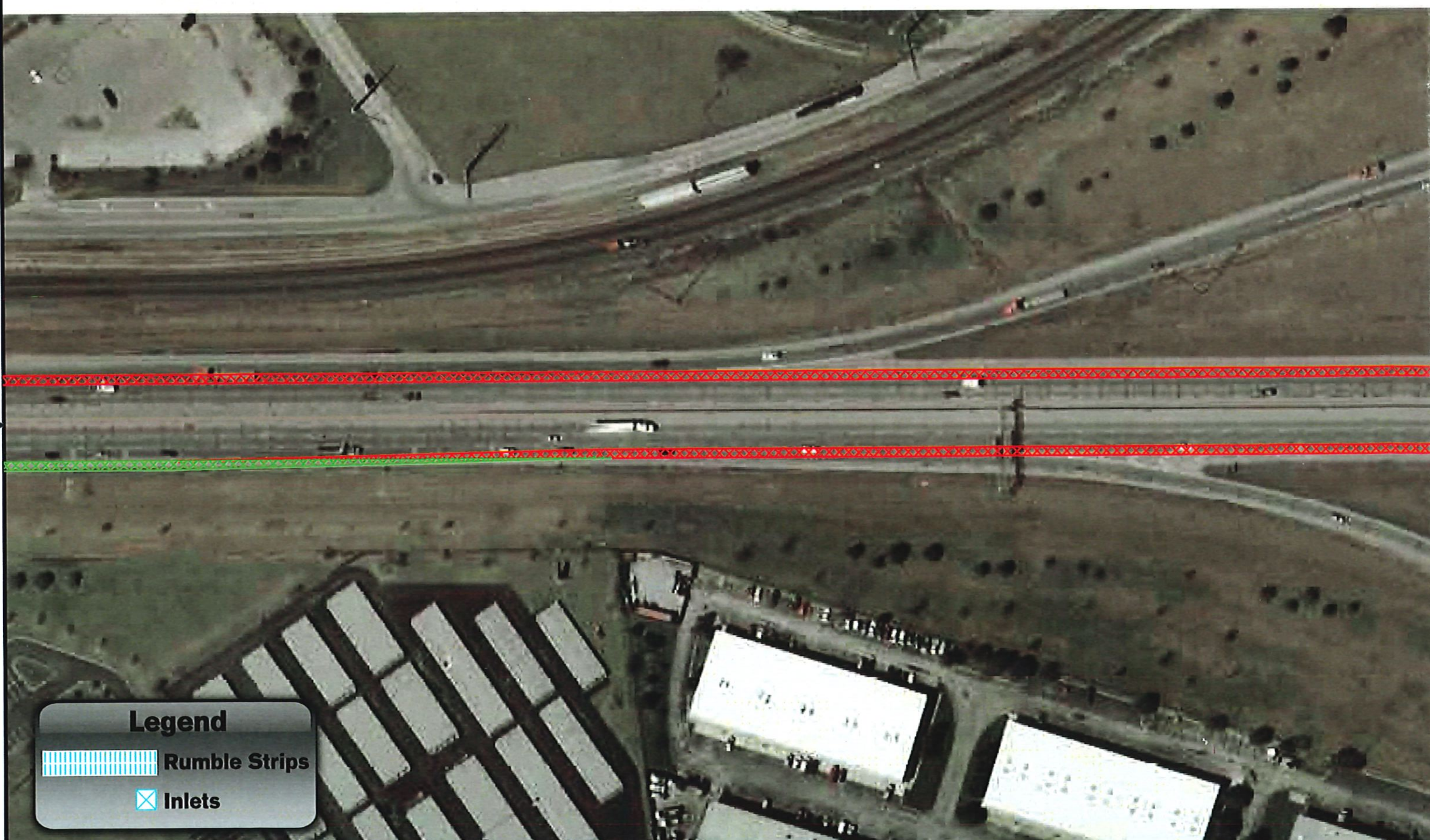


Plate 4 (a)

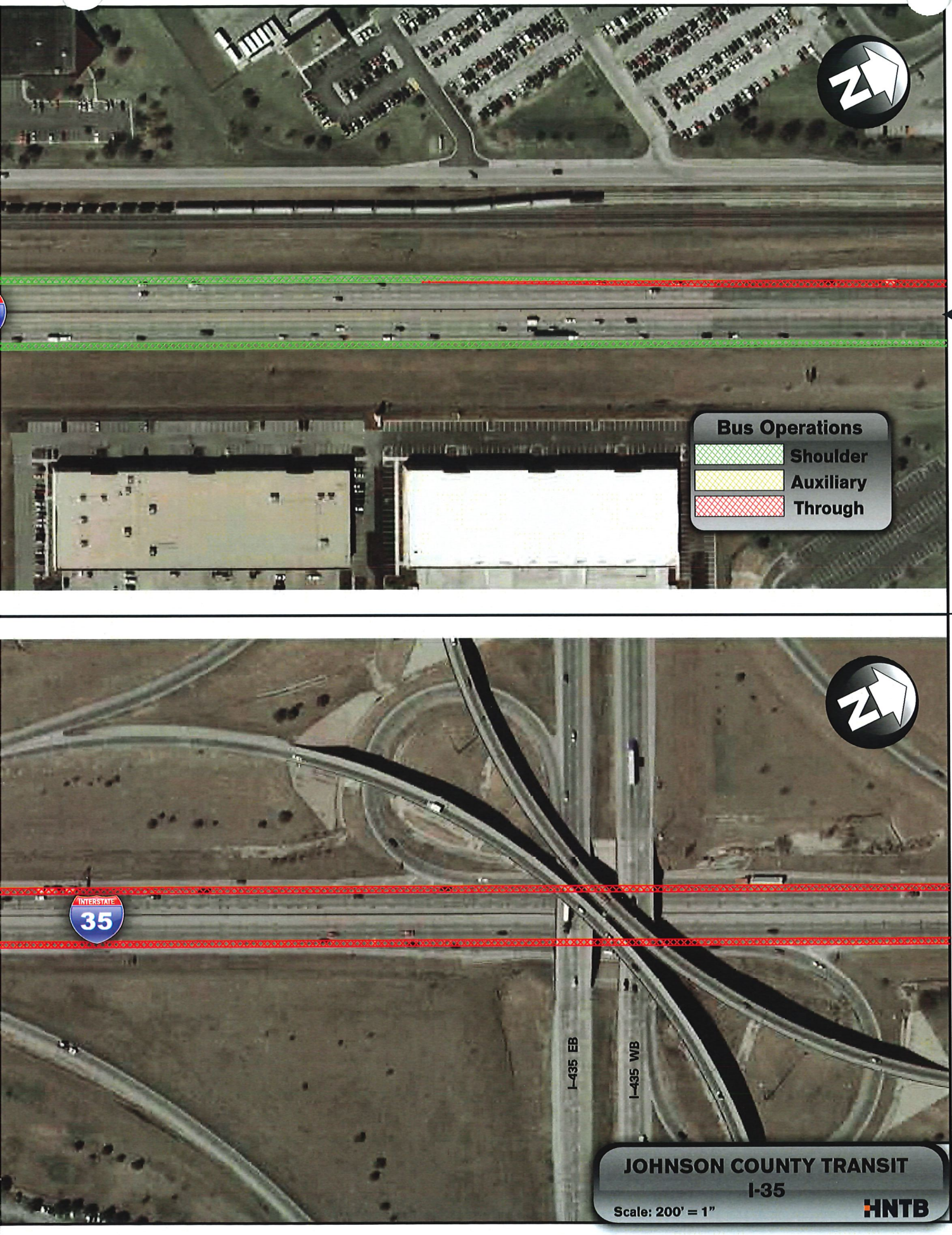

Bus Operations
Shoulder
Auxiliary
Through
INTERSTATE
35
I-435 EB
I-435 WB
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 4 (b)

Plate 5 (a)

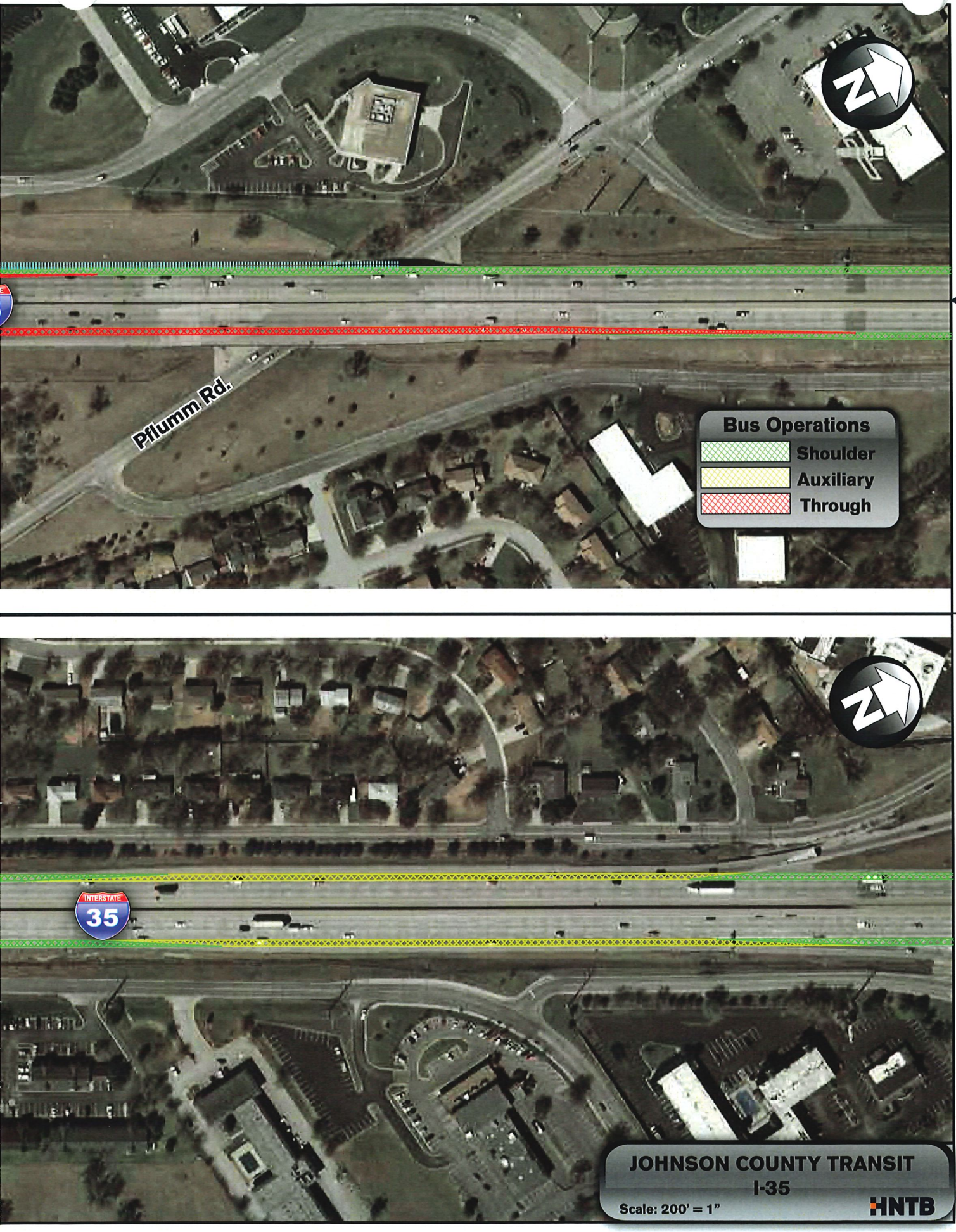

N
Pflumm Rd.
Bus Operations
Shoulder
Auxiliary
Through
N
INTERSTATE
35
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 5 (b)

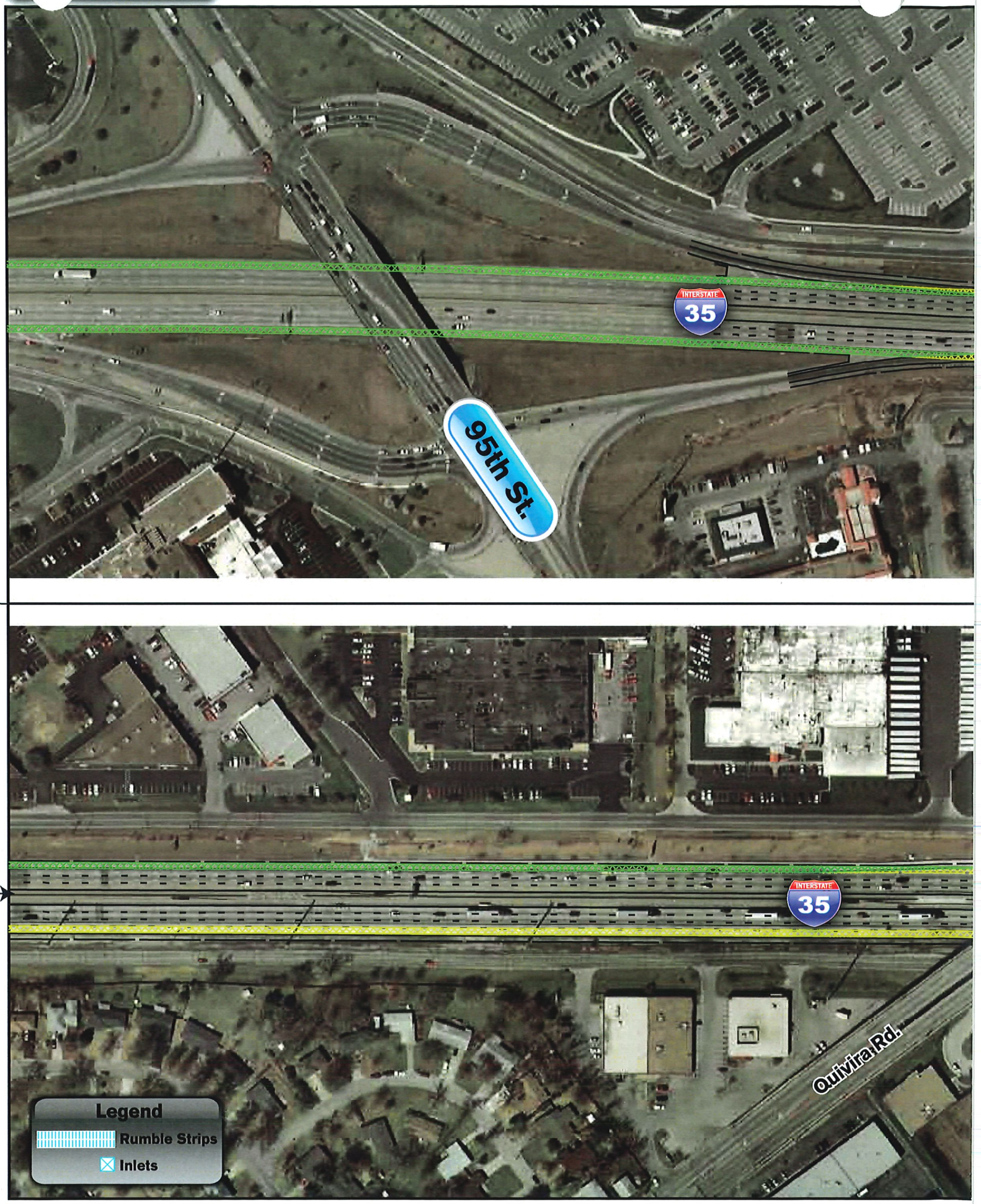

INTERSTATE
35
95th St.
INTERSTATE
35
Quivira Rd.
Legend
Rumble Strips
Inlets

Plate 6 (a)


Bus Operations
Shoulder
Auxiliary
Through
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 6 (b)

Plate 7 (a)


N
INTERSTATE
35
Bus Operations
Shoulder
Auxiliary
Through
US-69 SB
US-69 NB
69 NB
N
INTERSTATE
35
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 7 (6)

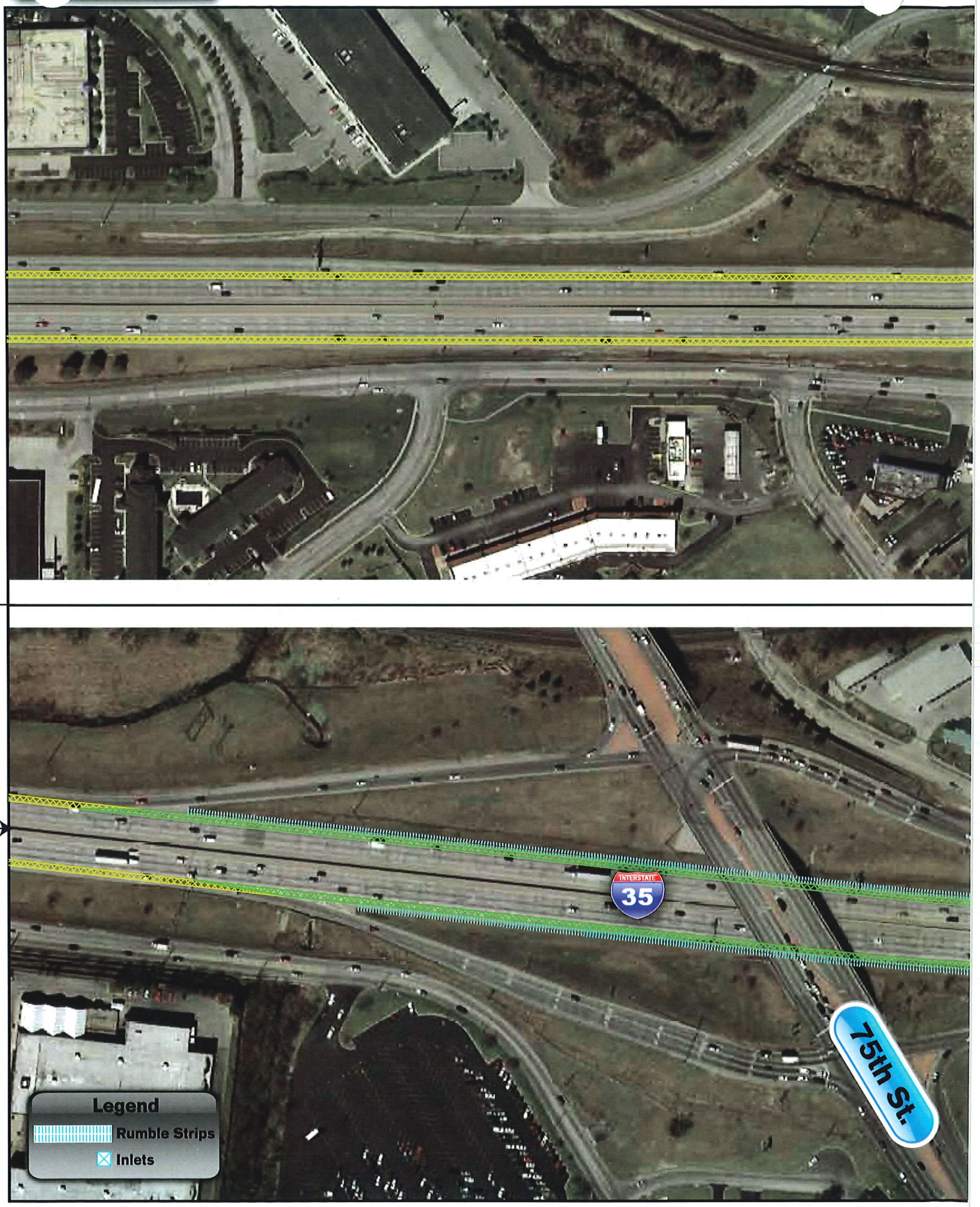


Plate 8 (a)

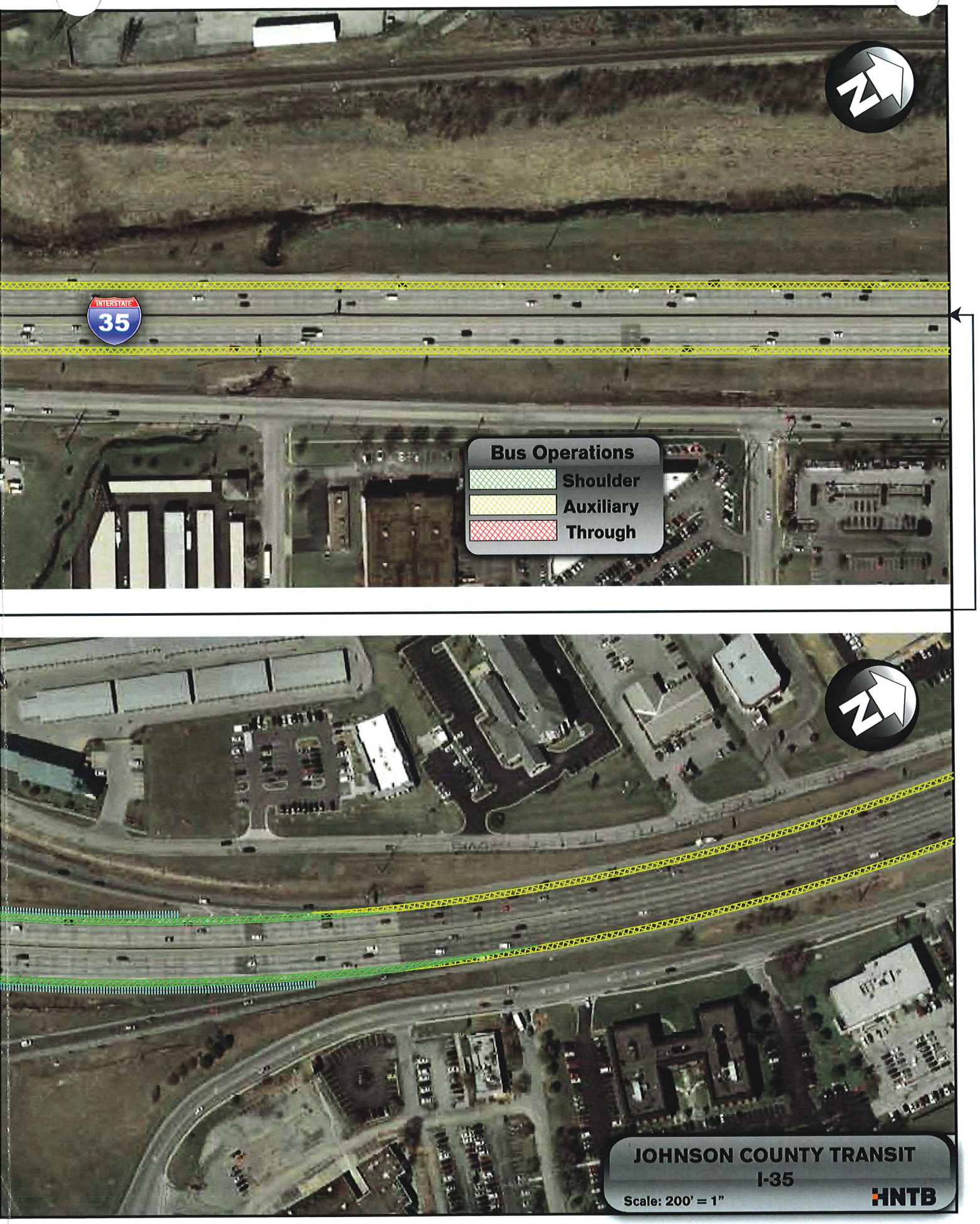

INTERSTATE
35
Bus Operations
Shoulder
Auxiliary
Through
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate (6)

te Nine

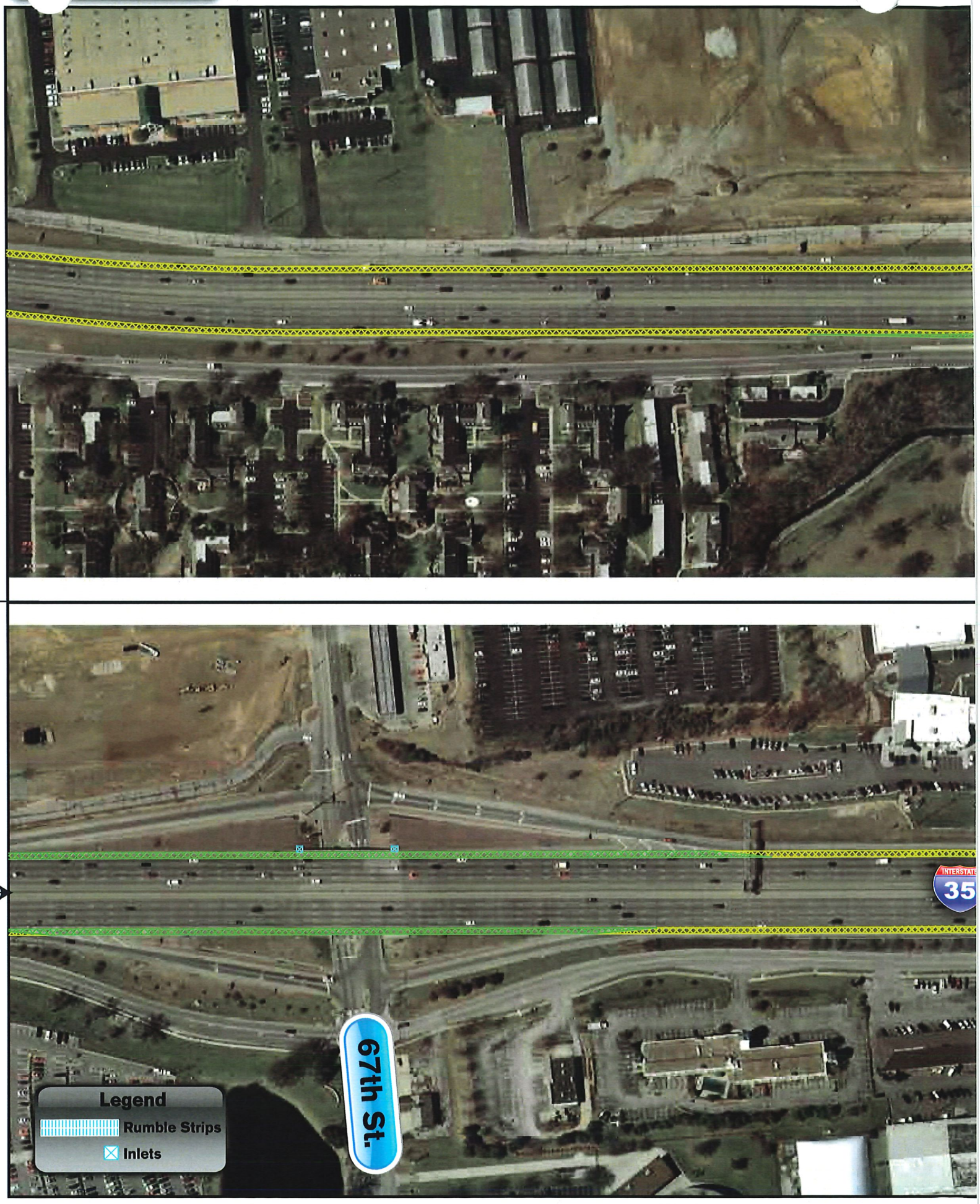


Plate 9 (a)

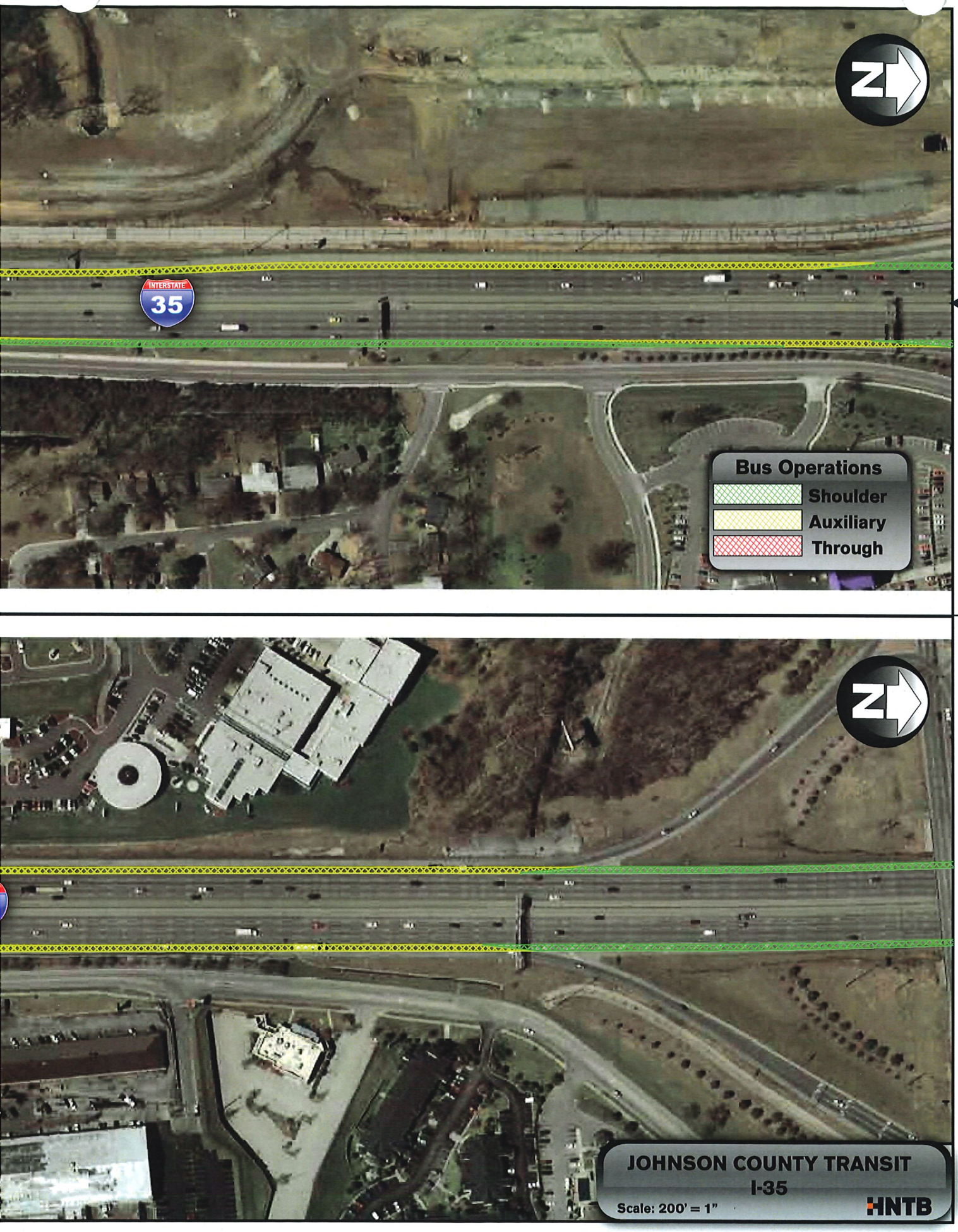

N
INTERSTATE
35
Bus Operations
Shoulder
Auxiliary
Through
N
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 9 (b)

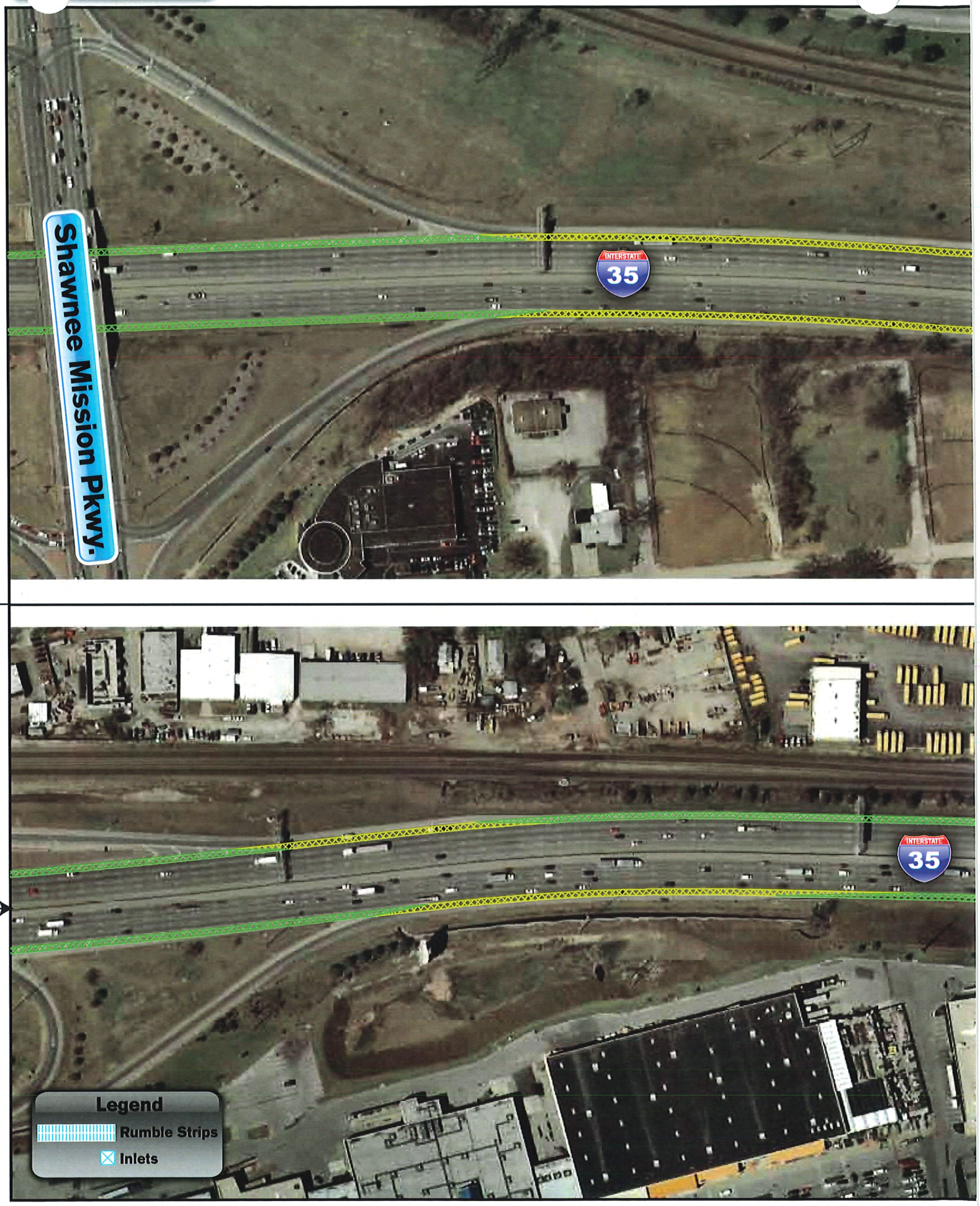

Shawnee Mission Pkwy.
INTERSTATE
35
INTERSTATE
35
Legend
Rumble Strips
Inlets

Plate 10 (a)


Bus Operations
Shoulder
Auxiliary
Through
Johnson Dr.
N
N
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 10 (6)

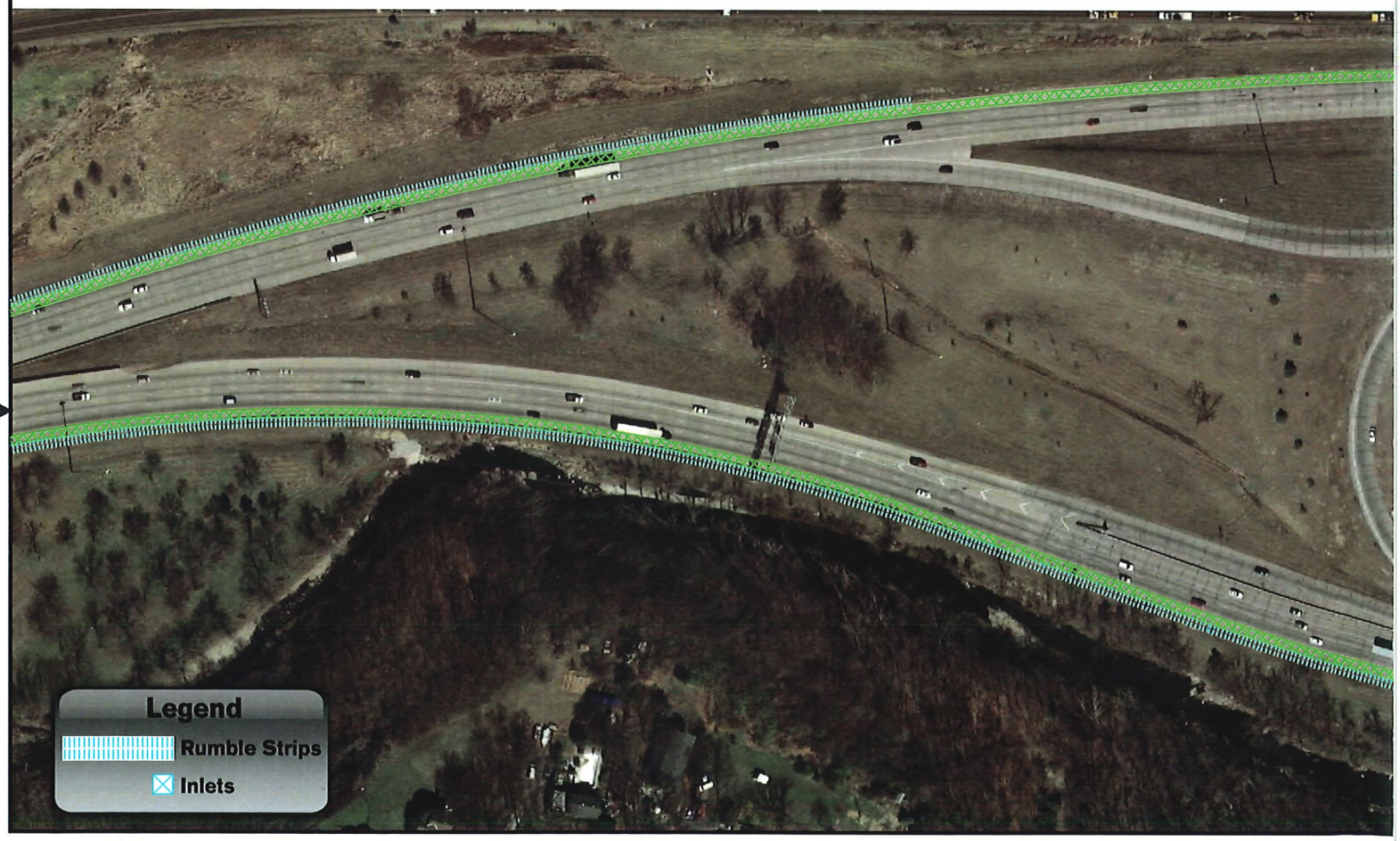


Plate 11 (a)


INTERSTATE
35
N
Bus Operations
Shoulder
Auxiliary
Through
I-635 SB
SB I-35
I-635 NB
N
J-635 SB
J-635 NB
I-35 NB
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate II (b)

Plate 12 (a)


INTERSTATE
35
Bus Operations
Shoulder
Auxiliary
Through
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 12 (b)

e Thirteen

Plate 13 (a)

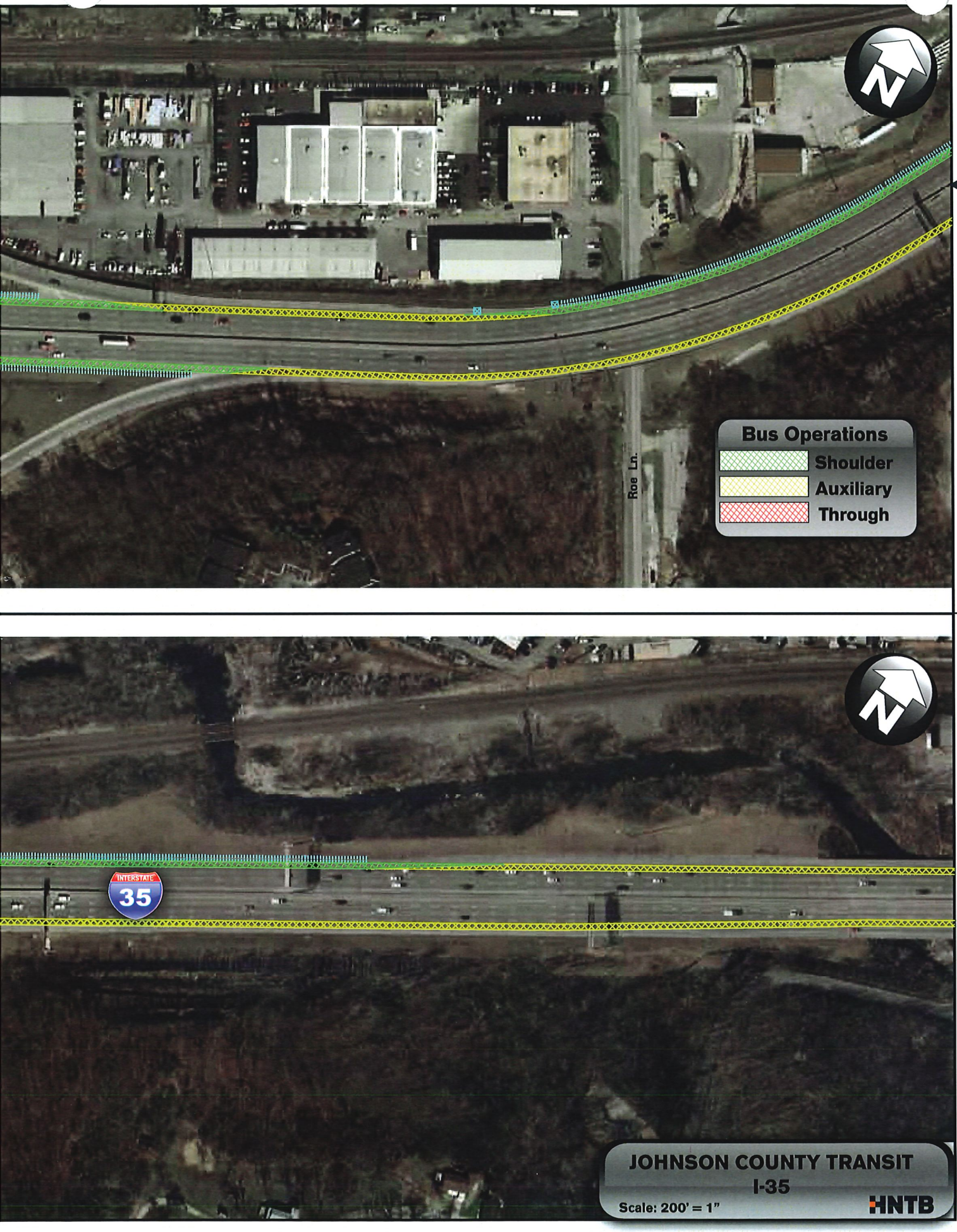

N
Roe Ln.
Bus Operations
Shoulder
Auxiliary
Through
INTERSTATE
35
N
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 13 (b)


Mill St.
Southwest Blvd. EB
Southwest Blvd. WB


INTERSTATE
35
Legend
Rumble Strips
Inlets

Plate 14 (a)

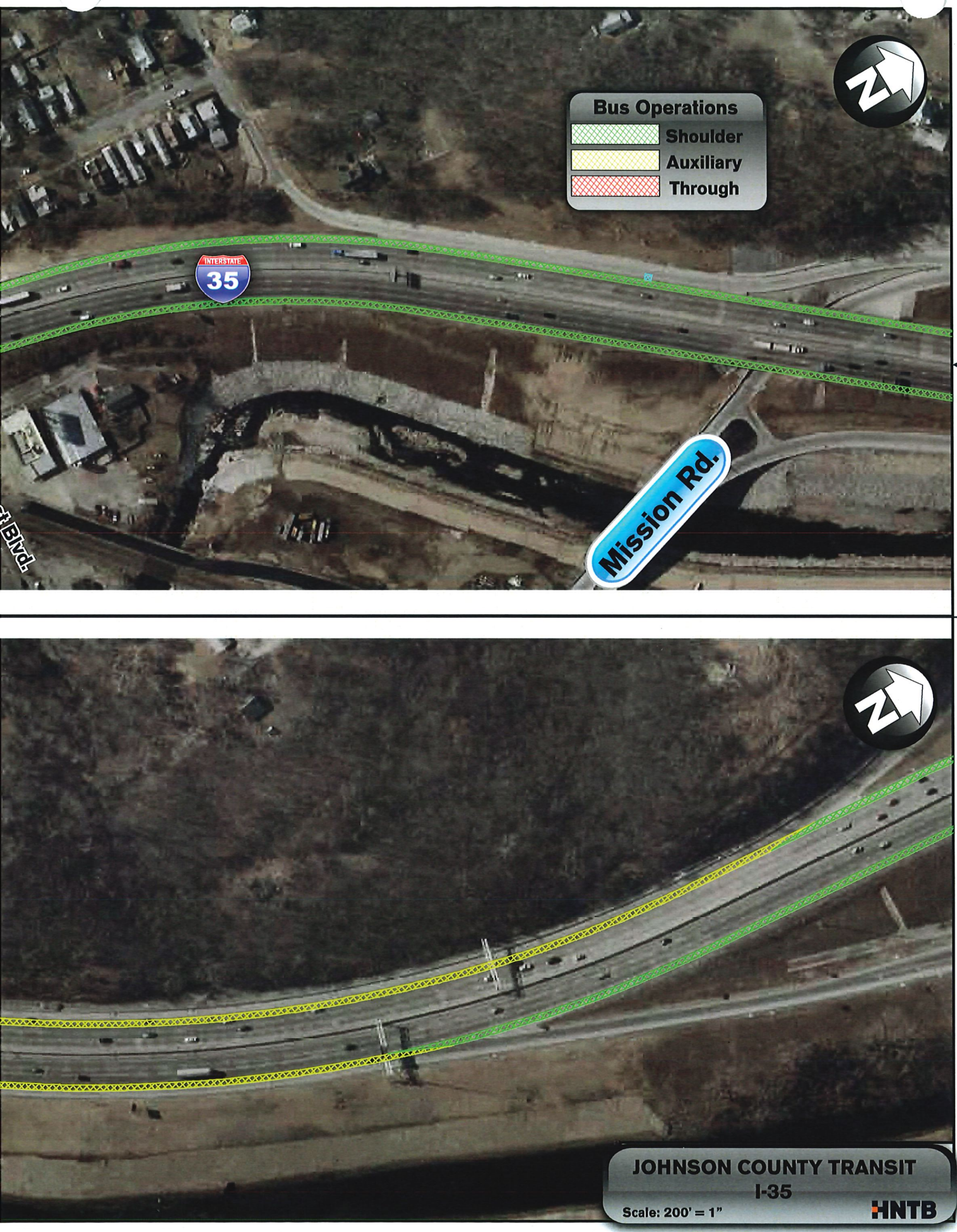

Bus Operations
Shoulder
Auxiliary
Through
INTERSTATE
35
Mission Rd.
t Blvd.
N
N
JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 14 (b)


INTERSTATE
35
7th St.

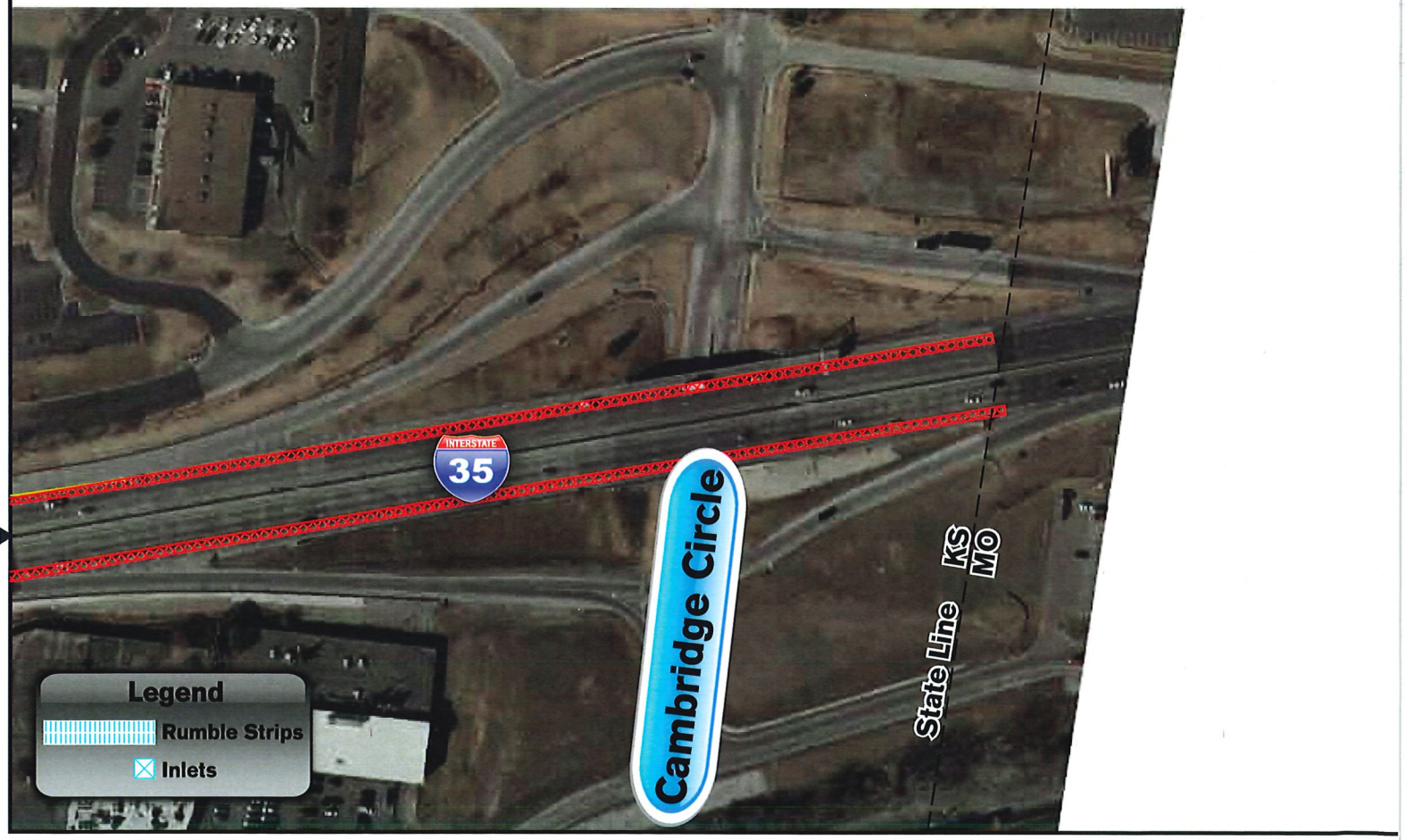
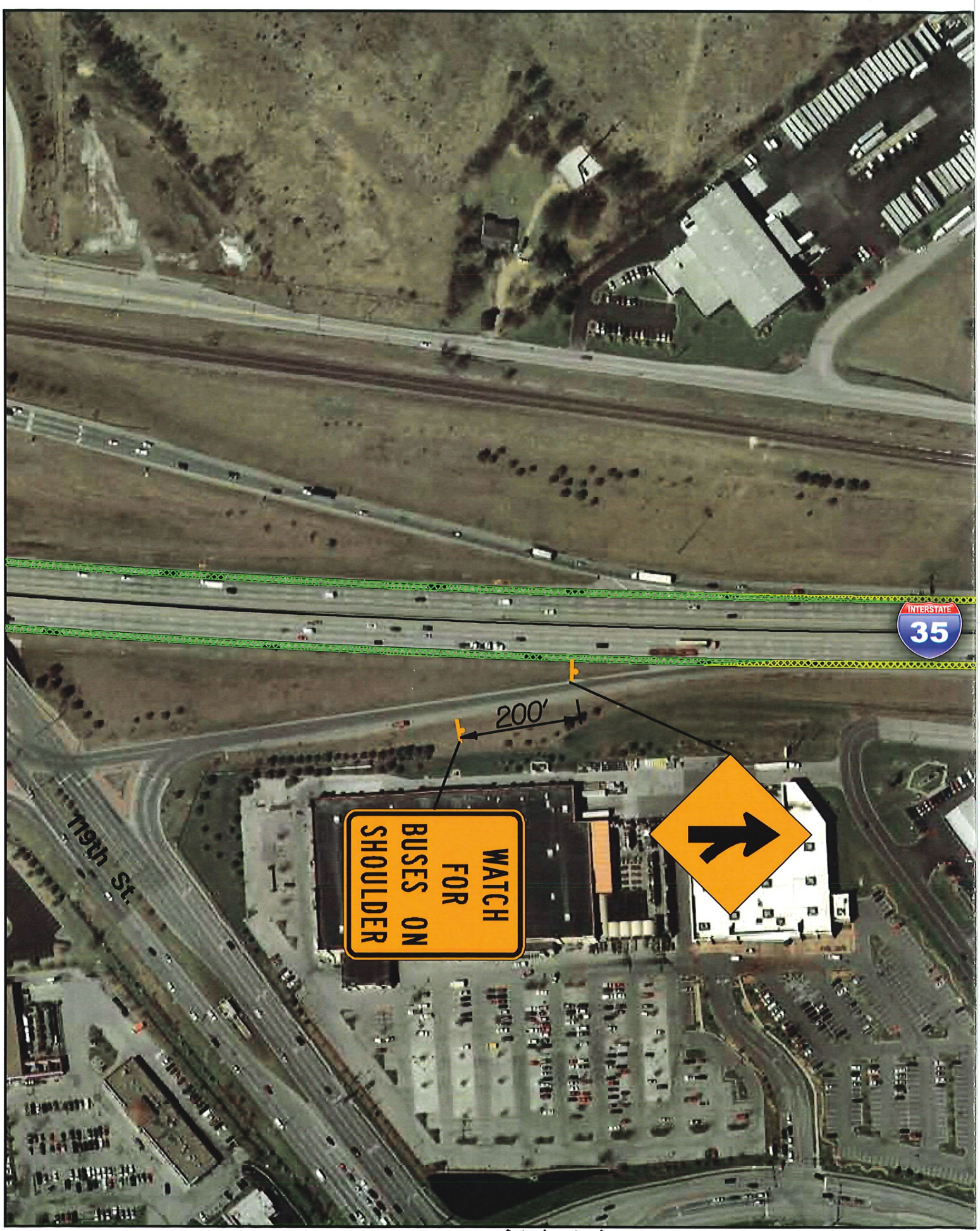

INTERSTATE
35
Cambridge Circle
State Line
KS
MO
Legend
Rumble Strips
Inlets

Plate 15 (a)

JOHNSON COUNTY TRANSIT
I-35
Scale: 200' = 1"
HNTB

Plate 15 (b)



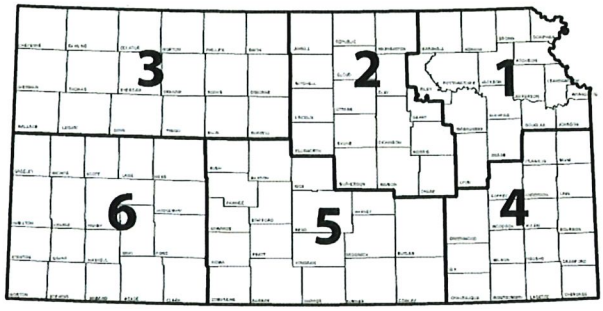
Signing Plate (a)

Signing Plate (6)

Geographic Distribution of Transportation Funding

3/17/10

KDOT splits the state up into six districts as demonstrated on the map to the right



A look back at the distribution of past programs - The following graphic displays the percentage of Highway spending in each district in the past 20 years. The percentages are relatively consistent over the two programs.

Highway and Local Road Spending Percentage by District

Program	District 1	2	3	4	5	6
CHP Total ('90-'99)	30%	15%	8%	16%	23%	8%
CTP Total ('00-'09)	34%	12%	9%	17%	20%	8%

Comparing population, highway miles, and miles traveled – This next graphic shows how the population and highway system are split up among the districts. These factors are typical components when discussing equitable distribution and are used, for example, in the Special City County Highway Fund distribution formula.

Population and System Profiles by District

Program	District 1	2	3	4	5	6
Population	47%	7%	3%	10%	28%	5%
Highway Miles	19%	16%	16%	16%	19%	15%
Miles Traveled	40%	11%	8%	12%	23%	6%

Senate Transportation
3-18-10
Attachment 3

Considerations

- **Distribution percentages should be met over a long period of time** to ensure that significant investments can be made.

- **The CTP had a $5 million per county minimum** for highway construction. This would be an appropriate and achievable minimum going forward.

- **A portion should be held back for economic opportunities.** It has been widely recommended that the state ensure the flexibility to meet economic opportunities. Any distribution goals should not unjustly hamper the need this flexibility.

- **A possible solution** could be that no district shall receive more than 45% of the funding in a new program