

CITYWIDE TRUCK ROUTE STUDY

CITY OF TAMPA

Prepared for:
City of Tampa, Florida

Prepared By
Tindale-Oliver & Associates, Inc.

In association with:
Wilbur Smith Associates, Inc.
Bayside Engineering, Inc.

February, 2011
029020-00.08
COPR

Executive Summary

The City of Tampa enacted its truck route system in 1989, and roads on the designated truck route system have been updated from time to time since. However, a complete re-assessment of the truck route system to incorporate lessons from practical experience has not been undertaken since its original adoption. This study undertakes that task, taking into consideration land use and transportation system changes that have occurred in the City since 1989 and the need to improve the enforcement aspects of the ordinance.

The purpose of a truck route system is to provide rules that balance the needs of commerce and truckers with the desire to minimize the impacts of trucks on sensitive land uses. As such, the system does not prohibit trucks from using any road within the City, but does require they use roads most suitable to the greatest extent possible, and limit their intrusion into the sensitive areas to the minimum possible.

This study was undertaken with the participation of stakeholders in the truck route system, including representatives of the trucking industry, citizens at-large, Hillsborough County and the Florida DOT, and agencies responsible for enforcing and maintaining the system. Recommended changes to the truck route system arising from the study are summarized below:

Recommended Ordinance Changes:

The definition of trucks that will be regulated by the ordinance and truck route system is proposed as any truck (a vehicle designed for the transport of materials and goods – as opposed to people) having six or more tires, except for step-vans and except for pickup trucks with less than one ton capacity. This definition captures all of the vehicles that the City of Tampa's experience indicates are of concern. Further, the revised definition makes it clear that the addition of a trailer to a vehicle does not change its status.

Other recommended ordinance changes of substance include:

- Designating specific roads in the Central Business District (CBD) as truck routes, rather than the prior blanket inclusion of all CBD roads,
- Expanding the geographic scope of an existing restriction on transportation of hazardous materials through the Central Business District,
- Including a list and referencing a map to delineate which roads are part of the designated truck route system,
- Establishing a violation of the truck route system as a municipal civil violation, similar to a parking ticket, rather than as a moving violation, and
- Requiring a truck operator to provide evidence of the need when travelling off of the designated truck routes.

Route System Changes

The addition of seven and the deletion of five road segments to and from the system, illustrated on map ES-1, is recommended. Most of these changes are the result of changes to the road system, where the original truck route system was rendered obsolete.

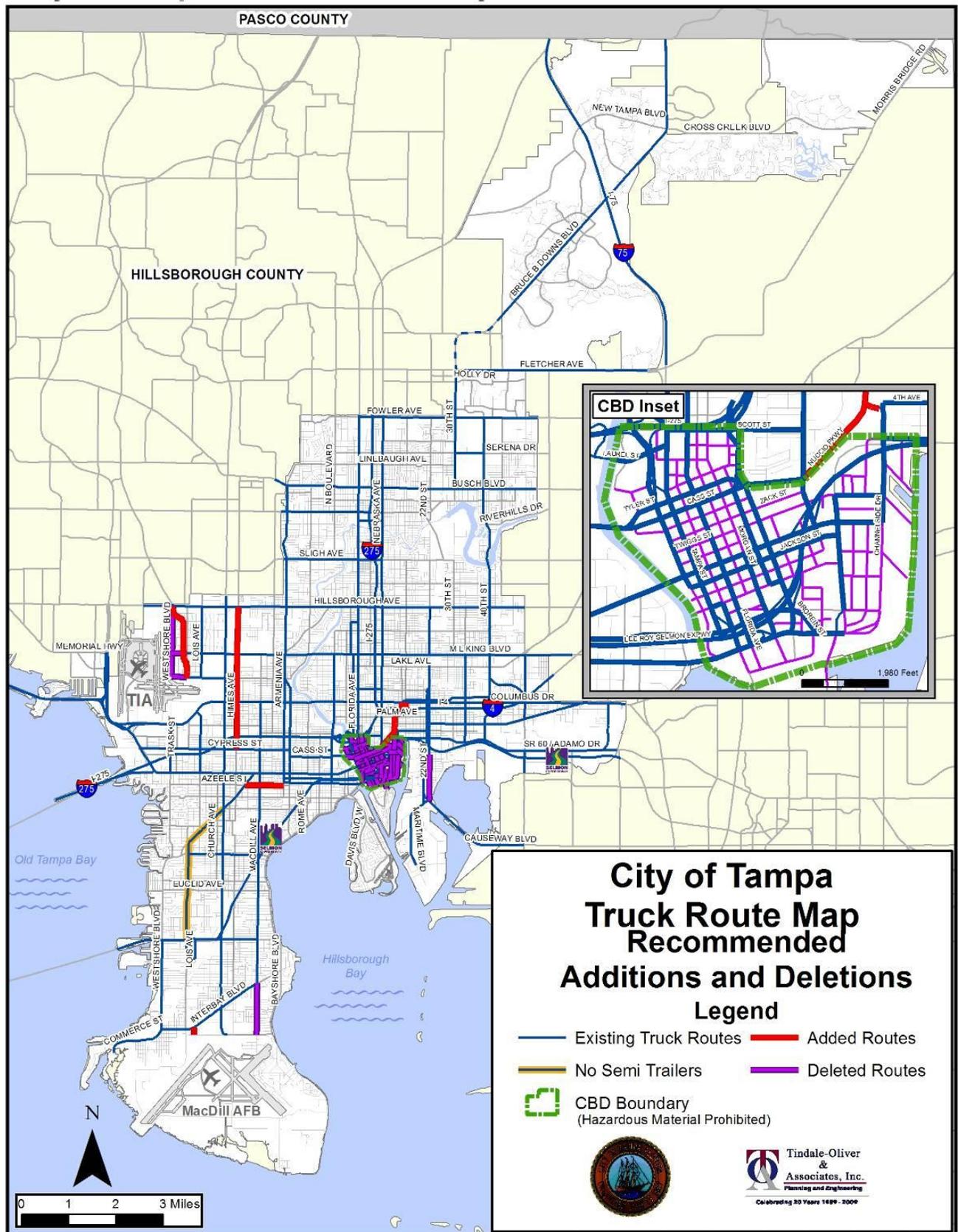
Signage

The original truck route system ordinance provided for the City Traffic Engineer to erect signage promoting the truck route system. Such a program would be a positive measure to publicize and foster a higher level of adherence to the truck route system. It would be a more cost-effective method of fostering obedience than posting truck prohibitions on non-truck route roads, and would support the new enforcement strategy. An inventory of the streets within the City indicated that approximately 644 additional signs are recommended to provide the positive directional Truck Route signage. The recommended Truck Route signage is estimated to cost approximately \$250,000.

Administrative Procedures

The study also suggests possible procedures for tracking and addressing future truck route violations and citizen requests for incorporation into City future administrative processes.

Figure ES-1: Recommended Route System Changes



Date: January 2010

TAMPA TRUCK ROUTE UPDATE STUDY 2009

TABLE OF CONTENTS

Executive Summary	i
Table of Contents	iv
1 Introduction.....	1-1
2 Recommendations to update the Existing Truck Route System	2-1
2.1 Ordinance Changes	2-1
2.2 Truck Route Network Additions and Deletions	2-2
2.3 Promotion and Signage	2-7
2.4 Administrative Procedures	2-11
2.5 New Citation Mechanism	2-15
3 Data Collection and Analysis	3-1
3.1 Approach.....	3-1
3.2 Related Document Review	3-2
3.3 Route Assessment.....	3-3
3.3.1 Existing Truck Route.....	3-4
3.3.2 Land Uses Methodology	3-6
3.3.3 Bridge Locations within the City of Tampa	3-11
3.3.4 Functional Classifications	3-13
3.3.5 Speed Limits	3-16
3.3.6 Number of Lanes	3-16
3.3.7 Constrained Roads	3-18
3.3.8 Truck Traffic Volume and Percentage of AADT	3-20
3.3.9 Truck Crash Data.....	3-24
3.3.10 Truck Traffic Generators.....	3-31
3.4 Truck Definition	3-32
3.4.1 How Trucks are Defined	3-32
3.4.2 Current City of Tampa Truck Definition	3-33
3.4.3 Hillsborough County Definition	3-33
3.4.4 Other Florida Municipal Definitions.....	3-34
3.4.5 Federal Definition.....	3-35
3.4.6 State Definition.....	3-35
3.4.7 National Network Access	3-37
3.4.8 Stakeholder Input on Truck Definition	3-39
3.4.9 Law Enforcement Comments	3-39
3.4.10 Local Resident Comments.....	3-40
3.4.11 Truck Attributes.....	3-40
3.5 Public Involvement.....	3-41
3.5.1 Freight Carrier Interviews	3-42
3.5.2 Stakeholder Meeting – July 1, 2009	3-50
3.5.3 Public Input Meeting July 31, 2009.....	3-53
3.5.4 Coordination Meeting December 8, 2009.....	3-58
3.5.5 Public Input Meeting February 24, 2010.....	3-58
3.6 Truck Route Network Analysis.....	3-58

3.6.1	Functional Classification Review	3-59
3.6.2	Public and Stakeholder Recommendations.....	3-59
3.6.3	Discriminant Analysis.....	3-59
3.6.4	Enhanced Review Summary	3-60
3.7	<i>Web Based Routing Options</i>	3-62
3.7.1	Static Map.....	3-62
3.7.2	Google/ ESRI Map.....	3-62
3.7.3	PC*MILER Site	3-63
3.8	<i>Truck Route Signage Program</i>	3-63
3.8.1	Positive Guidance Signage Program.....	3-64
3.8.2	Hazardous Materials Signage.....	3-64

List of Tables

Table 3.1:	Florida Traffic Crash Report Vehicle.....	3-20
Table 3.2:	Florida Traffic Crash Report Vehicle.....	3-21
Table 3.3:	Comparison Truck Definitions.....	3-36
Table 3.4:	Types of Combination Vehicles Used by Carriers Interview.....	3-45

List of Figures

Figure 2-1:	Excerpt from MUTCD	2-9
Figure 3-1:	Selecting Parcels	3-6
Figure 3-2:	Assigning Segment IDs to Parcels	3-8
Figure 3-3:	Land Use Groupings.....	3-8
Figure 3-4:	Illustration of Regulated Trucks from Hillsborough County Brochure	3-34
Figure 3-5:	Example Combination Vehicles Used in Regular Operation	3-45
Figure 3-6:	Illustrative delivery location at 400 N. Tampa Street.....	3-48
Figure 3-7:	Intersection 7th Avenue and 22nd Street, Ybor City	3-49

List of Maps

Map 2-1:	Recommended Route Additions and Deletions.....	2-3
Map 2-2:	Recommended Final Truck Route Map	2-4
Map 2-3:	Truck Route Signage Map	2-10
Map 3-1:	Existing Truck Routes (City, County, State)	3-5
Map 3-2:	Study Segments.....	3-7
Map 3-3:	Existing Land Use Map.....	3-10
Map 3-4:	City of Tampa Bridges Map	3-12
Map 3-5:	Roadway Functional Class Map	3-15
Map 3-6:	Number of Lanes Map	3-17
Map 3-7:	Constrained Road Status Map.....	3-19
Map 3-8:	Truck Crash Data Map.....	3-23

Map 3-9: City of Tampa Freight Specific Future Land Use Designations.....3-25
 Map 3-10: Hot Spots Map3-26
 Map 3-11: City of Tampa Freight Specific Zoning Districts.....3-30
 Map 3-12: National Highway System: Tampa-St. Petersburg3-38

Appendices

Appendix A – Recommended Ordinance Changes A-1
Appendix B – Inventory of Needed Positive Guidance Signs B-1
Appendix C – Related Document Review C-1
Appendix D – Public and Stakeholder Meeting Summaries D-1

Citywide Truck Route Study

Chapter One

Introduction

The City of Tampa contains numerous truck traffic generators and destinations including two international shipping ports, industrial and commercial sites, numerous warehouses, a rail road inter-modal distribution center and the Tampa International Airport. In addition, the City contains numerous historic neighborhoods including Ybor City and Hyde Park. All parties with an interest in trucking in the City are concerned about keeping truck traffic on appropriate roads. To promote positive usage of the road system, to encourage mutual appreciation of the important role which trucks play in expanding the economy of the Tampa Bay area and also to preserve and enhance the quality of life within residential areas, the City established its designated truck route system.

The City of Tampa's Transportation Division has assigned to each of its jurisdictional streets a functional classification dependent on the character of the traffic and the degree of land access they provide (see <http://www.fhwa.dot.gov/environment/flex/ch03.htm>). Local truck travel, in contrast to extended distance travel, is generally preferred on routes that have been established as "arterial" and "collector" roads by definition. Truck traffic should be routed to "local" streets only after passing through the progressively constraining level of roads to reach their points of destination.

The City's Truck Route system was established to designate appropriate routes for trucks to travel. It designates acceptable routes for trucks to access the State highway system in order to complete their extended distance travel, thus acknowledging the importance of truck access to not only industrial locations but also residential areas as well (barring any physical conditions that may limit particular trucks on the local street network such as dimensions or weight). The truck route system, therefore, limits through truck movements in ways which attempt to preserve neighborhood character while maintaining acceptable passage. This system, while appearing adequate, has not been completely effective and is in need of update. Problems occur when truck drivers are making multiple stops within the network and/or attempting to decide the locally preferred route between the state highway and the source or destination of their trip.

The first City of Tampa truck route system was established in 1989 as an update to the then standing 1971 City code of ordinances by ordinance number 89-258, passed by City council on October 5, 1989. The ordinance established new City code chapter 57 (Transportation). Truck route references are in Section 57-3 (Definitions), section 57-212 (Truck routes established; hazardous materials routing established; observance required) and section 57-213 (Truck Route Use). Although not established in the Code, a static map of the City truck route system was simultaneously developed in 1989 and is still referred to by the City as the "official" map of

designated truck routes via a posting link on the City's website (see http://www.tampagov.net/dept_transportation/files/truckrts.pdf).

Subsequent to the 1989 update to the 1971 code, the entire City Code of Ordinances were repealed, re-written or re-numbered and adopted in 1990. The 1990 codes are still in force with supplements today. The truck route code language was unchanged except for the chapter numbers. The relevant chapters in the current code are 25-182 and 25-183 respectively.

Since the adoption of the 1990 Code, the City has annexed large portions of land, including but not limited to what is commonly referred to as "New Tampa". In addition, roads of substantial use and trucking importance have been constructed such as Cargo Road near the Tampa International Airport. Also, a new FDOT expressway, connecting Interstate 4 and the Cross-town Expressway is currently under construction (which will more effectively link port traffic to the Interstate). Upon completion of this particular connection, the existing State Roads, 21st Street East and 22nd Street East, will be turned over to the City and likely be removed from the truck route system. There have also been corridor specific studies conducted since 1990 including The Gandy Boulevard Corridor Study, Port Tampa Truck Study and area-wide truck studies such as the Hillsborough County Truck Route Update Study and the FDOT District Seven Freight Mobility Study.

The City of Tampa Comprehensive plan which was adopted on February 9, 2009 states the following regarding the City truck route system:

Policy 44.1.8: The City shall continue to review the truck route ordinance and associated map to ensure neighborhood traffic concerns associated with truck traffic are addressed.

In light of the recent comprehensive plan update and recognizing the numerous changes occurring to the City transportation network, City staff identified the need to re-evaluate the designated City truck route system and truck related ordinances.

In response to this, the City requested independent, professional assistance via a request for professional services. As a result of this request and through a thorough review of all pertinent information, the following recommendations are made to improve the existing City of Tampa definitions and ordinances related to trucks and the Truck Route Network within the City.

This report is organized in three chapters:

- Chapter One provides an introduction to the study
- Chapter Two presents the findings and recommendations, and
- Chapter Three provides documentation of the analysis and technical support for the recommendations of the report.

These chapters are supplemented with various appendices, as appropriate.

Chapter Two

Recommendations to Update the Existing Truck Route System

The recommendations of this study are presented in six categories:

- Ordinance changes
- Designated Truck Route changes
- Promotion and signage
- Administrative procedures
- Updates to the Transportation Technical Manual
- New Citation Mechanism

2.1 Ordinance Changes

The establishment of a truck route system does not prohibit trucks from using any public roads necessary to reach their destinations – as long as there is a reason for them to be on that particular road. However, it does direct regulated trucks to use the roads that are most suitable for their larger size as a result of design, maintenance, and land use compatibility issues. It also seeks to protect the City’s quality of life and road infrastructure asset by minimizing (but not prohibiting) truck travel on roads that have land uses more sensitive to the noise and vibration resulting from their heavier weight or roads that present more difficult movement due to more restrictive geometric features.

Recommended ordinance changes include:

1. An improved definition of “Regulated Truck”. This is necessary because the current definition is difficult to enforce, since the criteria relates to the carrying capacity of the vehicle and cannot be easily determined in marginal cases without stopping the vehicle. The new definition is essentially based on a vehicle’s number of tires – six or more, which is easily observed by enforcement personnel – and clarifies that the addition of a trailer does not change the status of the vehicle.
2. Adding a list of designated truck route segments covered by the ordinance. The current ordinance does not include a complete list, and it relegates the list to a series of resolutions adopted by City Council from time to time. A complete list of these resolutions could not be located during this study, and the most complete record of the route system seems to be a map that is maintained in the City Clerk’s office and is posted on the City’s internet website.
3. Establishing violation of the truck route ordinance as a municipal civil violation punishable by payment of a fine, similar to a parking violation. The current ordinance is only enforceable when law enforcement personnel observe a truck violating a posted truck prohibition (e.g. a traffic control sign), and a citation is issued for the violation of an

officially posted traffic control device, per State statute. The violation results in points being assessed against a driver license, which can lead to the revocation of a driver's license and the truck driver can possibly lose his means of employment. These violations are often contested in traffic court, requiring law enforcement personnel's time. The municipal civil violation does not result in being assessed points, but a stiff penalty will still encourage compliance with the ordinance.

4. Requiring a truck operator driving off of the designated truck route system to provide evidence of a nearby destination off of the designated truck route system. Examples of "acceptable evidence" are provided, and include a delivery ticket, weight slips, log books, or other written evidence of a nearby destination.
5. Expanding an existing ban on trucks carrying hazardous materials from passing through the CBD on Florida Avenue to include the *entire* CBD. Such trucks with destinations within the CBD are allowed. This is proposed as a safety measure because of the high concentration of people in the CBD.
6. Designating truck routes within the CBD. In the current system, all roads in the CBD were designated as truck routes, but with the emergence of downtown residential land uses and more arts and tourism uses, specific routes have now been designated for through-trucks.

The complete text of the proposed ordinance changes is provided in Appendix A.

2.2 Truck Route Network Additions and Deletions

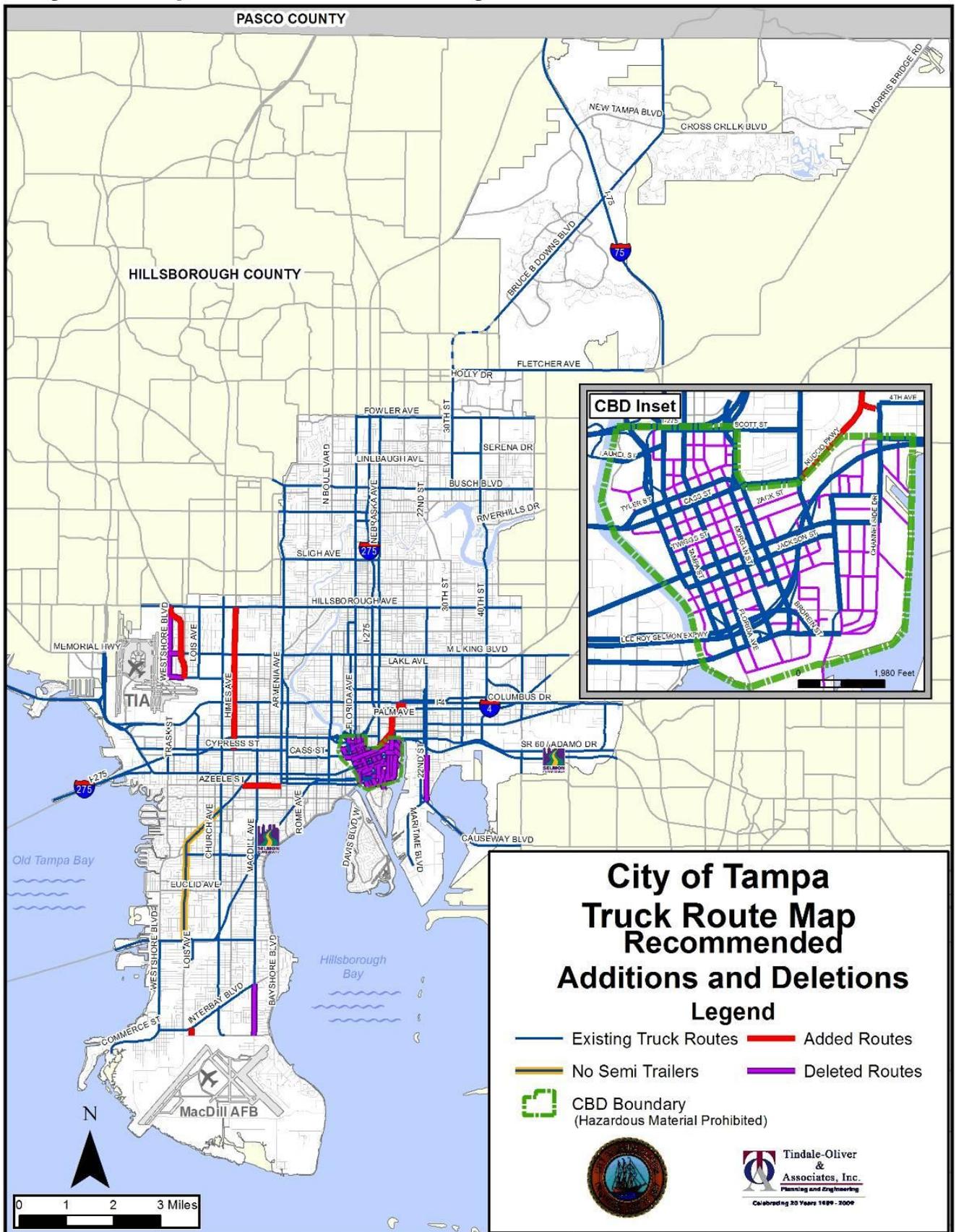
Recommended changes to the truck route system include additions to the system, deletions from the system, and changes to restrictions previously imposed. The recommended changes, and an explanation of the reasons why, are provided below and a map illustrating the locations of these recommended changes is provided in Map 2-1 and a map illustrating the resulting final designated truck routes is provided in Map 2-2.

Recommended Additions:

20th Street (SR 45) from Causeway Boulevard to Lee Roy Selmon Expressway – This roadway is added because the Florida DOT improved the road to a six-lane arterial to replace the 21st St./22nd Street one-way pair in this area, near the Port of Tampa.

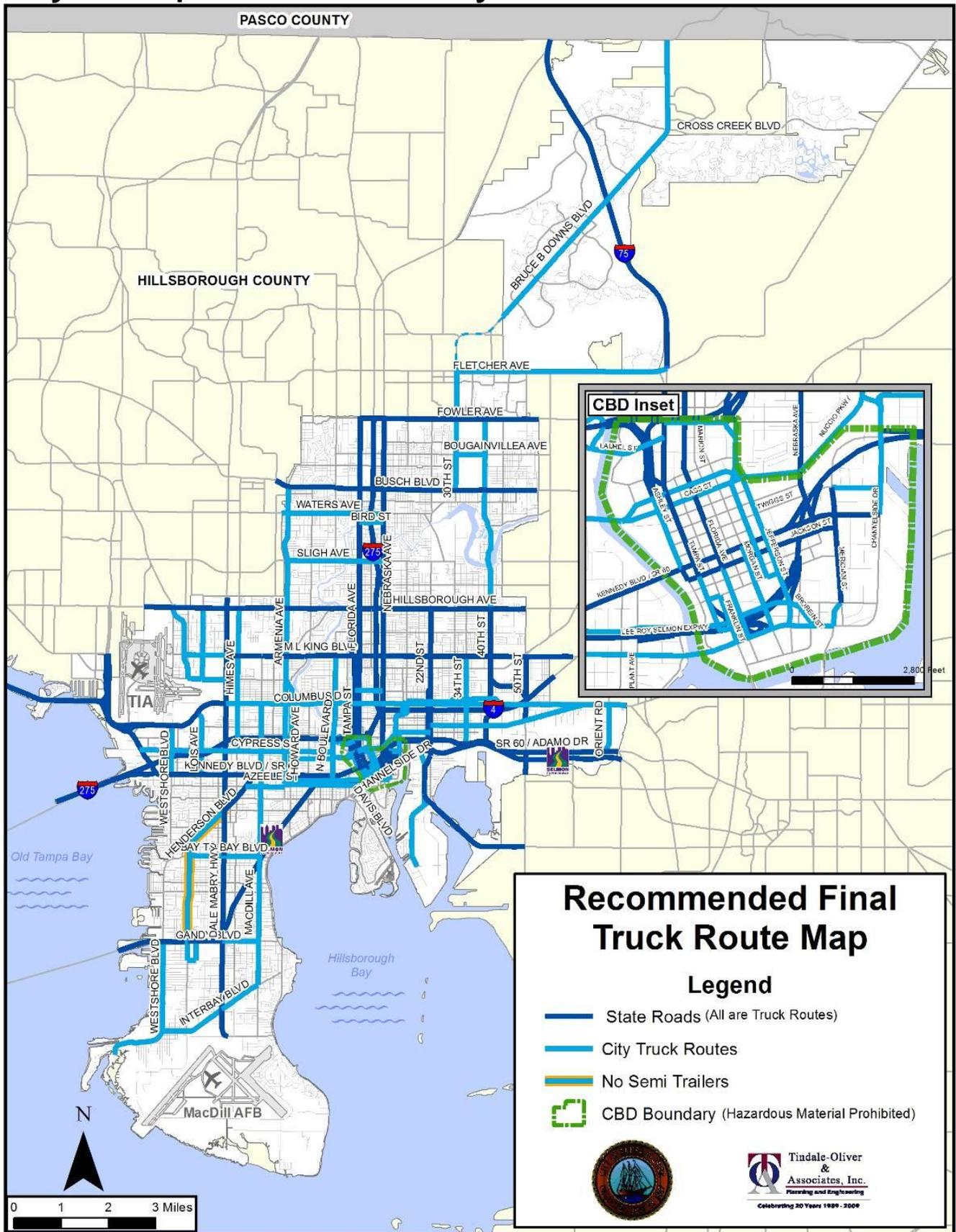
Azeele Street/Azeele Access from Henderson Boulevard to Armenia Avenue – Adding this four-lane road segment will extend the truck route that exists on the Cleveland Street/Platt Street one-way pair westward, rather than requiring trucks to turn northward towards Kennedy Boulevard, then westward on Kennedy Boulevard and southward on Henderson Boulevard to continue south and/or westward.

Map 2-1: Recommended Route Additions and Deletions



Date: January 2010

Map 2-2: Recommended Final Truck Route Map



Himes Avenue from Cypress Street to Hillsborough Avenue – Since the legacy truck route system was adopted, ramps connecting Himes Avenue to I-275 have been constructed. Further, in consideration of the commercial and special event land uses served, the City has designated Himes Avenue as a minor arterial roadway in this section.

I-4/Crosstown Connector – Upon completion, the connection from the Crosstown Expressway to I-4 will be added to the truck route system. One of the significant benefits of this new road is to provide an alternate route from the Port of Tampa to I-4, alleviating truck usage of 21st and 22nd Streets from Adamo Drive (SR 60) to I-4, which will then be removed from the designated truck route system.

Lauber Way/Cargo Road from Tampa Bay Boulevard to WestShore Boulevard – This corridor is a new road constructed for the purpose of serving airport-related industrial uses. It replaces WestShore Boulevard which will simultaneously be removed from the legacy truck route system.

Nuccio Parkway from Nebraska Avenue to Columbus Drive – This corridor will provide a truck route from downtown to the Ybor City area, and provide a replacement route for access to the western sector of Ybor City once 21st and 22nd Streets are removed from the system.

Tanker Road from Interbay Boulevard to MacDill AFB – This 500 foot long section of road, located approximately 1/10th mile east of Manhattan Avenue, was constructed by MacDill AFB specifically to serve as a truck entrance to MacDill AFB. While it is a local street, MacDill AFB has requested it be added to the system to clearly and publicly indicate its intended use for the long-term. This access to MacDill AFB replaces use of the MacDill Avenue entrance, and allows the removal of MacDill Avenue from MacDill AFB to Interbay Boulevard from the designated truck route system.

Recommended Deletions:

North 21st and 22nd Streets (one-way pair) from Adamo Drive to I-4 – After completion of the new I-4/Crosstown Connector, this one-way pair will be removed from the designated truck route system. The pair will remain available to serve trucks with local destinations when these roads provide the most direct access route, but they will not be available to serve trucks *passing through* the area from Adamo Drive to I-4.

South 22nd Street Northbound from 22nd Street/Causeway to Durham Street – This corridor was originally the northbound side of a one-way pair that has since been re-constructed as a two-lane roadway on the original southbound side of the pair. The truck route system function is preserved on the parallel road, and this road should no longer be part of the designated truck route system.

CBD Area Roads – Many streets in the CBD will be removed to focus truck traffic on the routes providing for continuous through-CBD circulation, in recognition of the emerging residential, tourism, and arts land uses.

Channelside Drive from Meridian Avenue to Cumberland Avenue – This road segment is in the heart of the Channelside District, and is characterized by “nightlife” and tourist-oriented land uses. Deletion was requested by the Port Authority, and a nearby alternative route (e.g. Meridian Street) is available for through trucks to use.

MacDill Avenue from MacDill AFB to Interbay Boulevard – With the closure of the MacDill AFB gate at MacDill Avenue, through truck usage of this portion of MacDill Avenue should decline. The road segment will remain open and remain the preferred route for trucks serving adjacent commercial uses, but the road segment does not serve any appreciable volume of through truck traffic. Thus it no longer needs to be a part of the designated truck route system.

WestShore Boulevard and Tampa Bay Boulevard from Lauber Way to Cargo Road – This segment will be removed in correspondence with the addition of Lauber Way/Cargo Road, above.

Specific Requests:

MacDill Avenue from Gandy Boulevard to Wallcraft Avenue – Deletion of this segment of road (or even a longer segment from Gandy Boulevard to Euclid Avenue) from the designated truck route system was requested by residents who live adjacent to the road. This section of road is a two-lane facility with residential or institutional frontage (church), and has a heavy oak tree canopy. The portion from Wallcraft Avenue northward to Euclid Avenue has predominantly commercial and institutional uses, with some multi-family and single-family frontage.

Deletion of this segment would require the addition of Euclid Avenue, another residentially fronted roadway to be added to the truck route system to preserve route continuity, and would leave a gap in the MacDill Avenue truck route corridor because MacDill Avenue from Interbay Boulevard all the way to Columbus Boulevard is on the designated truck route system. A decision to reduce the exposure of one set of residences to truck traffic would require that another set of residences (on Euclid Avenue) be exposed to the truck traffic. Furthermore, it would introduce a non-linear route corridor, which is not desirable because it would require turns at locations where roadway geometry is poor and constrained.

MacDill Avenue is an important truck route corridor because trucks are not permitted on Bayshore Boulevard to the east of MacDill Avenue, and because the Crosstown Expressway to the west of MacDill Avenue severs land access from the parallel Dale Mabry Highway truck route. MacDill Avenue’s designation provides clear direction to truckers on the appropriate

route to follow to access lands along that corridor. As a result of these considerations, it is recommended that the segment remain on the truck route system.

Interbay Boulevard from WestShore Boulevard to Dale Mabry Highway – Consideration of removing Interbay Boulevard from WestShore Boulevard to Dale Mabry Highway was also requested. The portion of Interbay Boulevard from WestShore Boulevard to Manhattan Avenue has concrete curbing, residential frontage, and has the “feel” of a small town street. From Manhattan Avenue to Dale Mabry Highway, however, the road has wide shoulders and is fronted by either vacant land or multi-family uses. Along with WestShore Boulevard, this portion of Interbay Boulevard primarily serves Port Tampa’s trucking needs. Since the legacy truck route system was implemented, WestShore Boulevard has been improved from a two-lane undivided to a three-lane enhanced roadway from Interbay Boulevard northward to Gandy Boulevard, and considerable development of residential land uses along WestShore Boulevard has occurred.

Important to the trucking needs of the Port is access to the South Crosstown Expressway, and trucks have essentially two routes to access this facility. One route is eastward first via Interbay Boulevard and then northward on Dale Mabry Highway, and the other is northward first via WestShore Boulevard and then eastward on Gandy Boulevard. The route via WestShore Boulevard and Gandy Boulevard requires trucks to travel along a more congested Gandy Boulevard, and requires the truck to either use a short weave section to access the loop ramp at the South Crosstown Expressway or to make a left turn at Dale Mabry Highway to access the northbound ramp from Dale Mabry Highway. The route via Interbay Boulevard and Dale Mabry Highway is shorter, less congested, and provides for an easy straight thru then “gentle right” turn onto the Crosstown Expressway ramp.

A decision to remove Interbay Boulevard from the designated truck route system will result in all truck traffic to Port Tampa being concentrated on WestShore Boulevard, and requiring travel to the Crosstown Expressway via a more-congested Gandy Boulevard. A decision to retain Interbay Boulevard on the designated truck route system would better-serve MacDill AFB’s new Tanker Road access location, as Tanker Road connects directly to Interbay Boulevard, and it would provide the more efficient route for Port Tampa truck traffic to access the South Crosstown Expressway. Further, there are no alternative parallel routes to recommend. For these reasons, retaining the current status of this segment of Interbay Boulevard on the designated truck route system is recommended.

2.3 Promotion and Signage

To be effective, a truck route system must be promoted and be visible. Methods of accomplishing this are discussed below.

Signage:

Truck routes are usually marked throughout the system by posting traffic control signs to delineate where the route travels. The City's legacy ordinance includes a provision instructing the City to post signs to mark and publicize the truck routes, and this study does not propose to alter that requirement. Placement of such signs informs the public and truck drivers of the existence of a truck route network and thereby increases compliance with the system. To date, few such signs have been posted. Based on City signage inventory databases, signage exists at only a small percent of the needed locations, and an estimated 614 signs are needed to consistently sign the truck route system, at an estimated cost of \$250,000. This is a relatively small number of signs when compared to the approximately 1,750 "No Trucks" signs that have been posted on City streets to date in an effort to prohibit trucks from using local streets. The jurisdictional distribution of needed signs is 185 on City streets, 142 on County roads, and 286 on State roads. Implementation could occur either as a concentrated effort over a short period of time, or phased in over a longer period of time to manage costs.

If the ban on trucks carrying hazardous materials through the CBD is enacted, then additional signage will be needed to advise such truck drivers to take alternate routes around the CBD. A preliminary diversion plan has been developed, and will require additional signs on State, County, and City streets.

Recommendations for guidance sign locations within the City are shown in Map 2-3, and a listing of the locations is provided in Appendix B. Field placement of signs should follow City and MUTCD standards for height and visibility. The MUTCD section on truck route signage is provided in Figure 2-1.

Route mapping:

Various types of computerized mapping services are available and the City's truck route system should be incorporated into as many of these as possible to disseminate and publicize the system. Such mapping systems include:

1. Posting of a passive map for users to download and print
2. Development and hosting of a routing algorithm on a City-sponsored web-site that could be used by truckers, and
3. Provision of City truck route information to commercial mapping providers.

The greatest benefit would be to provide City truck route information to commercial navigation system providers, as these systems incorporate information on the entire nation, including surrounding jurisdictions. Since truckers travel throughout the region, the City's truck route system is only a part of the information needed by truckers. Thus, the first and third levels of mapping dissemination are recommended for pursuit by the City.

Figure 2-1: Excerpt from MUTCD

Section 2B.61 TRUCK ROUTE Sign (R14-1)

Guidance:

01 The TRUCK ROUTE (R14-1) sign (see Figure 2B-30) should be used to mark a route that has been designated to allow truck traffic.

Option:

02 On a numbered highway, the TRUCK (M4-4) auxiliary sign may be used (see Section 2D.20).

Section 2B.62 Hazardous Material Signs (R14-2, R14-3)

Option:

01 The Hazardous Material Route (R14-2) sign (see Figure 2B-30) may be used to identify routes that have been designated by proper authority for vehicles transporting hazardous material.

02 On routes where the transporting of hazardous material is prohibited, the Hazardous Material Prohibition (R14-3) sign (see Figure 2B-30) may be used.

Figure 2B-30. Truck Signs



R13-1*



R14-1



R14-2



R14-3



R14-4



R14-5

* The R13-1 sign may be black-on-white or white-on-black

Guidance:

03 If used, the Hazardous Material Prohibition sign should be installed on a street or roadway at a point where vehicles transporting hazardous material have the opportunity to take an alternate route.

Section 2B.63 National Network Signs (R14-4, R14-5)

Support:

01 The signing of the National Network routes for trucking is optional.

Standard:

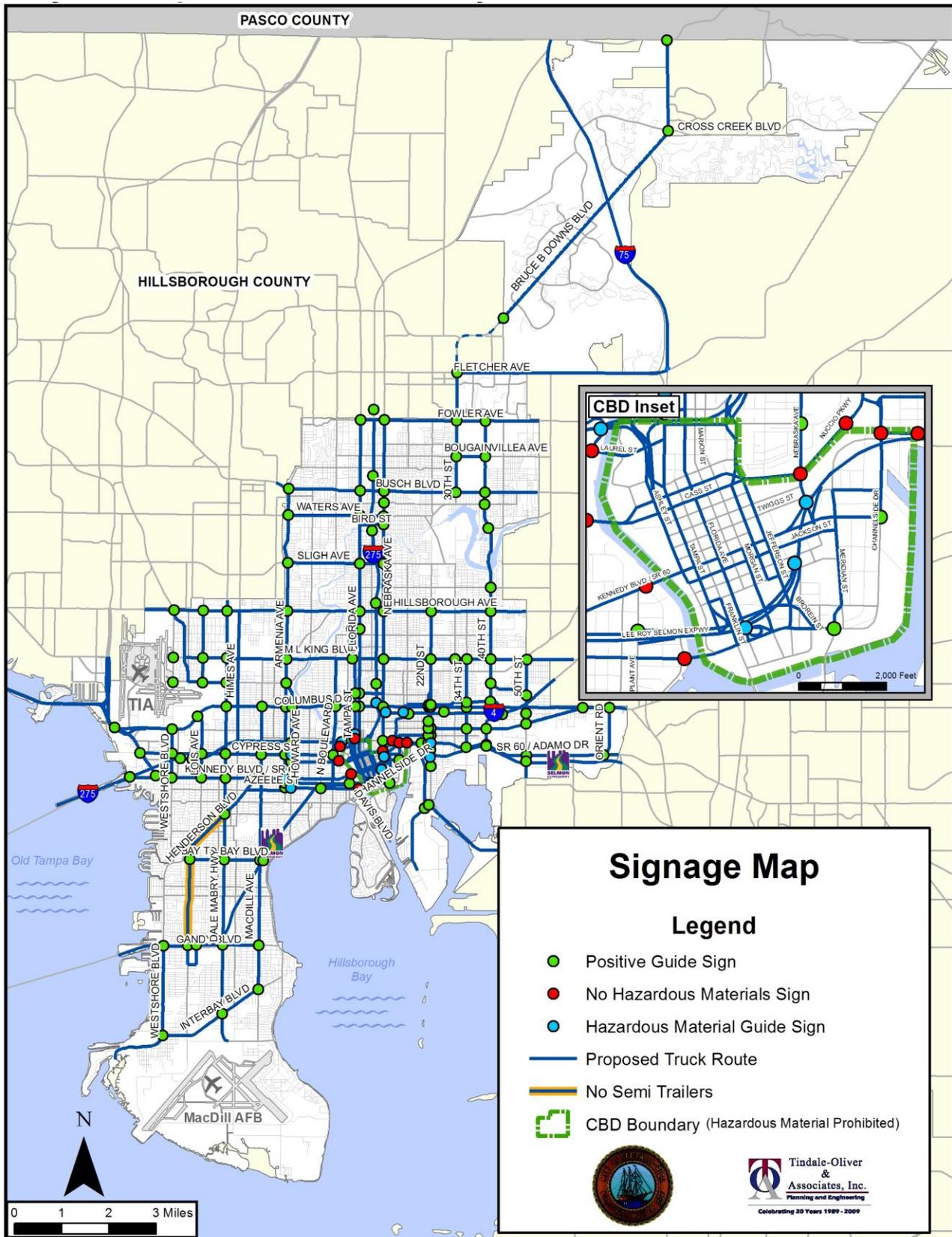
02 When a National Network route is signed, the National Network (R14-4) sign (see Figure 2B-30) shall be used.

Option:

03 The National Network Prohibition (R14-5) sign (see Figure 2B-30) may be used to identify routes, portions of routes, and ramps where trucks are prohibited. The R14-5 sign may also be used to mark the ends of designated routes.

The City maintains a truck route system map on the City's website and it is available to anyone via the internet. The City's map is integrated with Hillsborough County's truck route system map, also. Annual distribution of the truck route map to a maintained list of truck operators in the City and County would also be beneficial. Advantageous use of the internet by transmittal of a digital map via e-mail would be cost-effective and allow employers to print and distribute copies to all drivers as needed.

Map 2-3: Truck Route Signage Map



Professional truckers subscribe to Global Positioning System (GPS) navigation programs. Vendors of the navigation systems incorporate local truck route systems into their navigation packages. The City should pursue providing commercial vendors with information on the City's truck route system, and inquire as to potential means to post road construction/disruption information to these providers on a real-time basis.

2.4 Administrative Procedures

These procedures are recommended in governing the administration of the City of Tampa's truck route system. It identifies the points at which City staff interacts with the system and provides direction as to how staff could respond to anticipated requests. The purpose of this section is to recommend a standardized and consistent response to the community. These procedures also serve as a repository of experiences with the truck route system to further promote consistency and knowledge of the system. As a result, new staff will have a record of past practices from which to learn, and on which to rely in the future. To achieve these goals, these recommendations should be updated and modified to add insights gained through the passage of time and experience.

The agencies that have contact with the truck route system, and their responsibilities are discussed in the following paragraphs:

Transportation Division, Planning Section:

The Transportation Division, Planning Section, is responsible for the planning, management, and designation of the truck route system. They identify and provide recommendations to the City Council on the need to add or remove segments of road from the system, they publicize and promote the usage of the system including the publication and distribution of route system maps, posting of signs to identify and provide in-the-field guidance and delineation, and through communication and contact with truck operators. They are responsible for directing the posting (e.g. putting up signs) of regulations that might restrict the use of public roads by trucks. Through the evaluation of enforcement requests, specifically following up with the involved parties, they play a role in educating and promoting the system's use. The Transportation Division also provides transportation-related advice to the Land Development Division on the suitability of land use plan amendments, rezoning petitions, and in the review of building plans. In addition to other transportation planning issues, review from the perspective of truck trip generation, access, and on site circulation relative to truck traffic needs to be a visible and consistently undertaken element of development review.

Response to Enforcement Request:

The truck route system has historically been difficult to enforce. Often, when a truck violated the system, there were no law enforcement personnel nearby. The most effective way of correcting truck driver behavior is if a resident observes a habitual violation, for that person to identify the

owner of the vehicle, the general time and location of the habitual violation, and relay this information to the Transportation Division, Planning Section. City staff should confirm receipt of the request and, as a part of that confirmation, advise the requestor of the provisions for legitimate truck usage of the public road. The Transportation Division, Planning Section, would assume the responsibility of contacting the truck owner to advise them in writing of the violation, requesting correction, assisting in finding an alternate solution if necessary, or warning the owner of possible enforcement action. Often, however, the habitual violations are the result of a truck having a legitimate delivery destination, and the travel is appropriate. Staff then advises the requestor of the disposition of the matter.

If the requestor continues to observe violations anytime during the following 12-month period, and so advises the Transportation Division, Planning Section, then staff should advise the truck owner by registered mail (citing the previous telephone contact), and request enforcement by the Tampa Police Department.

Response to “No Thru Trucks” Signage Request:

The most effective measure of making the truck route system work is in the posting of signage identifying where the truck route is located. This positive message can be communicated with far fewer signs than by posting all locations where “through” trucks should not go. It is of interest to note that there is no standard traffic sign in the Federal or State Manual(s) on Uniform Traffic Control Devices communicating that a road is not on a truck route system.

It has been a practice of Hillsborough County to use a standard “No Trucks” symbol sign, modified by adding the word “thru” to discourage trucks from “short-cutting” through neighborhoods. This practice should be discouraged for two reasons. First, the sign provides an unclear message. The sign provides no indication of what territory is intended by the word “thru”. Second, the introduction of a non-standard sign with a conditional restriction that looks very similar to the sign that categorically prohibits trucks could be of concern. For example, a truck driver who is accustomed to passing through the “No Thru Trucks” sign (because he has a legitimate destination) may encounter and disregard a “No Trucks” sign posted to protect truckers from an unsafe condition because of their essential similarity. Therefore, posting “No Thru Trucks” signage should be reserved for the specific instances where trucks are specifically prohibited.

If a “No Trucks” or “No Thru Trucks” sign is requested, City staff should:

- Verify that the issue is a consistent issue that cannot be corrected through employer contact and enforcement,
- Determine whether or not the truck usage of the non-truck route street is appropriate (e.g. are there truck destinations that compel the use of the street by trucks). If the usage is appropriate per the City’s ordinance, then consider designating an alternate, more suitable route to serve the trucks. If no alternates are available, then a “no action” response to the concerned party is appropriate.

Response to Route Designation Request:

Transportation Division, Planning Section staff shall receive the request and should evaluate it consistently with the recommended procedures of this study, and consider other planning and circulation considerations not identified herein that may become important in the future.

Periodic Publicity:

To enhance communications between the City and truck fleet operators, the City could maintain an address (e-mail) database of businesses that maintain a fleet of trucks. Periodically (e.g. every three years), the City Transportation Division could then undertake a mail-out of information advising the businesses of the existence of the truck route system.

Development Review:

The Transportation Division, Planning Section staff, review land use amendments on a global basis, however, they do not review for truck route compatibility at that time. During the review of rezoning petitions and commercial site plans, the Transportation Division insures the proposed project provides adequate truck access to the site, adequate on-site circulation, and the appropriate number and location of loading bays.

Police Department:

The police department's responsibility is to enforce the ordinance, but the truck route system has been very difficult to enforce. Often, when a truck violates the system, there are no law enforcement personnel nearby. The most effective way of correcting truck driver behavior is if a resident observes a *habitual* violation, to identify the owner of the vehicle and phone number if possible, the time and location of the habitual violation, and relay this information to the Transportation Division, Planning Section. The Transportation Division should write a letter to the owner and advise them of the violation, requesting correction, assisting in finding an alternate solution if necessary, warning them of possible enforcement action, and advising the requestor or the disposition of the matter. Repeated violations will result in an enforcement request.

Law enforcement officers also exercise judgment as to when to issue a warning to a violator as opposed to issuing a citation. In the case of rental trucks which are driven by private individuals who are not aware of the truck route system, leniency is recommended. In addition, there are some trucks of "pick-up" size that have four rear tires. Some discretion may be appropriate in applying the truck route system and regulations to such pick-up trucks that are used for personal purposes. In the case of the truck route system, being established as a municipal civil offense, records of past violations will be maintained to identify habitual violators.

Tampa Police will issue Class II ticket books to cite violators of the truck route ordinance.

Law enforcement officers will also have to make a judgment on whether or not the truck is following an appropriate route to the destination, or as it leaves the destination and proceeds to its next destination. Strict adherence to the written ordinance may require a truck to make a U-turn on a local street, or to use a road which cannot safely accommodate a truck. Law enforcement personnel should exercise judgment and allow truckers to select alternate routes when necessary to operate the truck in a responsible manner.

Parks Department:

The Parks Department maintains the trees along major roadways. They need to be sure adequate vertical clearance of 16 feet is maintained on truck routes (and non-truck routes) to allow trucks to be able to pass under branches that may spread over the roadway.

2.5 New Citation Mechanism

In conjunction with the City of Tampa Legal Department, a new citation mechanism for use by the City of Tampa Police to enforce truck route violations has been developed. This new procedure should include officer education. In addition, the new procedures could be publicized to the trucking community through the news media, by posting system maps at local truck stops, distribution centers, freight carrier warehouses and weigh-stations.

Chapter Three

Data Collection and Analysis

The methodology of data collection was designed to be comprehensive, taking in all aspects of truck passage and routing. Through Document Review, Route Assessment, and Truck Definition, current specifications will be evaluated and commented upon. In addition, data collection herein will include discussion of public involvement including Freight Carrier Interviews and Summaries of selected meetings pertinent to this study. Also, an analysis of the Truck Route Network is included as well as discussion of Web-Based Routing Options and Truck Signage Programs.

3.1 Approach

Over the last 20 years, there have not been problems associated with the use of the existing truck route map, and as such, it has been used as the starting point and foundation of this updated study. In order to investigate enhancements to the existing truck route system, the best practices of the recent Hillsborough County Truck Route study were followed and connectivity to their routes was researched. City boundaries, new roadways, truck route signage, and the latest roadway functional classifications were addressed and reviewed. Public input concerning the truck route system was gathered and then enforceability of the map and ordinances was studied and evaluated.

The majority of data collection and analysis of the review principals was considered and analyzed using ESRI GIS© mapping and sorting algorithms incorporating numerous City geospatial databases including land uses, crashes, functional classifications, average annual daily traffic counts (AADT) and jurisdictional agency names. An extensive best practices review of other municipalities truck mobility related studies was performed by sub-consultant, Wilbur Smith and Associates, a firm well-versed in national mobility evaluations. Public input was obtained through neighborhood meetings as well as email comments the study team received. Enforceability and ordinance language was coordinated with the City of Tampa Police Department and legal department staff as well.

3.2 Related Document Review

Prior work done by others relating to truck route plan development, freight movement, trucking codes and enforcement practices was collected and reviewed, and best practices which the City can utilize to solidify and maintain its regulated truck route network and associated ordinances were established. The following study reports were reviewed:

- Hillsborough County MPO Truck Route Study (1994)
- Hillsborough County Truck Route Plan Update (2004, 2008)
- FDOT D7 Freight Mobility Study (2005)
- Development of a Statewide Model for Heavy Truck Freight Movement on External Networks Connecting with Florida Port – Phase 3
- North Richmond Truck Route Study (2007)
- Pinellas County Goods Movement Study
- New Haven Truck Route Study
- Rockland County Truck Movement Study (2007).

In addition to these study reports, a review was conducted of truck definitions and ordinances of the following locations:

- Hillsborough County, Florida
- New York City, New York
- Lakeland, Florida
- St. Petersburg, Florida
- Sarasota, Florida
- Jacksonville, Florida
- San Francisco, California
- Seattle, Washington
- Minneapolis, Minnesota
- Atlanta, Georgia
- Los Angeles, California.

Unlike the City of Tampa Truck Route Update Study, most other truck related studies were reactionary in nature as a result of public outcry over unacceptable traffic conditions. This would include the Hillsborough County Truck Route Plan which was developed in response to complaints from citizens that trucks were using county roads not suitable for use by large trucks. Citizens in the Keystone area had complained about construction trucks and dump trucks hauling fill dirt and other materials for the construction of the new Veterans Expressway. The result of these complaints was a local truck traffic plan for the new road construction and a new county wide truck route map with associated ordinances.

Due to the reactive nature of some of these studies, ordinance and plans were developed to address isolated, short term issues. This methodology resulted in plans and ordinances that were cumbersome and, more importantly, difficult to enforce. Procedural complications discovered as a result of this research included:

- Inconsistent route establishment with regard to functional classifications.
- Seemingly arbitrary time of day restrictions.
- Unclear or ambiguous truck definitions.
- Inconsistent truck route signage programs.

The review of the case study locations has established a set of best practices for the development and maintenance of truck route programs. The best practice procedures gleaned are summarized as follows:

- Assume a regional, cooperative approach.
- Emphasize clarity.
- Engage shippers and freight carriers.
- Adopt policies to support truck routes.
- Develop a comprehensive network of truck routes.
- Truck route signage should be easy to recognize and understand.
- Use targeted enforcement techniques.
- Consider regional as well as local truck route needs.
- Plan truck movement in the context of land use.
- Be consistent with State and Federal regulations.
- Develop clear, enforceable ordinances.

The City's proactive stance in pursuing the update study provides opportunity to rationally address these best practices and develop an un-biased truck route plan and associated ordinances which will continue to enhance the welfare and safety of citizens and visitors of Tampa.

3.3 Route Assessment

The route assessment began with the identification of the network of roadway segments to be studied. All roadways within the Hillsborough County MPO major road network (arterial and collector roads) were considered as potential truck routes. Following this, truck route roadway characteristics were developed to help determine which major road segments should serve as truck routes. The roadway characteristics identified as most important in assessing a truck route are listed below, and discussion on same will ensue in subparagraphs below:

- Existing truck routes
- Adjacent land uses
- Bridge locations
- Roadway functional class
- Number of lanes
- Constrained road status
- Truck traffic Volumes

- Crash Data
- Truck Traffic Generators

The roadway characteristics will be used to help determine which roads shall remain, be removed, or be added to the City of Tampa Truck Route Map and will later be part of a discriminant analysis assessment.

3.3.1 Existing Truck Route

It is highly unlikely that it will be necessary to remove roadways from the existing Truck Route System, and, in fact, some existing roadways may, indeed, need to be designated as truck routes to ensure adequate freight movement in areas currently with insufficient coverage. The current route system includes all state roads (by FL Statute) and most arterial roadways. Many City collector and neighborhood collector roads are excluded from the current truck route system. Local Roads are generally excluded from the truck route unless there is no viable alternative.

The authority of the City to develop and maintain the regulated truck route system is established in Florida law and supported by the Tampa Comprehensive Plan and the City Code of Ordinances.

Per Florida Statute 316.003, a “truck” is defined as a motorized vehicle primarily used for the transportation of property. The regulation of roadways by local governments is addressed in Florida Statute 316.008(n) wherein it is stated that local authorities shall not be prevented from “prohibiting or regulating the use of heavily traveled streets by any class or kind of traffic found to be incompatible with the normal and safe movement of traffic”.

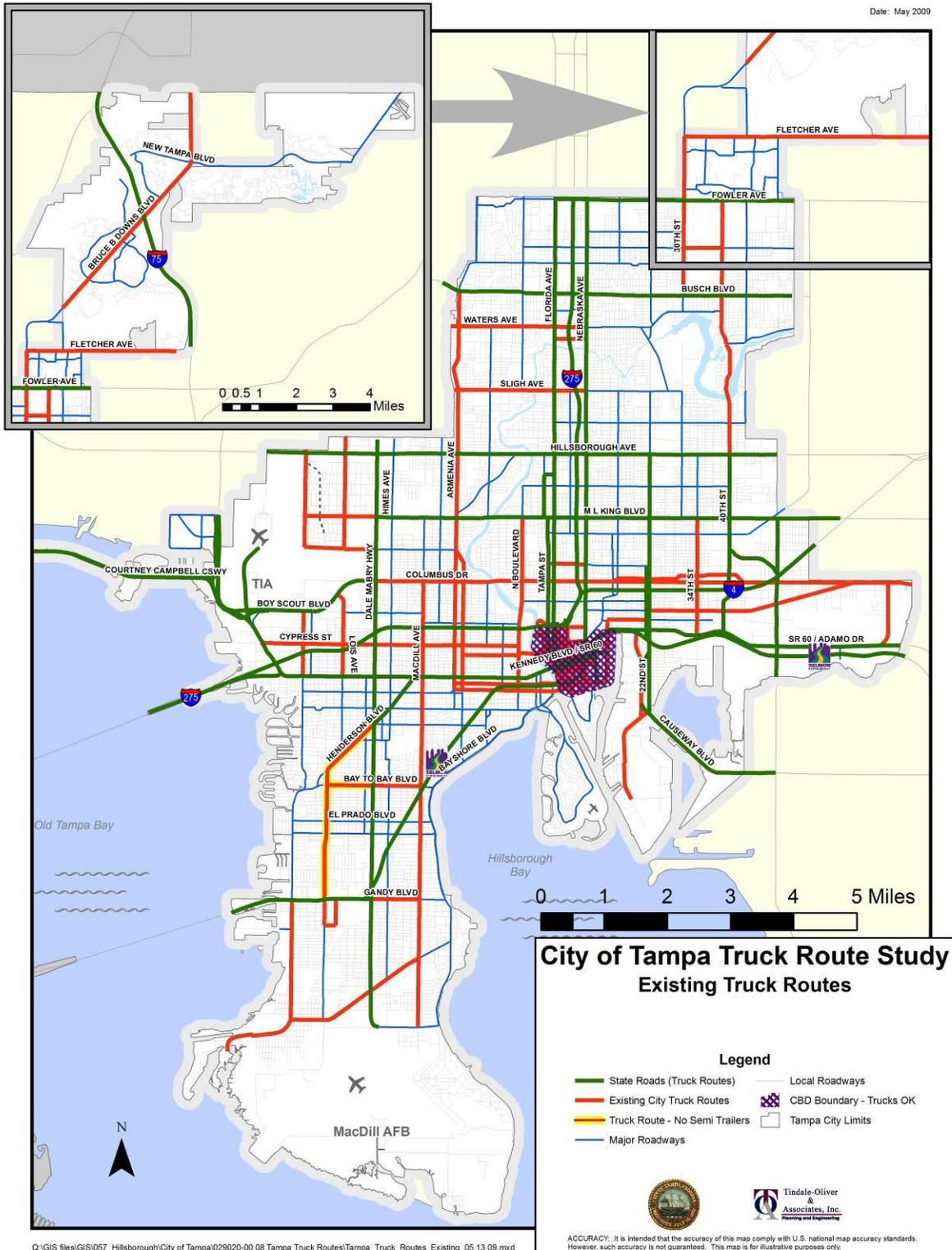
Per the City of Tampa Comprehensive Plan, truck routes are specifically addressed in two policies:

Policy 44.1.8: The City shall continue to review the truck route ordinance and associated map to ensure neighborhood traffic concerns associated with truck traffic are addressed.

Policy 48.3.4: The City shall continue to enforce and update, if necessary, the current Truck Route Ordinance and maintain appropriate signage for the truck route to ensure compliance.

Map 3-1 – Existing Truck Routes (City, County, & State)

Date: May 2009



3.3.2 Land Uses Methodology

In order to develop a truck route recommendation for the City of Tampa, the land uses dependent on the truck route infrastructure and land uses in conflict with trucking related activities were identified. Collection of the data used to identify conflicting land uses was done using Microsoft Access (database management software) and ESRI ArcGIS (geographic information system (GIS) software) and was completed using the following process:

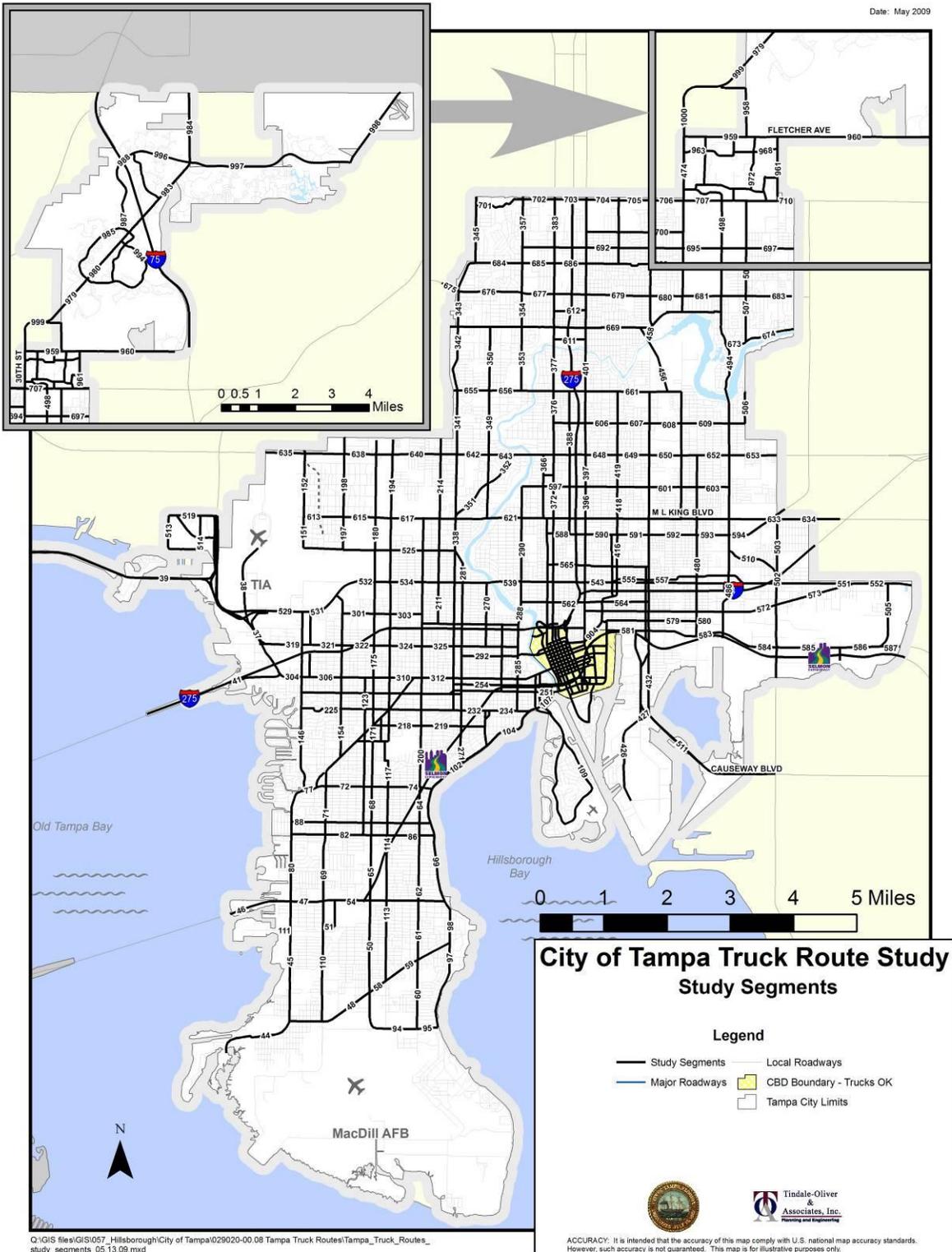
1. Identify all City of Tampa major roadways from the MPO major road network.
2. Create study segments by grouping the existing major road network segments so all of the segments span from major road intersections to major road intersections (see below).
 - a. Assign each study segment a unique ID number.
 - b. Populate the following data fields for each study segment: On Street, From Street, To Street, Functional Class, Number of Lanes, Median Type, Segment Length, and Speed Limit.
3. Using parcel data obtained from the Hillsborough County Property Appraiser, select and extract all parcels fronting the study segments (see Figure 3-1). Quality control was performed on this process in GIS through a visual check using the Study Segment network, the original parcel data, the selected parcel data, and aerials to ensure that all parcels along the study segments were included in the analysis.

Figure 3-1: Selecting Parcels



Map 3-2 – Study Segments

Date: May 2009



4. Using GIS, each parcel was then assigned the segment ID number of the study segment fronting the parcel. Parcels located at the intersection of two study segments were assigned the ID of both segments (see Figure 3-2).

Figure 3-2: Assigning Segment IDs to Parcels



The process for the identification of incompatible land uses is based on the Florida Department of Revenue (DOR) Land Use Codes included in the GIS parcel data. By utilizing this information, the parcels were grouped into land use categories (see Figure 3-3). The land use categories and the units used to measure them are as follows:

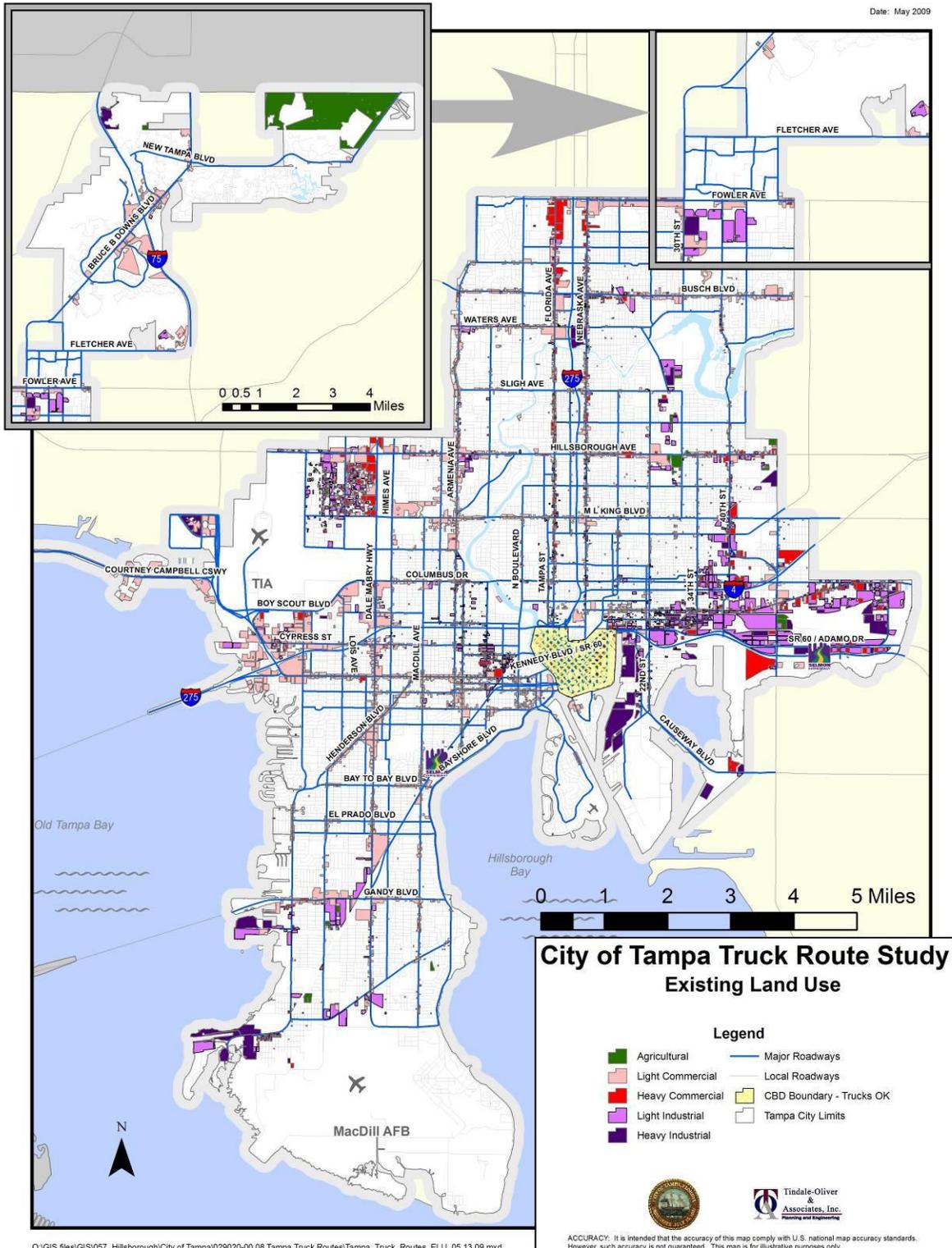
• Single Family Residential – dwelling units	• Schools – number of schools
• Multi-Family Residential – dwelling units	• Park/Open Space – acres
• Office/Commercial – square feet	• Cultural/Religious Facility – square feet
• Industrial – square feet	• Parking/Transportation/Utilities – acres
• Government Owned – acres	• Vacant – acres
• Hospital/Health Care Facility – square feet	

Figure 3-3: Land Use Groupings



Map 3-3: – Existing Land Use Map

Date: May 2009



Q:\GIS files\GIS\057_Hillsborough\City of Tampa\029020-00.08 Tampa Truck Routes\Tampa_Truck_Routes_ELU_05.13.09.mxd

Along with the land use groupings, the parcel data were used to flag the location of conflicting and sensitive land uses such as schools, hospitals, parks, and cultural and religious facilities. To provide a meaningful comparison of the relative quantities of various land uses fronting each study segment, the land use attribute totals were divided by the segment length.

3.3.3 Bridge Locations within the City of Tampa

Bridge locations are an integral part of road evaluation, particularly how they pertain to truck passage and routing. The amount of weight a bridge can handle dictates whether a road has the ability to serve as a truck route. The bridges within the City of Tampa are maintained by the State of Florida, Hillsborough County, and the City of Tampa.

As some routes contain bridges of insufficient capacity for trucks to traverse, these routes are not used for truck traffic. Further, the City comprehensive plan does not allow bridge improvements for truck access alone:

Policy 41.4.1: The City will limit public expenditures for infrastructure within the Coastal High Hazard Area to those projects that can demonstrate: the expenditure is for the development or improvement of public roads and bridges which are in the City of Tampa or Hillsborough County MPO Long Range Plan or the facility will serve a crucial need by ameliorating the evacuation time of residents of the City of Tampa.

The FDOT Office of Maintenance provides data on bridges throughout the state regarding the safety and structural conditions. The City of Tampa is located in FDOT District 7, and, according to the FDOT Trucking Manual, the weight restrictions on trucks are as follows:

MAXIMUM SIZE AND WEIGHT LIMITS (TOLERANCES INCLUDED)	
GROSS WEIGHT (under certain conditions)	80,000 lbs.
SINGLE AXLE, MAXIMUM WEIGHT	22,000 lbs.
TANDEM AXLE, MAXIMUM WEIGHT	44,000 lbs.
SEMI-TRAILER LENGTH INCLUDING LOAD (commercial vehicles only)	48' / 53'
AUTOMOBILE AND BOAT TRANSPORTER SEMI-TRAILERS	50'
SINGLE UNIT	40'
STRAIGHT TRUCK-TRAILER COMBINATION	65'
BUSES	50'
WIDTH OF TRUCK / LOAD (on road with traffic lanes 12' wide or more)	8'6"
HEIGHT	13'6"
MAXIMUM OVERHANG OVER FRONT OR FRONT BUMPER OF VEHICLE	3'

Map 3-4 – City of Tampa Bridges Map

Date: May 2009



3.3.4 Functional Classifications

Functional Classification of the City of Tampa major roads was explored through research with regard to various transportation engineering sources, including Transportation Research Board (TRB), American Association of State Highway and Transportation Officials (AASHTO), and the FHWA. Functional Classification groups roadways according to the character of the service they are intended to provide. It is a process that acknowledges most travel occurs through a series of connecting roadways. Based on function, mobility, land access, and daily traffic, roadways are functionally classified in very general terms as arterials, collectors, or local roads. Roadways are further classified based upon size (e.g., major or minor) and character (e.g., urban, urbanized and rural areas).

Per the City of Tampa Comprehensive Plan:

Policy 44.1.3 The City may identify roadways which pass through primarily residential areas and are likely to be subject to excessive traffic volume due to their orientation with respect to congested components of the arterial roadway network as candidates for functional classification re-designation as “Neighborhood Collectors” roadways. The City will consider periodically re-evaluating the functional classification of these identified candidate roadways.

The City of Tampa Comprehensive Plan gives the following pertinent definitions:

Roadway Functional Classification:

The assignment of roads into categories according to the character of service they provide in relation to the total road network. Basic functional categories include limited access facilities, arterial roads, and collector roads, which may be subcategorized into principal, major or minor levels.

Expressway

A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections. (See also, definition of Functional Classification Map in the Transportation Element).

Arterial, Minor:

A roadway providing movement along significant corridors of traffic flow. Traffic volumes, speeds and trip lengths are high, although usually not as great as those associated with primary arterials.

Collector Road (Collector):

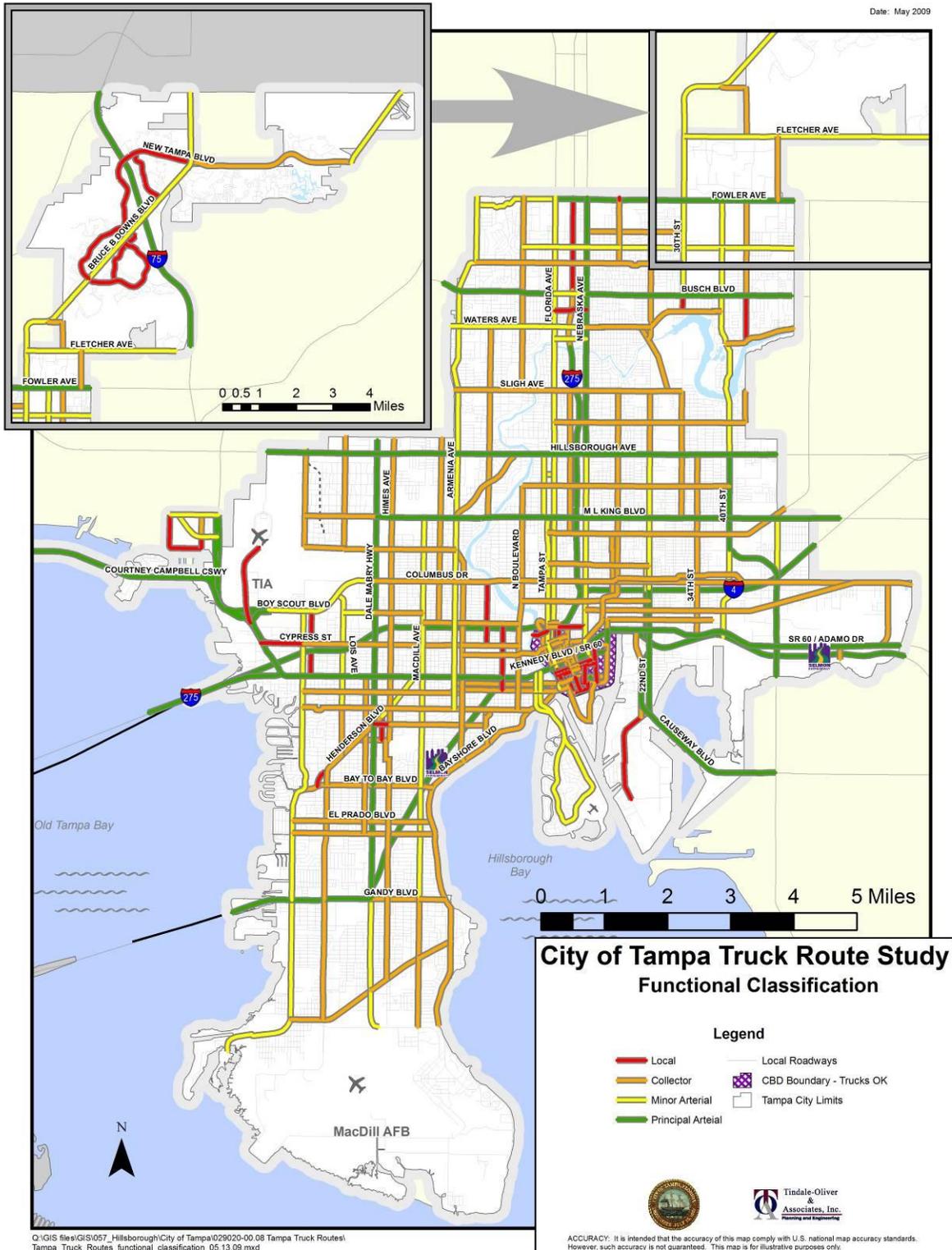
Collector roads collect and distribute traffic between local roads or arterial roads. Collectors are roadways providing service which is of relatively moderate traffic volume, moderate trip length, and moderate operating speed.

Local Road:

A roadway carrying relatively low traffic volume. Trip lengths are typically short and through movements are infrequent. The main purpose of a local road is to provide immediate land access, primarily to residential units.

Map 3-5 – Roadway Functional Class Map

Date: May 2009



Q:\GIS file\GIS\057_Hillsborough\City of Tampa\029020-00.08 Tampa Truck Routes\ Tampa_Truck_Routes_functional_classification_05.13.09.mxd

**City of Tampa Truck Route Study
Functional Classification**

Legend

- Local
- Collector
- Minor Arterial
- Principal Arterial
- Local Roadways
- CBD Boundary - Trucks OK
- Tampa City Limits

ACCURACY: It is intended that the accuracy of this map comply with U.S. national map accuracy standards. However, such accuracy is not guaranteed. This map is for illustrative purposes only.

3.3.5 Speed Limits

The speed limit of a roadway tends to reflect the character of the roadway. Roads with higher speed limits tend to be free flowing and have fewer access points whereas roadways with lower speed limits tend to be less free flowing and have a greater number of access points. Those roadways with the greater speed limits would seem to be a good indicator of a roadway that fits the desired characteristics of a truck route while the roadways with lower speed limits dictate further analysis.

A dichotomy of speed limits exists, however, when collector roads with high levels of residential frontage serve as major through roadways but have lower speed limits due to their nature. In light of this, speed limits are not a primary consideration in establishing truck routes. Speed limits were, however, considered for recommendations for additions to the truck route system and included in the discriminant analysis process and final enhanced add/drop review.

3.3.6 Number of Lanes

The identification of the number of lanes was a criterion to assist in identifying the roadways that were designed to accommodate greater amounts of traffic. The road segments that had the greater number of lanes have been identified as having the greatest potential to serve as a truck route. The number of lanes data was available in the MPO major roads GIS shape file.

Map 3-6 – Number of Lanes Map

Date: May 2009



3.3.7 Constrained Roads

The identification of constrained roadways will allow help to identify which potential truck routes in the City will be a challenge to accommodate future widening and/or improvements because of physical or policy constraints. The constrained roadways identified are not ideal to be used as truck routes, although they may necessary so not to impede commerce within the City. Per the City of Tampa Comprehensive Plan, the definition of Constrained Corridor or Facility is:

Roads the City has determined will not be expanded by the addition of two or more through-lanes because of physical, environmental or policy constraints. Physical constraints primarily occur when intensive land use development is immediately adjacent to roads, thus making expansion costs prohibitive. Environmental and policy constraints primarily occur when decisions are made not to expand a road based on environmental, historical, archaeological, aesthetic or social impact considerations. Constrained Roadways operating efficiencies may be improved on by including turning, passing or other auxiliary lanes. Bikeways, sidewalks, landscaping, resurfacing and drainage improvements may also be included.

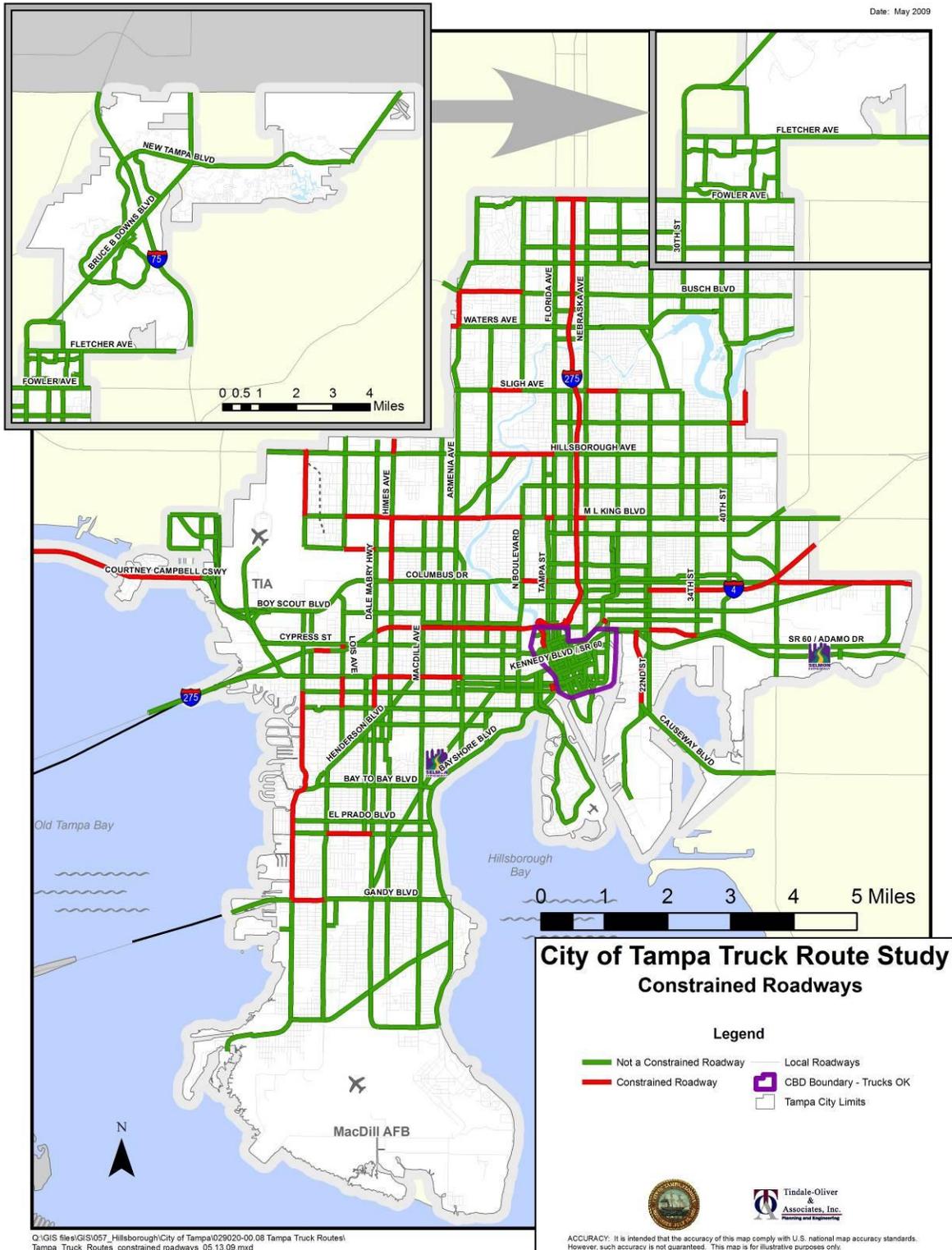
Policies of the comprehensive plan relating to constrained roads and truck routes are:

Policy 43.3.3 Policy-constrained roadways, though ineligible for two or more general use thru-lane additions, shall be eligible for transit system enhancements including those described above. Dedicated transit system thru-lanes constructed pursuant to this policy shall not be retrofit for use by automobile or truck traffic so long as the subject roadway remains policy constrained.

Policy 44.2.3 The City shall maintain and periodically update a list of constrained roads through plan amendments and updates to the City of Tampa Comprehensive Plan or City Code which shall not be subject to two or more through lane additions and transmit upon update of the Long Range Transportation Plan to the MPO as appropriate. "Constrained Roadways" are roads that the City has determined will not be expanded by the addition of two or more through-lanes because of physical, environmental or policy constraints. Physical constraints primarily occur when intensive land use development is immediately adjacent to roads, thus making expansion costs prohibitive. Environmental and policy constraints primarily occur when decisions are made not to expand a road based on environmental, historical, archaeological, aesthetic or social impact considerations. Constrained Roadways operating efficiencies may be improved on by including turning, passing or other auxiliary lanes. Bikeways, sidewalks, landscaping, resurfacing and drainage improvements may also be included.

Map 3-7 – Constrained Road Status Map

Date: May 2009



Q:\GIS file\GIS\057_Hillsborough\City of Tampa\029020-00.08 Tampa Truck Routes\ Tampa_Truck_Routes_constrained_roadways_05.13.09.mxd

3.3.8 Truck Crash Data

The truck crash data reviewed and evaluated as part of the development of the City of Tampa Truck Route Study included crash data for restricted vehicles between the years of 2004 and 2008 (the most recent years available). The total number of crashes which occurred during this time frame was 53,124 within the City of Tampa. The crash data was reviewed for trends regarding the causes of crashes as related to truck movement on the City of Tampa major roadways network. This section of the report will identify the crash data evaluated, the methodology used for evaluation, and summarize the findings.

The Hillsborough County Crash Data Management System (CDMS) was utilized for the Truck Route Study to identify and analyze areas of high conflicts for certain types of trucks. A CDMS is a database which provides the user all the data from Florida Traffic Crash Reports readily available for all crashes occurring within a specified location. The next step was to then focus on which types of vehicles were involved in the truck crashes which occurred during the 2004 to 2008 time frame. The CDMS database contains data for the following vehicle types based on the FDHVM Uniform Citation criteria:

Table 3.1 – Florida Traffic Crash Report Vehicle Types

LU_VEHTYPE	
CODE	DESCRIPTION
00	UNKNOWN/NOT CODED
01	AUTOMOBILE
02	PASSENGER VAN
03	PICKUP/LIGHT TRUCK (2 REAR TIRES)
04	MEDIUM TRUCK (4 REAR TIRES)
05	HEAVY TRUCK (2 OR MORE REAR AXLES)
06	TRUCK TRACTOR (CAB)
07	MOTOR HOME (RV)
08	BUS (DRIVR + 9 - 15 PASS)
09	BUS (DRIVR + > 15 PASS)
10	BICYCLE
11	MOTORCYCLE
12	MOPED
13	ALL TERRAIN VEHICLE
14	TRAIN
15	LOW SPEED VEHICLE
77	OTHER

For the purposes of the City of Tampa Truck Route Study, the vehicle types used to query the crash data were vehicle types 4 (Medium Truck, 4 rear tires), 5 (Heavy Truck, 2 or more rear axles), and 6 (Truck Tractor). With these vehicles types selected, the total number of crashes occurring from 2004 through 2008 within the City of Tampa was 4,652 crashes.

The uses of the vehicle types identified in Table 2-2 were then filtered as well. The CDMS database contains data for the following vehicle use classifications:

Table 3.2 – Florida Traffic Crash Report Vehicle Uses

LU_VEHUSE	
CODE	DESCRIPTION
00	N/A
01	PRIVATE TRANSPORTATION
02	COMMERCIAL PASSENGERS
03	COMMERCIAL CARGO
04	PUBLIC TRANSPORTATION
05	PUBLIC SCHOOL BUS
06	PRIVATE SCHOOL BUS
07	AMBULANCE
08	LAW ENFORCEMENT
09	FIRE/RESCUE
10	MILITARY
11	OTHER GOVERNMENT
12	DUMP
13	CONCRETE MIXER
14	GARBAGE OR REFUSE
15	CARGO VAN
77	OTHER
88	UNKNOWN/DUMMY RECORD

For the purposes of the City of Tampa Truck Route Study, vehicular uses 3 (Commercial Cargo); 12 (Dump); and 13 (Concrete Mixer) were used to query the crash data. This query revealed the total number of crashes occurring from 2004 through 2008 within the City of Tampa that involved vehicle types 4, 5, and 6 and vehicular use types 3, 12, and 13 was 2,018.

It is important to note that the Florida Traffic Crash Report provides data for up to three vehicles involved in a crash. As defined by the Florida Traffic Crash Report, “Vehicle 1” data is for the “at-fault” vehicle; “Vehicle 2” data is for the victim vehicle; and “Vehicle 3” is for a bystander

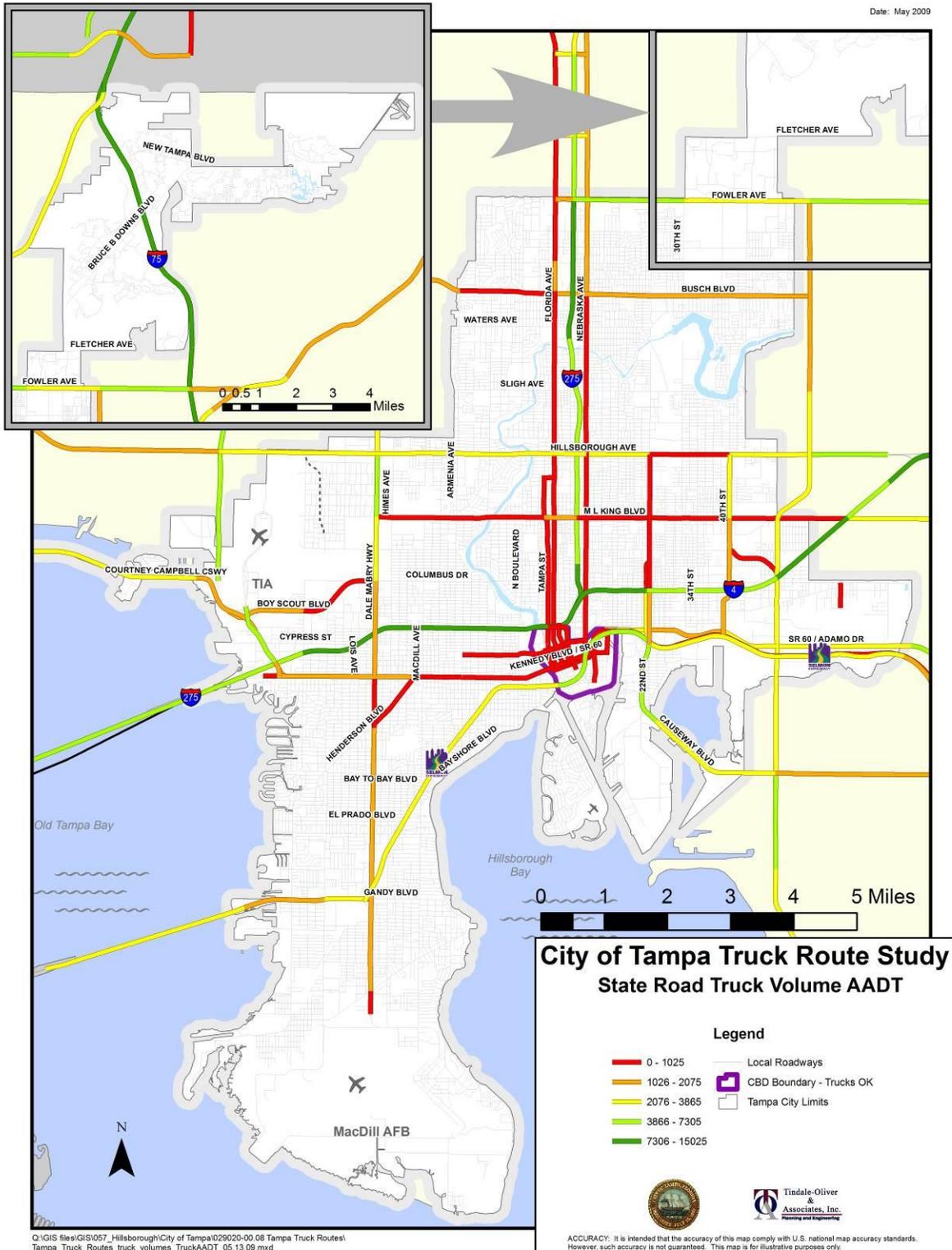
vehicle. The crash data was filtered once each for Vehicle 1, Vehicle 2, and Vehicle 3 by the vehicular types and uses previously identified for this evaluation. Also filtered out were crashes that occurred on private property and in parking lots. After all filtering was complete, the remaining crashes were as follows: 1,257 crashes for Vehicle 1, 816 crashes for Vehicle 2, and 0 crashes for Vehicle 3 resulting in a total sample of 2,073 crashes. The reason for the discrepancy between the 2,018 crashes resultant of the queries explained above and the 2,073 crashes that have been mapped are that 55 of the crashes involved more than one truck. These 2,073 crashes were then saved in a data table called "GIS_EVENTS" in the CDMS database.

The CDMS database has several data tables and electronic mapping files that can be used for Geographic Information Systems (GIS) mapping. In order to relate the data tables to the mapping files, they must share a common attribute. For the Freight and Goods Movement Study, the common attribute is what is referred to as a "NODE". The NODE is a point on a map that has been assigned a numerical value that can be referenced in the CDMS data tables (in the data tables, the NODE column is referred to as "GIS_NODE") and in the mapping files (in the mapping files, the NODE column is referred to as "MASTER_NODE"). Thus, once a crash is inputted into the CDMS data tables the GIS_NODE column is populated with a numerical value that corresponds to its MASTER_NODE in the mapping file and can then be projected onto a map. In order to map the 2,073 crashes identified in the GIS_EVENTS data table, the data table was joined to the mapping file via the common attributes GIS_NODES in the data table and MASTER_NODE in the mapping file so that the crashes could be mapped. The crashes were then summarized by location so that if more than one crash happened at the same NODE, it could be graphically represented. It should be noted crashes which occurred on the Interstate are coded to the nearest mile marker; whereas, on all other roads they are generally coded to the nearest intersection.

The 2,073 crashes are displayed in Map 3-10. It is apparent from the data points on the map that the majority of truck crashes occur on state roads and generally at major intersections. All non-truck route crashes are limited to single crash locations which suggest there are no non-truck route corridors prone to an identifiable crash pattern of concern. It is noteworthy, however, that there is an unexpectedly low number of crashes along West Shore and Interbay Boulevards relative to crashes along other truck route corridors.

Map 3-8 – Truck Traffic Volume Map

Date: May 2009



3.3.9 Truck Traffic Generators

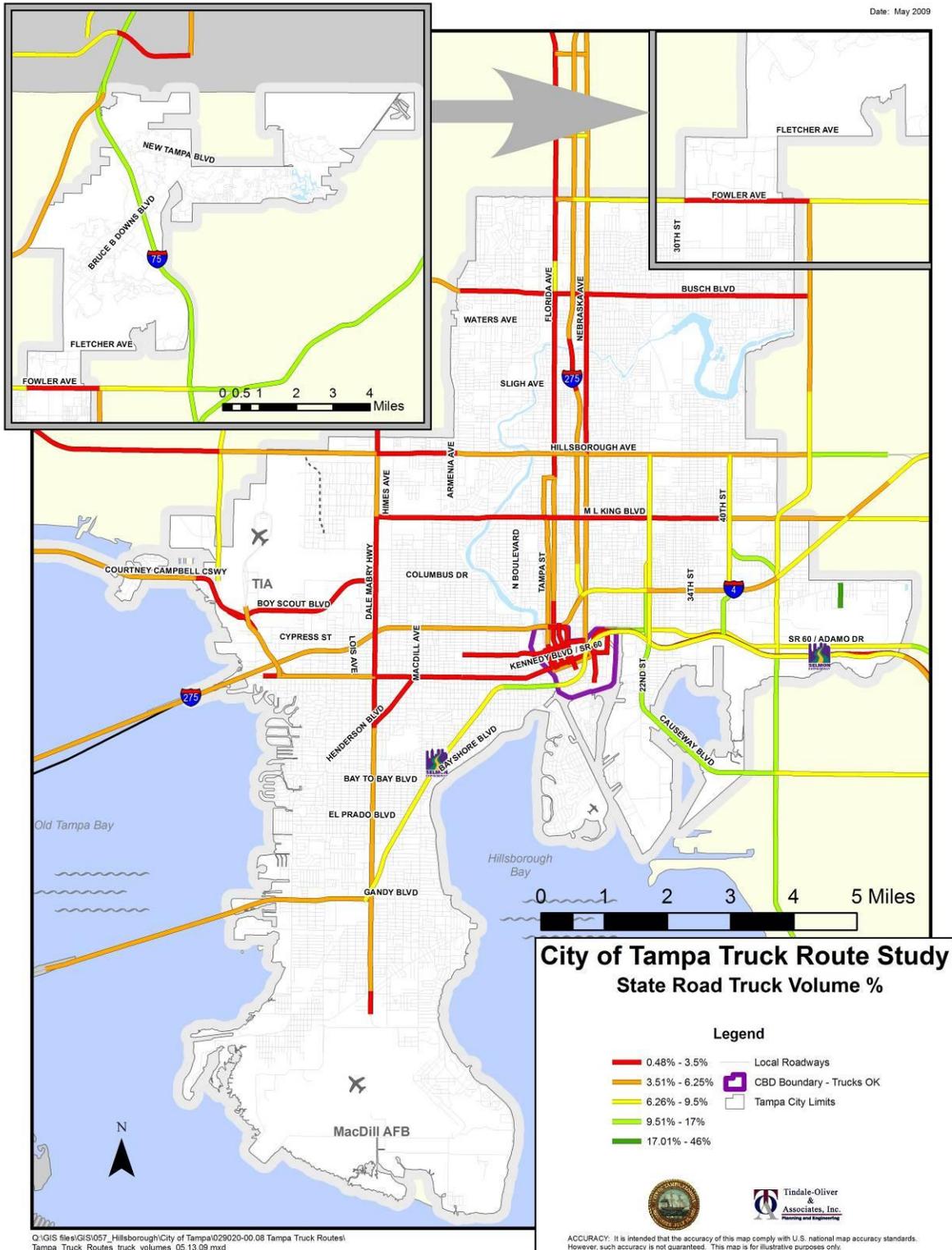
Truck traffic generators may be identified using several different data sources. The future land use designation may indicate current and future trucking dependent development such as industrial uses and/or heavy commercial uses, seaports, and airports. FDOT District 7 is currently conducting the Tampa Bay Regional Goods Movement Study within the “Tampa Bay Region defined as Citrus, Hernando, Hillsborough, Pasco, and Pinellas Counties”. Using some of the FDOT data available, the truck traffic generation estimates were mapped. Lastly, the “Hot Spots” from the FDOT data have been mapped which are primarily industrial areas and other truck traffic generators or attractors. Review as City Truck Traffic Generators are as follows:

- Provision of Access To Existing Or Anticipated Truck Traffic Generators (i.e., Industrial/Manufacturing Land Uses)
- Provision Of Access To Commercial Corridors
- Tampa Bay Regional Planning Model Truck Traffic Generation Estimates And Info USA Database
- Industrial Areas

The Tampa Bay Regional Planning Model (TBRPM) is a regional travel demand-forecasting model that helps to forecast traffic modeling for several jurisdictions in west central Florida, Pasco County, Hillsborough County, Citrus County, Hernando County, and Pinellas County. The TBRPM models truck and taxi trips separately from other trips. Trips are generated at the locations of industrial, service and commercial employment, but are assigned to the major roads network. Through this tool, road segments that are important to truck movement can be identified even if the road segments are not directly fronted by industrial or commercial land uses.

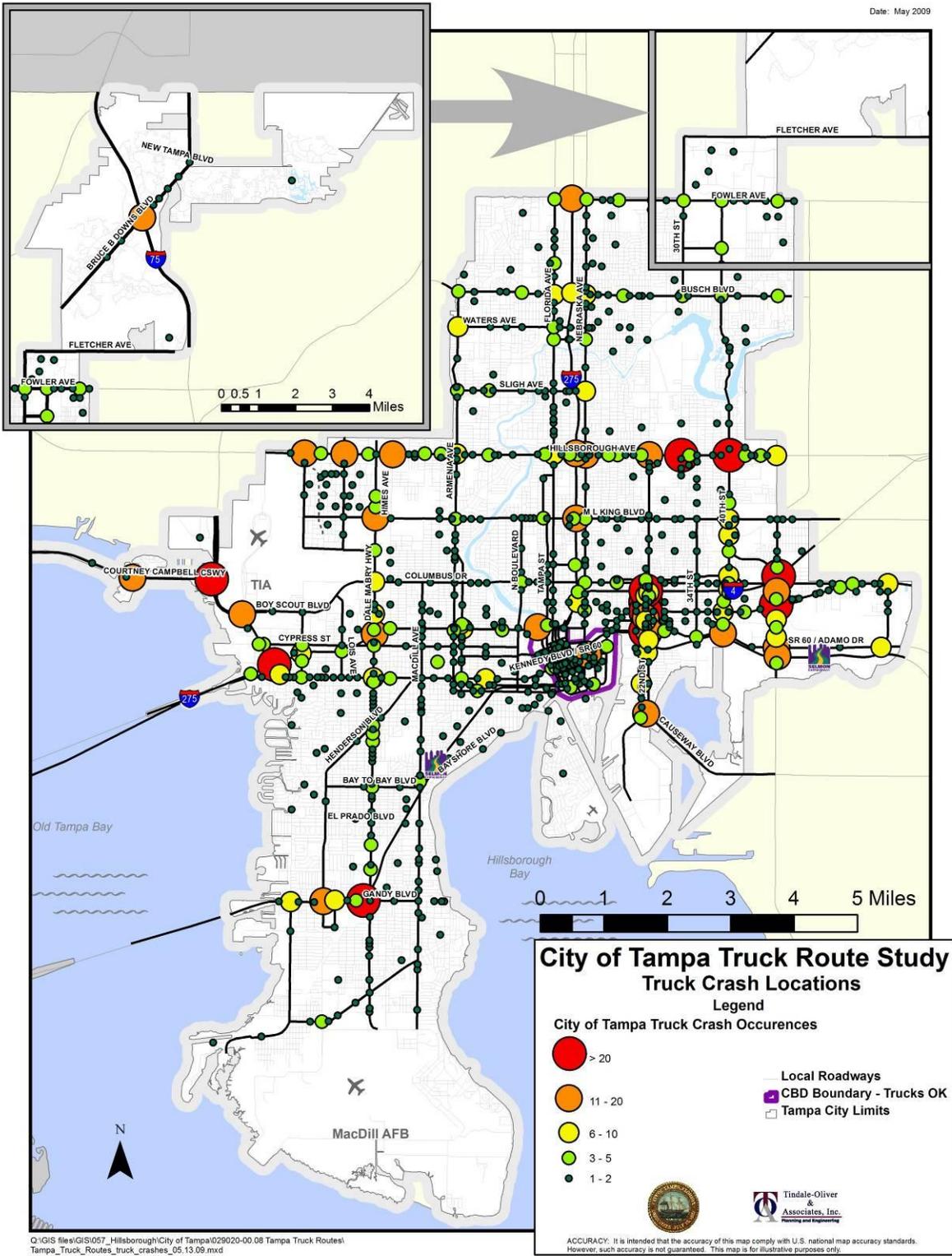
By overlaying existing zoning districts that are dependent on trucking for goods and freight movement over the truck route network, the accessibility to existing goods and freight corridors can be identified (Map 2-14).

Map 3-9 – State Road Truck Traffic as a Percentage of AADT



Map 3-10 – Truck Crash Data Map

Date: May 2009



Q:\GIS files\GIS\057_Hillsborough\City of Tampa\029020-00.08 Tampa Truck Routes\ Tampa_Truck_Routes_truck_crashes_05.13.09.mxd

Table – City of Tampa Hot Spots List From FDOT Interviews

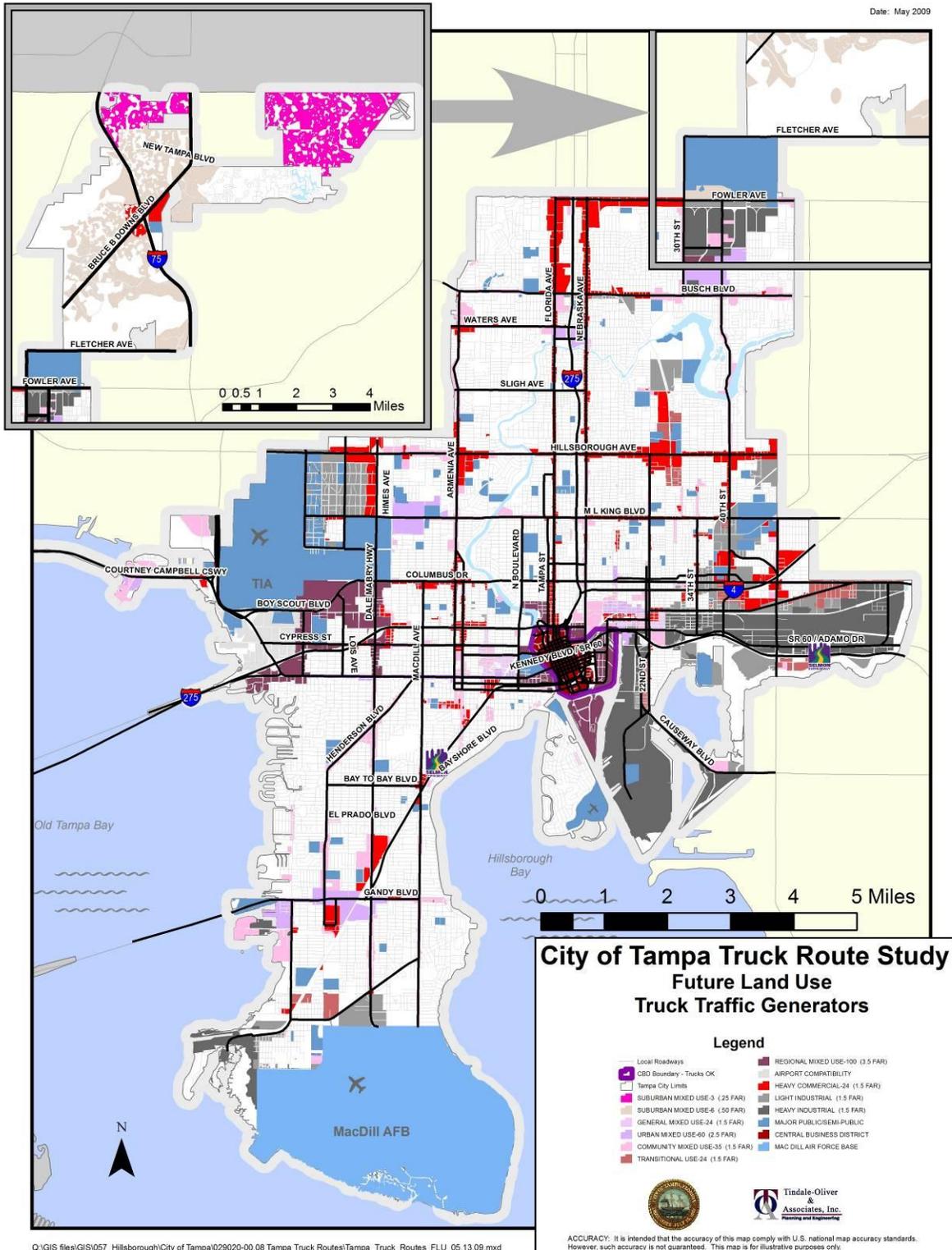
OBJE CTID	LOCATION	DESCRIPTION
1	W. Hillsborough Ave & Nebraska Ave	West bound right turn is too tight
12	Himes and Gandy	Turn from Himes onto W Gandy is too tight
31	Nebraska Ave/Idlewild Ave/Paris St	Vision difficulty due to tree/shrubs on easement
33	22nd St @ on-ramp to I-4W	Turn Radii
34	I-4 @ I-275 interstate junction	Heavy traffic volumes; long queues
35	Sligh Ave @ Florida Ave	Turn Radii- all corners have a 20' turning radius. There are two 10' receiving lanes in each direction and right-of-way constraints.
38	SR 60 (Adamo Dr) & 19th St	No protected left-turn at this intersection. Observed speed of oncoming vehicles makes it difficult for truckers to negotiate turning movement safely
39	22nd St @ Crosstown Expwy	Truckers have indicated that the directional signage is unclear
40	62nd St @ Columbus Dr	Traffic signals needed w/ turning lane
41	62nd St @ Broadway Ave	Traffic signals needed w/ turning lane
45	Dale Mabry Hwy @ Bay to Bay Blvd	A lane shift in the NB direction of Dale Mabry Hwy presents operational problems for truckers who have trouble staying in their lanes; several accidents have occurred involving gasoline haulers; right-of-way constraints exist
47	Broadway Ave @ 50th St (US 41)	Turn Radii are inadequate on all corners; right turn lanes from both directions are problematic due to single receiving lanes; right-of-way constraints limit capacity improvements.
49	50th St (US 41) @ Melbourne Blvd	This intersection is an apex north of I-4 where Melbourne Boulevard joins 50th Street. The problem seems related to the joining of these two roads in combination with the ramps to and from I-4. There are also lane shifts that may make this intersection dangerous for truck drivers.
50	SR 60 @ 34th St	Curb damage and tire ruts were observed on the northeast corner. The turn radius on the northeast corner is 40'. There are two northbound receiving lanes.

54	Cypress St @ Westshore Blvd	This intersection experiences heavy traffic congestion. There are 35' Turn Radii on all corners. Curb damage was observed on the southwest corner. There are right-of-way constraints.
55	Dale Mabry Hwy @ Henderson Ave	Intersection is skewed and has recently been resurfaced. Some curb damage exists at this heavily congested intersection. There are right-of-way constraints.
56	Hillsborough Ave @ 22nd St	There is a 20' turning radius on each corner. The southwest corner is tight (has a paved "sweep") with visible tire tracks on the shoulder. Trucks are prohibited on 22nd St north of the intersection.
57	Dr. Martin Luther King Jr Blvd (SR 574) @ 50th St (US 41)	Observed damage on the northeast and southeast corners. Southeast corner (with curb) has a 40' turning radius with a 10' wide single eastbound receiving lane.
60	Interbay Blvd @ Westshore Blvd	This is a T-intersection to the east. Trucks negotiating a right turn in the northbound direction appear to have an adequate turn radius but encounter difficulty due to the single eastbound receiving lane. The curb on the southwest corner has damage. Trucks clearly utilize the oncoming lanes to negotiate turns. This is the only way into the Port of Tampa.
62	Memorial highway @ Spruce St	This section of Memorial Highway contains ramps to and from Spruce Street and Tampa International Airport. Truckers traveling northbound and southbound must contend with large traffic volumes loading from the several ramps. Trucks must merge and weave in a short distance creating unsafe travel conditions.
63	50th St @ Columbus Drive	Intersection experiences heavy congestion. Ramps to and from I-4 are immediately north of the intersection. The turn radius on the southeast corner on-ramp to eastbound I-4 is tight and has curb tire marks. There are right-of-way constraints.
64	Railroad crossing @ Orient Road South of Broadway Ave	Problem associated with traffic queues and delays caused by train movements. This contributes to access problems for businesses on Orient Road.

68	Railroad crossing @ SR 60 East of US 41	Problem is associated with queuing and delays caused by train movements. This location experiences 28 trains per day. There is a planned increase to 37 trains per day.
72	Dale Mabry Hwy S of Kennedy Blvd	The shifting lanes in the southbound direction south of Kennedy Boulevard make it difficult for trucks to stay in their given lane. There is visible shoulder damage in the southbound direction. This is a highly congested intersection.
73	Busch Blvd @ Florida Ave	Truckers experience difficulty negotiating this intersection due to high levels of congestion. Lengthy traffic queues may make it difficult to clear this intersection in one traffic light cycle. There are right-of-way constraints.
74	Busch Blvd @ Nebraska Ave	Truckers experience difficulty negotiating this intersection due to high levels of congestion. Lengthy traffic queues make it difficult to clear this intersection in one traffic light cycle, particularly in the northbound direction. There are right-of-way constraints.
75	Bougainvillea Ave @ N 30th ST	Truckers experience difficulty negotiating this intersection due to single receiving lanes on Bougainvillea Avenue. The southeast corner has a 60' turning radius and appears to be the most problematic for truckers. There is visible curb damage to this corner. There are right-of-way constraints.
76	Bougainvillea Ave @ McKinley Dr	Truckers experience difficulty negotiating this intersection due to single receiving lanes on Bougainvillea Avenue and McKinley Drive. The eastbound right turn on Bougainvillea Avenue to southbound McKinley Drive has some wear and there is new pavement on the southbound shoulder. There are right-of-way constraints.
77	20th St @ Grant St	This intersection is located in the Hookers Point area. This location experiences high truck traffic volumes. The Turn Radii are 40' on all corners and there is one receiving lane in each direction. There are tire marks on all corners and there are right-of-way constraints.
96	Hwy 60, 589, Memorial Hwy & Independence	This area needs better signage
104		

Map 3-11 – City of Tampa Freight Specific Future Land Use Designations

Date: May 2009



3.3.10 Vehicle Classification Counts

Another objective was to collect vehicle classification counts on City streets at limited locations in the interbay peninsula. Bi-directional counts were collected for 48-hours during a typical weekday. The locations are summarized below.

Location	Direction	ADT	Single Unit Medium Trucks Volume	Single Unit Medium Trucks %	Combination Heavy Trucks Volume	Combination Heavy Trucks %
Westshore Blvd north of Gandy Blvd	NB	7,034	183	2.60%	28	0.40%
Westshore Blvd north of Gandy Blvd	SB	7,480	268	3.58%	50	0.67%
	TOTAL	14,514	451	3.11%	78	0.54%
Westshore Blvd south of Gandy Blvd	NB	8,294	264	3.18%	237	2.86%
Westshore Blvd south of Gandy Blvd	SB	8,268	509	6.16%	245	2.96%
	TOTAL	16,562	773	4.67%	482	2.91%
Westshore Blvd north of Interbay Blvd	NB	4,669	278	5.95%	148	3.17%
Westshore Blvd north of Interbay Blvd	SB	4,806	296	6.16%	172	3.58%
	TOTAL	9,475	574	6.06%	320	3.38%
Manhattan Ave btw Interbay Blvd & RR Tracks	NB	2,416	75	3.10%	10	0.41%
Manhattan Ave btw Interbay Blvd & RR Tracks	SB	2,732	92	3.37%	16	0.59%
	TOTAL	5,148	167	3.24%	26	0.51%
Interbay Blvd east of Manhattan Ave	EB	4,567	133	2.91%	149	3.26%
Interbay Blvd east of Manhattan Ave	WB	5,994	269	4.49%	220	3.67%
	TOTAL	10,561	402	3.81%	369	3.49%
MacDill Ave btw Wallcraft Ave & Gandy Blvd	NB	5,459	161	2.95%	25	0.46%
MacDill Ave btw Wallcraft Ave & Gandy Blvd	SB	5,393	104	1.93%	37	0.69%
	TOTAL	10,852	265	2.44%	62	0.57%

3.4 Truck Definition

A consistent definition of “truck” or “commercial motor vehicle” (CMV) is helpful to the regulatory framework for enforcement of truck route restrictions. The potential for conflict arises when neighboring cities and counties use different definitions. Tampa’s truck routes are used to carry goods in to, out of, and across Tampa and therefore may cross several jurisdictional boundaries during the course of a day. Federal and State regulations also define trucks.

This section outlines truck definitions currently used by the City of Tampa and surrounding jurisdictions. It also provides recommendations for defining “truck” for the purpose of updating the City ordinance if necessary. The resulting truck definition recommendation shall attempt to be consistent with other regulatory definitions but, to accomplish the goals of the City and the principles of this study, the recommendation may also have differences.

3.4.1 How Trucks are Defined

Trucks can be defined in a number of different ways depending on the regulating entity involved. Generally, trucks are defined in one of the following ways:

Vehicle Purpose: Definition by vehicle purpose is generally used in the context of regulating vehicles used for business or commercial uses. Commercial vehicle definitions typically cover vehicles used for moving goods associated with commerce but also extend to the commercial transport of passengers such as by bus and taxi. Definition by vehicle purpose can be useful in situations where state licensing laws make distinctions between commercial and private vehicles by the use of license plates. Federal safety compliance laws regulating commercial vehicles extend to any vehicle, regardless of size, if it is transporting certain types of hazardous materials. In an urban context, hazardous materials may be a consideration for vehicle routing to reduce risks in areas of concentrated populations such as sporting venues, hospitals and schools.

Vehicle Dimensions: Regulations governing vehicle dimensions are typically imposed to ensure that vehicle size does not exceed the ability of the infrastructure to safely accommodate the truck, while ensuring interstate commerce can be conducted without the undue burden of conflicting regulations between states. In the United States, Congress and the Federal Government have established minimum and maximum truck dimension standards that all states must accept on high-level roadways. Florida, like many states, requires that single-unit trucks not exceed 40 feet in length. Florida limits trailers in a tractor-semi-trailer combination to 53 feet.

Vehicle Weight and Capacity: Federal and state laws typically define “commercial vehicles” based on the registered gross vehicle weight for cargo carrying vehicles (weight of the truck plus the weight of the cargo) or, in the case of passenger service, the person-capacity of the vehicle.

Axle Count: Larger vehicles typically have more axles to carry heavier loads. Hillsborough County defines a regulated truck as a vehicle with three or more axles. Axle count definitions are very specific and clear and typically do not include vehicles with only two axles.

Number of Tires: Dual axle vehicle such as box trucks generally have 4 tires on their rear axle (referred to as a “dually”) to carry heavier loads. A standard pick up truck can also have a dually rear axle. A truck can be defined as a vehicle with over 4 tires to simplify visual recognition and avoid confusion of vehicle weight and capacity.

3.4.2 Current City of Tampa Truck Definition

Per section 25-4 of the City of Tampa Code of Ordinances, “*Truck* means every motor vehicle designed or operated for the transportation of materials or property and the rated capacity of which is over one (1) ton”. This definition has created confusion for enforcement purposes with regard to establishment of the vehicle rated capacity.

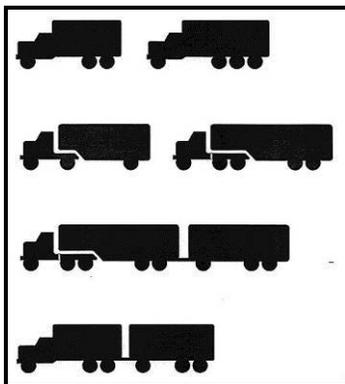
3.4.3 Hillsborough County Definition

Hillsborough County uses the following definition of truck: “*Truck shall mean any motor vehicle designed, used or maintained primarily for the transportation of property including but not limited to truck tractors, truck tractor semitrailer combinations, dump trucks, stake bed trucks, flat bed trucks, commercial vans and pickup trucks of over one (1) ton capacity.*” Additional language further defines a regulated truck as “*those with three or more axles and all non-passenger combination vehicles.*” The definition of “truck” is generally similar to the City of Tampa definition, but includes the identification of specific types of trucks that are included. However, the definition of “regulated truck” as a vehicle with three or more axles is different from that of the City.

Hillsborough County, as part of their truck route study, prepared an informational pamphlet to assist with their public outreach and enforcement. The Hillsborough County Truck Route Plan

pamphlet includes the following summary of “regulated truck”: “*Only single-unit trucks with three or more axles and non-passenger combination vehicles are regulated.*” An illustration of the types of regulated vehicles is shown in Figure 4-1.

Figure 3-4: Illustration of Regulated Trucks from Hillsborough County Brochure



3.4.4 Other Florida Municipal Definitions

Truck definitions from other municipalities in Florida were reviewed for consideration in developing an updated Truck Definition for the City of Tampa. Generally, the other municipalities had similar definitions of trucks and commercial motor vehicles (CMVs). Definitions from selected cities in Florida are summarized in this section.

St. Petersburg: Heavy trucks are defined as “single-unit, multi-rear-axle trucks with a maximum length of 40 feet and a maximum GVW of 60,000 pounds (including dump trucks and concrete mixers), and all tractor-trailer and semitrailer combinations with a maximum length of 55 feet and a maximum GVW of 80,000 pounds.”

Jacksonville: A truck is defined as “any motor vehicle with an actual scale weight in pounds with complete catalog equipment of more than 5,000 pounds, which is registered on the basis of gross vehicle weight in accordance with Florida Statutes § 320.08(4), and which is designed or used for the carriage of goods or designed or equipped with a connecting device for the purpose of drawing a trailer that is attached or coupled thereto by means of such connecting device and includes any such motor vehicle to which has been added a cabinet box, a platform, a rack, or other equipment for the purpose of carrying goods other than the personal effects of the passengers.”¹

Sarasota: Trucks are defined very vaguely in Sarasota, as “any vehicle that transports more than one ton of goods or materials.”

¹ Jacksonville Municipal Code, <http://www.municode.com/resources/gateway.asp?pid=12174&sid=9>

3.4.5 Federal Definition

The Federal Motor Carrier Safety Administration (FMCSA) defines a commercial motor vehicle² as “any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property when the vehicle:

- Has a gross vehicle weight rating or gross combination weight rating, or gross vehicle weight or gross combination weight, whichever is greater, of 10,001 pounds, or more; or
- Is designed or used to transport more than 8 passengers (including the driver) for compensation; or
- Is designed or used to transport more than 15 passengers, including the driver, and is not used to transport passengers for compensation; or
- Is used in transporting material found by the Secretary of Transportation to be hazardous under 49 U.S.C. 5103 and transported in a quantity requiring placarding under regulations prescribed by the Secretary under 49 CFR, subtitle B, chapter I, subchapter C.

3.4.6 State Definition

The Florida Department of Transportation defines a commercial motor vehicle (CMV) as: any self-propelled or towed vehicle used on the public highways in commerce to transport passengers or cargo, if such vehicle:

- Has a gross vehicle weight rating of 10,000 pounds or more;
- Is designed to transport more than 15 passengers, including the driver; or
- Is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act, as amended (49 U.S.C. ss. 1801 et seq.).

A summary and comparison of the various federal, state and local definitions is provided in the following table.

² FMCA Definition

<http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/fmcsrruletext.asp?chunkKey=0901633480023892>

Table 3.3 – Comparison of Truck Definitions

Criteria	Federal (commercial vehicle)	State of Florida	Tampa (current)	Hillsborough County	St. Petersburg (heavy trucks)	Jacksonville
Purpose	Any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport property	Primarily used for the transportation of property.	Transportation of materials or property	All non-passenger combination vehicles	Not specified	Designed or used for carriage of goods other than the personal effects of the passengers
Length	Not specified	Not specified	Not specified	Not specified	Up to 40 feet (single) Up to 55 feet (combination)	Not specified
Vehicle Weight	10,001 lb. or more	10,000 lb. or more	Not specified	Not specified	60,000 lb. max (single-unit, 80,000 lb. max (combination)	5,000 lb. or more (actual scale weight)
Capacity	Not specified	Not specified	1 ton or more	Not specified	Not specified	Not specified
Axles	Not specified	Not specified	Not specified	3 or more	Multiple axles	Not specified
Other	Any vehicle used to transport regulated hazardous materials					“registered on the basis of gross vehicle weight in accordance with Florida statutes §320.08(4)”

3.4.7 National Network Access

The Federal Motor Carrier Safety Administration (FMCSA) through regulation 356 provisions³, has requirements that mandate access to the National Network (NN) of highways that are applicable to many roads in Florida. States are required to allow commercial motor vehicles (CMV's) that do not exceed Federal maximum width and minimum length limits to have reasonable access between the NN and terminals and facilities for food, fuel, repairs, and rest. Terminals are defined as any location where freight originates, terminates, or is handled in the transportation process. Access must be allowed up to one mile from the NN by the most reasonable and practicable safe route. For access to terminal and service facilities beyond one mile from the NN, the route may be requested to be added to the NN from the State. Access must be granted to the NN, and is automatically granted if not acted upon within 90 days. If access is granted to one vehicle type, the grant applies to all vehicles of the same type, regardless of carrier.

The Florida Department of Transportation, Motor Carrier Compliance Office (MCCO), and the Federal Motor Carrier Safety Administration (FMCSA) have implemented a Motor Carrier Registration Program for Interstate and Intrastate motor carriers. By law, companies are required to obtain a USDOT or FDOT number and to display that number on all commercial motor vehicles (CMVs). However, there are some exemptions for intrastate operations. After a company receives their DOT number, it must be affixed to both sides of the power unit in a color contrasting with the background of the vehicle and the numbers must be large enough to be readable fifty feet from the vehicle.

The federal truck definition is important because it applies to the National Network (NN) of Highways, as well as to access routes that feed the NN. Many state highways in Florida are part of the NN. For these routes, only the federal definition is applicable, although state and local municipal regulations on roads outside of the NN can be more or less restrictive

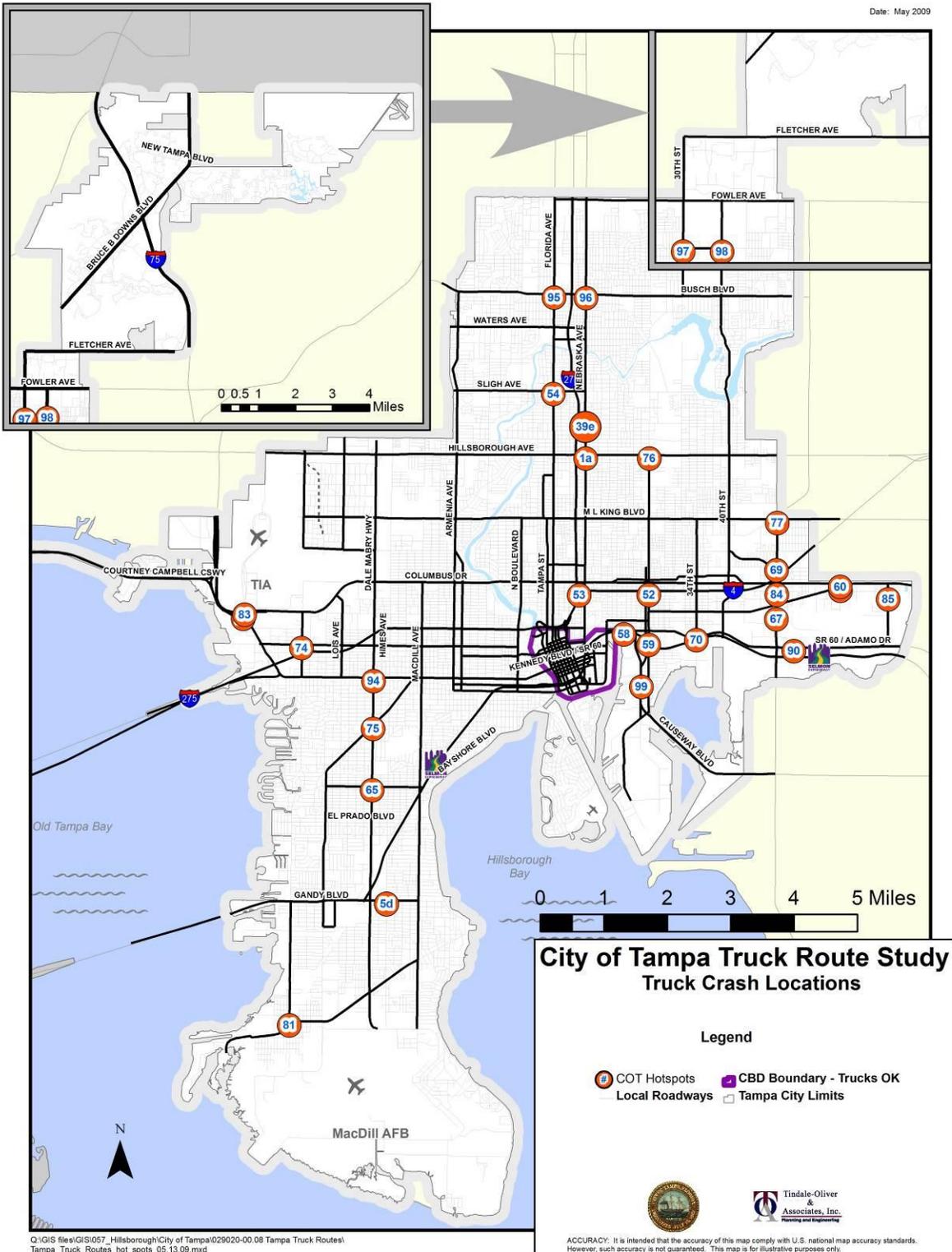
Federal truck size and weight regulations that apply to design of Interstate Highways and to elements of the federal highway system defined as the "National Network" to support freight movement can be summarized as follows:

- Minimum width of 102 inches (8'-6")
- Minimum length of 48 feet on a semi-trailer
- Minimum of 28 feet for either trailer of a twin trailer combination
- States may not impose an overall length limit on a tractor-semitrailer or tractor-semitrailer-trailer combination regardless of the length of the semitrailer or trailer.
- There is no federal regulation regarding vehicle height

³ Part 356: Motor Carrier Routing Regulations: <http://www.fmcsa.dot.gov/rules-regulations/administration/fmcsr/FmcsrGuideDetails.asp?menukey=356>

Map 3-12 – Hot Spots Map

Date: May 2009



Q:\GIS file\GIS\057_Hillsborough\City of Tampa\029020-00.08 Tampa Truck Routes\ Tampa_Truck_Routes_hot_spots_05.13.09.mxd

3.4.8 Stakeholder Input on Truck Definition

In the process of the City of Tampa's effort to review truck routes in the city, a series of public meetings was held. Input was received from interested stakeholders in impacted communities, trucking industry representatives, city departments, and law enforcement representatives. Public and stakeholder comments that referred to truck definitions are discussed here with further detail in the public involvement section of this report.

3.4.9 Law Enforcement Comments

Representatives from FDOT MCCO, Hillsborough County Sheriffs Office and The City of Tampa Police department had the following comments related to truck route enforcement;

- The truck definition is distinctly different from the perspective of state, county and city officers.
- The FDOT MCCO is generally the responsible agency for truck dimensional enforcement.
- When the local (County or City) agency has a dimensional enforcement issue they generally call the FDOT to handle the issue.
- For local truck route violations the FDOT does not normally get involved.
- Enforcement of local ordinance is difficult due to lack of appropriate charging documents and the inability to quickly establish vehicles rated capacity.
- Some form of "local" citation book for the enforcement of local ordinances, like parking tickets, would help in the enforcement of the truck route system.
- Local enforcement agencies use the State Uniform Citation for violations and it only references Florida Statutes for enforcement. The only applicable violation for the truck routes therefore is F.S.316.074 which reads as follows:

316.074 Obedience to and required traffic control devices.--

- (1) The driver of any vehicle shall obey the instructions of any official traffic control device applicable thereto, placed in accordance with the provisions of this chapter, unless otherwise directed by a police officer, subject to the exceptions granted the driver of an authorized emergency vehicle in this chapter.
- (2) No person shall drive any vehicle from a roadway to another roadway to avoid obeying the indicated traffic control indicated by such traffic control device.
- (3) No provision of this chapter for which official traffic control devices are required shall be enforced against an alleged violator if at the time and place of the alleged violation an official device is not in proper position and sufficiently legible to be seen by an ordinarily observant person. Whenever a

particular section does not state that official traffic control devices are required, such section shall be effective even though no devices are erected or in place.

- (4) Whenever official traffic control devices are placed in position approximately conforming to the requirements of this chapter, such devices shall be presumed to have been so placed by the official act or direction of lawful authority unless the contrary shall be established by competent evidence.
- (5) Any official traffic control device placed pursuant to the provisions of this chapter and purporting to conform to the lawful requirements pertaining to such devices shall be presumed to comply with the requirements of this chapter unless the contrary shall be established by competent evidence.
- (6) A violation of this section is a noncriminal traffic infraction, punishable as a moving violation as provided in chapter 318 (*\$60 fine per F.S.318.18(3)(a)*).

3.4.10 Local Resident Comments

A summary of resident comments relative to definition is below. Comments are further discussed in the Public Involvement section of this report. Resident comments primarily included references to:

- Lack of enforcement
- Noise
- Damage to roads and tree canopies
- Truck definition should not allow trucks over four tires

Two comments received via email specifically addressed the City's truck definition. Both comments were concerned with truck traffic on Bayshore Boulevard. One commenter expressed a concern that only the state definition could be enforced. The other commenter expressed a concern about differences between the county and city definitions. The commenter expressed a hope that the differences could be rectified so that there was no distinction between the two, but explicitly requested that the City definition not remove vehicles with only two axles from the truck definition, which the commenter felt would result in more truck traffic through the neighborhoods than allowed by the current definition.

3.4.11 Truck Attributes

As a basis of comparison of what vehicles may be considered a truck by different users a table was developed that depicts different types of vehicles and an assessment of various attributes that are generally considered attributes of truck. By using this analysis the team was able to evaluate the impacts that a vehicles attributes would have relative to a proposed updated truck definition.

Truck Defined by Attributes of Type of Vehicle									
Type of Vehicle	Three or More Axles	Greater Than One Ton Capacity	Greater than 26,000lb GVW	Commercial Markings	Dimensions (H,W,L)	Noise	Vibration	Exhaust	Hazardous Material
Passenger Car	No	No	No	No	No	No	No	No	No
Passenger Vehicle w/ Trailer	Yes	No	No	No	Yes	No	No	No	No
"Mary Kay" Car	No	No	No	Yes	No	No	No	No	No
Large SUV	No	No	No	Yes, if marked	No	Maybe	No	No	No
Lawn Maintenance	No	No	No	Yes	Yes	No	No	Yes	No
Pool Cleaner	No	No	No	Yes	No	No	No	No	Yes
Large Pick-up	No	No	No	Yes, if marked	No	Maybe	No	No	No
Pick-up w/ Dual Rear Wheels	No	No	No	Yes, if marked	No	Maybe	No	No	No
Ford F-350 or similar	No	No	No	Yes, if marked	No	Maybe	No	No	No
Panel Van	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Step Van	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Tow-Truck	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Box Truck/Flat Bed	No	Yes	Yes	Yes	Yes	No	Yes	Yes	No
U-Haul, Penske, or similar	No	Yes	Yes	Yes	Yes	No	Yes	No	No
Garbage truck	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Dump Truck	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No

3.5 Public Involvement

Solicitation of comments and input from the public and other stakeholders is paramount to open government and is necessary to comply with comprehensive plan policy 44.1.8 relating to the truck route study. In order to best prepare the study team with sources of available information it was decided to first hold a stakeholder meeting including public officials from multiple agencies. This group of individuals represents agencies that had direct involvement in previous

studies and/or represented the transportation concerns of their respective agency. Invited groups included:

- City of Tampa Traffic Department
- City of Tampa Police Department
- City of Tampa Legal Department
- City of Tampa Fire Department
- City of Tampa Zoning Department
- City of Tampa Parks Department
- City of Tampa Real Estate Department
- Hillsborough County Traffic Department
- Hillsborough County Environmental Commission
- Hillsborough County Sheriff's Department
- Hillsborough County MPO
- Hillsborough County Port Authority
- Hillsborough County Aviation Authority
- Florida Department of Transportation
- Downtown Partnership
- Tampa Homeowners, An Association of Neighborhoods (THAN)

As part of the City of Tampa Truck Route Update Study a comprehensive public involvement program was developed to solicit comments from as wide a range of sources as reasonable for the level of effort expected to complete the study. The public involvement activities included the following:

- Freight carrier interviews during June 2009
- First stakeholder meeting held on July 1, 2009
- First public input meeting held on July 30, 2009
- One coordination meeting held on December 8, 2009
- Second combination stakeholder/public meeting held on February 24, 2010
- Continuous e-mail commenting
- City Council Workshop January 27, 2011
- Public Hearing Ordinance Approved at First Reading February 17, 2011
- Public Hearing Ordinance adopted at Second Reading on March 3, 2011

3.5.1 Freight Carrier Interviews

As part of the scope of work of the City of Tampa Truck Route Study, in-person interviews were conducted with representatives of motor carriers to identify the concerns and priorities of truck operating companies in the Tampa area. The interviews were conducted over several days in June 2009. Each of the motor carriers interviewed operates on a regular basis along the established truck routes in the process of meeting its daily business needs. By carrier type, the eight (8) interviewed carriers included the following:

- Five less-than-truckload (LTL) carriers,
- One truckload (TL) carrier,
- One tanker carrier (dry and liquid), and
- One drayage carrier.

All respondents were requested to discuss the functionality of the current City truck route network in the context of current economic conditions as well as those of one year previous. This was done to account for the possibility of significant variations based on economic changes.

Interview Guide and Methodology

Each interview was conducted with the assurance of anonymity of both the company and the representative. This practice ensured that carrier representatives could speak freely and candidly about operating conditions. It also ensured that the interviewer could obtain very detailed route information without jeopardizing the carrier’s proprietary information.

To provide a framework for the discussion and to ensure that comparable questions were asked of each participating carrier, a discussion guide was developed in coordination with the client. To expedite the interview process and to make the best use of available time, basic carrier information regarding fleet size and terminal locations was researched prior to the interviews.

At the start of the interview, the respondents were asked about their knowledge of the truck route network. They were also asked to evaluate their drivers’ familiarity with the truck route network. To further provide accurate and practical knowledge of the truck flow pattern through the City of Tampa, each respondent was asked to accept a copy of the truck route map for the drivers’ break room. The truck route map was larger than the map used during the interview, allowing drivers to note specific areas or general comments on the system before and at the conclusion of their workday. To date, subsequent to several requests, no maps have been returned for review and inclusion in this report.

Interview Responses

This section provides a summary of information obtained from the carrier interviews. Firms interviewed were from the following list of candidates and for the sake of anonymity specific comments are not associated with a specific carrier:

- Benton Express
- Central Transport International
- Comcar
- Evans Delivery
- FedEx Freight
- J W Watson Trucking
- McKenzie Tank Lines
- Mason Dixon Intermodal
- Milan Express
- Old Dominion Freight Lines
- Publix
- R&L Carriers
- Southeastern
- Southern Freight
- UPS
- YRC

Motor Carrier Profiles

The physical location of the motor carrier servicing the City of Tampa is determined by three primary considerations:

- Facility or site availability
- Modeled locations of expected customer base
- Business model, pertinent to planned operating distances compared to facility density

Of the carriers interviewed, six were located either within the Tampa city limits or in adjoining jurisdictions. Two carriers that perform pick-up and delivery functions in the area were engaged through phone interview and faxed survey, as their locations were more than 30 miles from the City. The size of the Tampa freight market meant that each interviewee had only one terminal in the area. The number of drivers operating from each terminal ranged from under ten drivers to over 150, with the median count of 68.

Carrier hours of operation are typically driven by customer needs or port facility operating hours. Trucks typically begin operating between 4:00 a.m. and 10:00 a.m. Daily operation typically ends between 3:00 p.m. and 10:00 p.m., subject to customer demands and hours of service requirements. The primary driving operational window was between 8:30 a.m. and 6:30 p.m.

The interviewed carriers typically have over four hundred drivers operating daily. Equipment configurations were primarily combination vehicles consisting of class 8 tractors with trailing equipment between 40 and 53 feet. Within the LTL classification, single unit trucks (i.e., straight trucks) are used on a limited basis. Hazardous material transit was captured as a component of the tanker fleet interview. Figure 3.1 shows diagrams for the typical truck configuration used in regular operations. Table 3.4 shows the type of trucking equipment used by the carriers interviewed for the Tampa Truck Route Study.

Figure 3-5: Example Combination Vehicles Used in Regular Operation

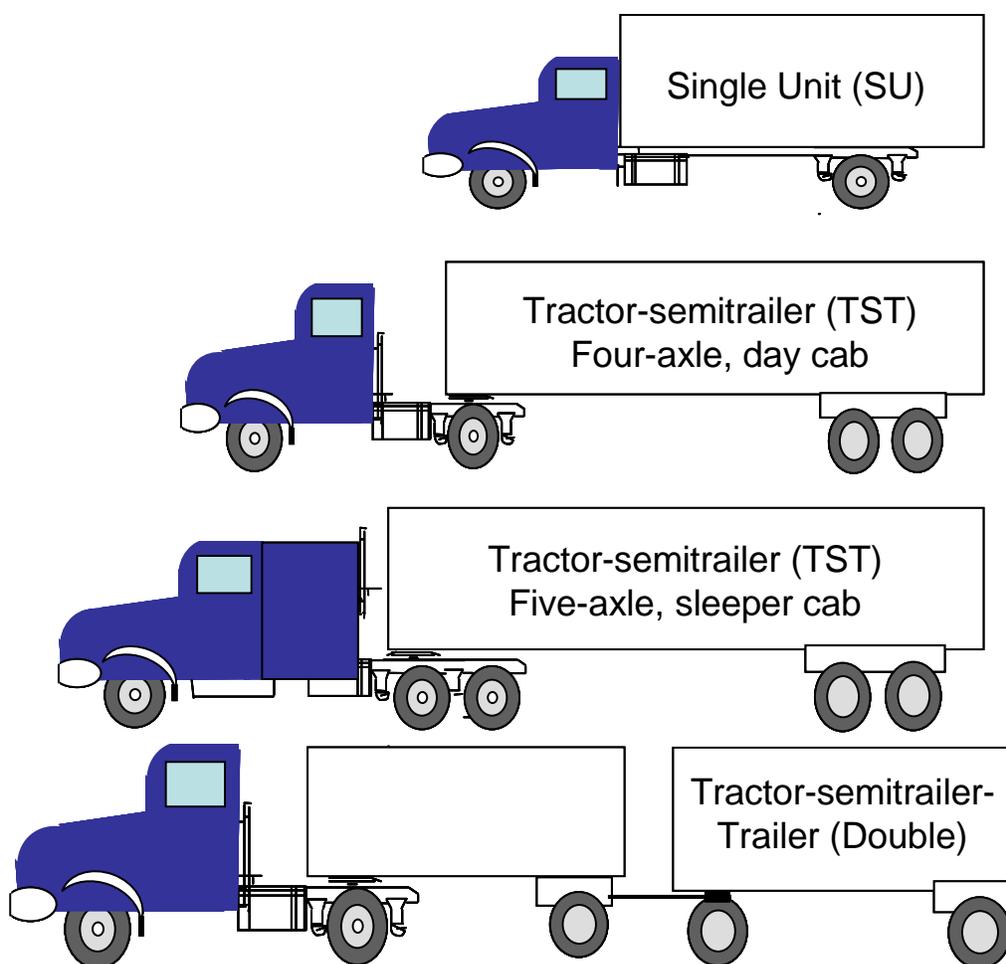


Table 3.4 – Types of Combination Vehicles Used by Carriers Interview

Class	Type	Axle Count	Length
Tractors	Day cab	Single	10-15 feet
	Day cab	Twin	12-18 feet
	Sleeper cab	Twin	17-22 feet
Trailers	Dry vans	Single	27-40 feet
	Dry vans	Twin	45-53 feet
	Tanker	Twin	45 feet

Source: Wilbur Smith Associates

The wide range in the number of tractors used is directly attributable to the labor force classification used by the company. Owner-operators typically used the longer sleeper cabs, while employee drivers were assigned the shorter day cab tractors. A number of factors motivate companies to operate smaller tractors, including work schedules, fuel economy considerations, and lower capital and maintenance costs. Additionally, surveyed operators typically assign looping routes that originate and conclude at the same location. Sleeper cabs are more likely used for occasional longer distance routes and assignments that may not terminate at the same location from which they began. Sleepers may also be needed for situations where a driver is not available to continue a dispatch beyond that distance allowed within a single tour of duty under current Hours of Service Drive Time regulations. The nomadic nature of owner-operators also contributes to the use of sleeper cabs.

Other equipment types identified included single unit straight trucks (from 17 to 28 feet in length), modified tankers that can accommodate dry and liquid commodities (40 to 45 feet) and chassis to accommodate container movement, 20-40 feet.

Coverage Area

Carrier local terminal coverage areas generally extend beyond the City of Tampa to reach other port facilities and industrial facilities throughout Florida. In concurrence with the scope of the interview, terminal coverage is defined in conjunction with neighboring facilities and their assigned coverage areas. Aggregated descriptions define the area as extending to Brooksville to the north, Lakeland to the east, and Sarasota to the south. Terminals that provide coverage to the Tampa area from outside the Tampa area have coverage areas extending north to Ocala and south to Fort Myers.

Assigned coverage greatly influences the conduct of operations along City of Tampa roadways. In each situation, a finite set of drivers have sole responsibilities within the City, but others, providing additional support, enter and exit the truck route network based on previous or next location outside the City. This is in accordance with the multi-jurisdictional nature of freight and goods movement. Where the expectation of the interview process was to evaluate the City's truck route network, the actual usage, and the success of those routes to satisfy efficient freight movement has a strong dependency on the ability to coordinate movement with adjacent jurisdictions. Observations and comments provided may incorporate roadways as they exit the City truck route network, where they provide immediate considerations to the system.

Seasonal variation of capacity in each carrier classification results from fluctuation in holiday demand, tourist activity, and varying inventory needs for specific commodities. A related concern for one interviewee was the flexibility in the need for transit reliability. For most carriers, the predictability of travel time from pick-up to delivery was a prime performance measure, but one interviewee said that his delivery performance was evaluated on his ability to

provide delivery of an aggregate quantity within a specified time frame. This allowed the carrier to gather or dissipate equipment and driver resources assigned to that primary customer based on the demands of other customers and schedules.

Truck Route Network

Respondents were generally aware of the City of Tampa truck route network. However, five of the carriers interviewed were unable to provide details about routes in the network or the criteria used to determine if a street was accessible to trucks. Each interviewee noted that local drivers were more likely to be aware of routes as a result of negative reinforcement (i.e. ticketing). The truck route map, upon presentation, had not been viewed previous to the interview by any company representative. Respondents did offer a number of recommendations to improve the map, including greater use of roadway labels and the use of a color other than red to show truck routes.

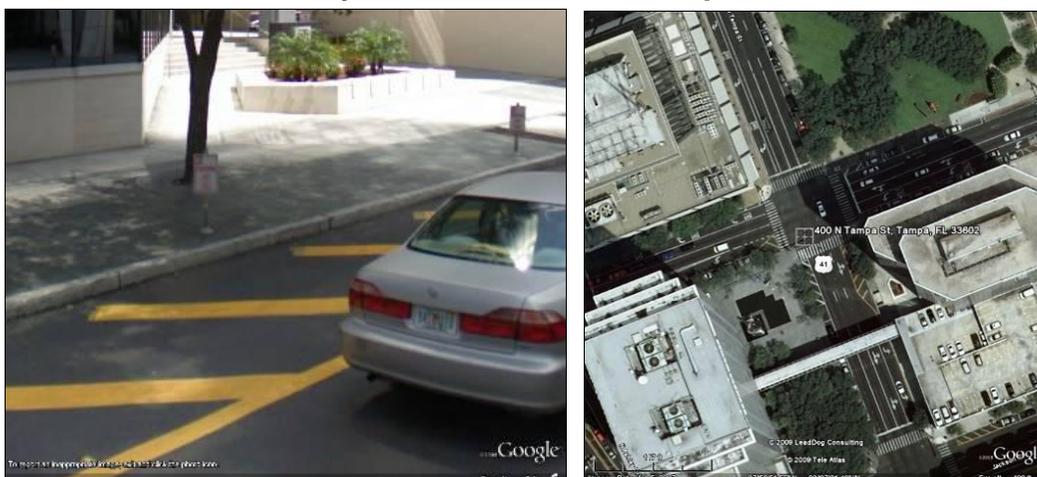
Initial comments about the network were consistently negative; respondents described the network as “tight,” “not truck friendly,” and “infrastructure has been outgrown.” Upon further questioning, it became apparent that these general comments were reflective of the age of the network and the common concern that carrier equipment had increased in size, resulting in a need for a more extensive network that could better handle larger trucks.

Removal of routes from the system was not viewed positively. One interviewee felt that the “removal of any roads would put trucks onto worse roads.” All respondents felt that the truck route network shown on the map, in conjunction with the ability to access a roadway for a manifested stop, fulfilled the basic requirements for goods movement.

Roadways

The downtown area truck network was generally identified by respondents as the most difficult part of the Tampa area to satisfy “peddle” functions (pick-up and delivery). A lack of loading and unloading zones combined with strict enforcement of codes restricting the parking of trucks in traffic lanes make loading and unloading particularly difficult. As an example, a driver attempting to deliver a shipment to 400 N. Tampa Street (located in zip code 33602) was unable to complete the delivery due to lack of a loading/unloading zone and restricted curb parking. Figure 3-6 illustrates the area’s restrictions.

Figure 3-6: Illustrative delivery location at 400 N. Tampa Street



Source: Google Earth

One area frequently mentioned by interviewees as an area of concern was South Tampa, located between Kennedy Boulevard (State Route 60) and MacDill Air Force Base was unanimously identified as unfriendly to trucks. Primarily residential, this area is not exposed to heavy truck traffic, but requires access for delivery of goods described as “residential” by those interviewed. Access is also needed to provide inventory and supplies to local businesses. A carrier who operates in this area daily noted “restricted” routes hindered the efficiency of his fleet. The interviewee also described concerns with equipment damage, resulting from low overhead and hanging branches, as the dominant concern. A secondary concern was a lack of setback between the local businesses buildings and the roadway. This led to safety and delay concerns for other vehicles as trucks maneuver to access the delivery or pick-up. Often, trucks simply park in the roadway while performing the delivery. Where possible, equipment selection was altered to place smaller trucks and trailers into this area, but not all carriers interviewed had alternative equipment available.

Another area of concern is the north south route through Ybor City. Access to the port facilities is primarily via 21st and 22nd Streets. These are opposing one-way routes. Though this is the predominant drayage and access route, respondents also noted pavement conditions and geographical concerns. Vehicles operating on this access route, particularly on 22nd street, egress from the port, were observed as meeting gross vehicle weight (GVW) restrictions but still generating unsafe indentations and causing pavement displacement and collapse. Ground observation suggests that a significant volume of truck traffic exits 22nd street before it enters Ybor City, although numerous trucks traverse the area, as shown in Figure 3-7. An alternative route, using Causeway Boulevard, is possible for trucks entering the city from the southeast. One respondent said that Causeway Boulevard was a possible alternative, but that removal of 21st and 22nd Streets from the truck route network would add approximately forty-five minutes to each trip to the area.

Figure 3-7: Intersection 7th Avenue and 22nd Street, Ybor City



Source: Google

Interstate 275 serves east-west traffic in Tampa, and was generally identified as a highly congested roadway. Construction along the route was noted as a partial cause of congestion, but congestion also resulted from high volumes of passenger and freight traffic. This congestion generated collateral concerns, as trucks attempted to avoid the route diverting to parallel secondary roadways. East Columbus Drive was identified as the most preferred alternative, but was also described by carriers as a poor choice due to residential areas, under-designed roadway, and traffic signal delays.

Adamo Drive (SR-60) was noted as a heavily-used east-west route with satisfactory design. The roadway provides access to the downtown area.

Signage

Signage was generally described as adequate. However, respondents noted placement problems involving the relative location of signage and the roadway feature to which the signage refers. It was observed that signage provides sufficient understanding of the roadway feature, but did not universally provide sufficient time for the driver to react. The presence of congestion in an area exacerbates this need, as additional time is necessary to negotiate the equipment into the proper lane. This condition was felt to be most noticed by drivers new to the area. All respondents said that the high level of experience of their drivers and their drivers' familiarity with the Tampa area made this less of a concern.

Geometrics

Geometric concerns generally resulted from equipment size increases since the time of initial construction of the road infrastructure. Greater numbers of pick-ups and deliveries result in higher driver productivity, but require larger equipment. Placement of a larger trailer on a given route offers a greater delivery and pick-up capacity and reduces manpower requirements to service the equivalent number of freight generators. Larger equipment requires a larger turning radius and also requires adequate lane width to complete the turn. Traversing intersections was

generally described as a concern throughout the network. Specific intersections with performance concerns included the following:

- SR-60 at 39th Street: This intersection has delays resulting from heavy congestion, signal timing problems, and interaction with at-grade rail crossing.
- Broadway at 50th Street: This intersection has heavy congestion due to a short traffic signal cycle length for 7th Avenue/Broadway access onto 50th Street. Geometric issues were observed during transit to an interview where a truck, moving southbound on 50th Street, attempted to turn east onto 7th Avenue. The driver was forced to allow the adjacent turn lane to clear before completing the maneuver. This condition was mentioned during two different interviews without being prompted by this illustration.

Miscellaneous

Periodic construction impacts the ability to use the routes designated within the system. Greater knowledge, accompanied by a communication plan to more effectively disseminate the information throughout the carrier base, would positively affect the resulting diversion. The desire to comply with the system was stated by the respondents, provided that more education and awareness was available.

Truck Route System Ratings

At the conclusion of each interview, respondents were asked to grade four specific aspects of the truck route network on a scale of 1 to 10, with 1 identified as “poor” and 10 identified as “excellent.” Respondents’ scores for safety, ease of maneuverability, and infrastructure condition generally ranged from 4 to 5, with one interviewee commenting that infrastructure condition was improving. Signage scores were somewhat lower than the other three categories.

3.5.2 Stakeholder Meeting – July 1, 2009

On July 1, 2009, the first stakeholder meeting was held in the City of Tampa at Blake High School. The attendance list, handouts, and summary are included in Appendix C1.

The meeting began with a project overview and PowerPoint presentation of the project scope and data collection to date. Handouts of maps and comment forms were provided to solicit written input, and there were project maps posted around the room perimeter for easy reference. Stakeholders were informed that their input was needed to:

- Update the City’s definition of a “regulated truck”,

- Facilitate discussion on central business district and hazardous materials issues,
- Make recommendations for modifications to the existing truck route maps and positive signage,
- Balance residential area needs,
- Make recommendations for revisions to city codes, ordinances, and technical standards, and
- Facilitate discussion about the potential use of a web/interactive routing applications.

Differences in existing regulated trucking definitions between the state, county, and city were discussed, referencing handout materials, and requesting feedback from stakeholders on ways to make regulations, clear, easy, and enforceable. A PowerPoint presentation followed.

A number of questions and discussions emerged during and after the presentation and are summarized below:

Truck Definition and Enforcement Issues – Questions arose as to whether Hillsborough County has an ordinance for regulation of truck travel, and County and City police representatives offered their input on this matter. Although the County does have an ordinance in place, City Police currently use the state definition of a truck under Florida Statutes 316. The state definition of a truck defines a commercial truck as anything over 26,000 lbs and the only enforceable avenue currently available for officers is a “violation of a traffic control device”. This limits enforcement capability. A number of stakeholders offered comment on the issue of enforceability:

- The City’s legal department discussed developing a city code amendment to allow fines to be levied. However clarification is still needed on visibility definitions as well as how to deal with legal requirements for providing notice to violators and how they will be offered opportunity to cure violations. Comment was made that the disadvantage of using city codes is that it limits enforceability jurisdictionally.
- The County’s definition of a truck as any vehicle with three or more axles allows officers the easiest definition of a truck and can be quantified visually.
- The County has developed a charging document with an associated fine, much like a parking citation, which allows officers the ability to utilize either state or county regulations. There may still be an issue with enforceability for unattended vehicles, but this may be the best opportunity for enforcement capability.
- The “shortest route possible” language is difficult to enforce.

Education and Outreach – Education for truckers regarding where existing routes are located is also an issue. The project team took this opportunity to discuss the potential of this project to incorporate a web application for routing, positive truck signage, and GPS linkages. This would allow for a systematic approach for truck routing information,

making it easier to educate dispatchers on existing routes. In addition, maps and officers should be made available to trucking companies for educational outreach.

Central Business District (CBD) and Environmental Issues – Concern was expressed that the current definition of the CBD is too expansive and allows all downtown streets to be used by trucks. Discussion ensued regarding the CBD:

- Concern was expressed about truck access to the CBD and recent residential development as well as pedestrian and truck interactions.
- A question arose as to whether this is the proper study to reevaluate the definition of the CBD. Project team members stated that this study will not reevaluate the CBD definition but certainly will consider additions and deletions to the truck route system, including routes in the CBD.
- Significant rezoning has changed the character of the CBD since the first truck route map was developed, and issues regarding available setbacks and hazardous materials issues should be considered in this study.
- The City's project management requested that the Community Redevelopment Agency (CRA) provide specific routes to be reviewed since viable alternatives to existing routes must be determined. In addition, CRA is to provide project management with the definition of the CBD to ensure that it is consistent with the study.
- There are destinations for trucks in downtown that require truck access, and this will be a difficult area to enforce.
- Some concern was expressed about the potential for Tampa to become a non-attainment area in the near future, and related air quality issues.
- Some discussion ensued regarding idling time prohibitions as well, and whether the City has a policy in effect to deal with this issue. There is one in place for the solid waste division, and this is a city ordinance.

Positive Signage – It was noted that St. Petersburg adopted an aggressive signage policy for trucks, and not only did violations decrease but citizen complaints also decreased significantly.

Specific Areas of Interest – The team discussed the specific areas of interest to be reviewed as part of the study, and a number of comments were made about these and other specific areas of concern:

- Bayshore Boulevard – Opinion stated that this road is not suitable for truck traffic presenting an issue for surrounding residential development but is being used for deliveries. The project team stated this road is not part of the existing truck route system and would not be considered for addition. Enforcement will be needed for

regulating truck traffic away from this area since trucks are using this roadway as the most direct route.

- Westshore Boulevard –The representative for THAN, commented that there is a concern that Westshore Boulevard is being used by trucks as a reliever for Dale Mabry.
- Air Cargo Road – This road is to be dedicated to the City for airport property, and should be included on the truck route.
- Swann Avenue – The land use along this roadway has changed to light commercial and this has been noted as an area of interest, particularly east of Dale Mabry.
- East and west routes south of Kennedy – East and west routes are needed. Although a number of areas here are residential, physical considerations and accessibility will need to be reviewed. Platt or Zack Street was mentioned as part of this review.
- 21st and 22nd Streets – This area of Ybor may need to be reevaluated for changes due to the I-4 Connector.
- Polk Street through Downtown – Concern was expressed that this is not a good route. Active railroad tracks run along this street, and present loading and hazardous materials issues; look to make this a truck restrictive area, apply time of day restrictions, and/or provide additional signage. Currently, city representatives are reviewing that street to make it a two-way road, and will consider these issues in its review as well.

In closing, stakeholders were informed about future scheduling for this project. A public meeting will be held before recommendations are final in order to collect public comments. An additional stakeholder meeting will be scheduled in early 2010 to provide stakeholders with an opportunity to review and comment on updated maps and findings from this study.

3.5.3 Public Input Meeting July 31, 2009

The public input meeting was held in the City of Tampa's Jan Platt Library on July 31, 2009. The attendees included twenty nine (29) citizens plus the project team members. The attendance list, handouts and summary are included in this report's Appendix C2.

City project management staff provided introductions to the audience, a brief overview of available boards, and discussed the contents of handouts provided at the meeting. The audience was informed that the study is still in the data collection phase, and that input from the public as well as identified stakeholders is being requested through use of comment forms and email solicitation with appropriate contact information provided in the handouts.

The meeting was similar to the stakeholder meeting and began with a project overview and PowerPoint presentation of the project scope and data collection to date. It was explained that

the study is an effort to update to the existing City Truck Route Map and associated regulations, and will consider city as well as relevant connected county roads. It was a casual environment and very interactive. Despite the heavy rain outside the meeting went very well with all but a few staying until end.

The study objectives were discussed as at the previous stakeholder meeting:

- Update the City's truck definition if needed
- Recommended potential modifications to the existing truck route maps
- "Positive Guidance" and "No Truck" signage evaluation
- Potential use of a web/interactive routing application
- Possible revisions to City Codes/Ordinances.

Participants were made aware of differences in existing regulated trucking definitions between the state, county, and city, and how this definition impacts the ability of police officers to enforce violators who are utilizing roadways not included as part of the City's truck route system. The team provided details on signage issues and how this study will evaluate existing as well as needed signage. In addition, participants were provided with an overview of how innovative web/interactive routing applications might work to assist truckers and direct them to locations along the approved truck route system. Finally, participants were informed that the next steps in this study will involve identifying truck route adjustments, preparing an updated truck definition, updating the truck route map, and preparing recommendations for updated ordinance revisions. A future meeting will occur in early 2010 to present these findings and recommendations.

A number of questions and comments emerged during and after the presentation and are summarized below:

- Gandy Sunbay South Association Representative – Is this study part of a federal or state mandate? What will be the cost? Is it the appropriate time to spend money in an economically difficult time and on a truck study when routes already exist? The team responded that this study is not part of a federal or state mandate, however the existing routes have not been updated for 20 years and there have been corridor changes since this time. Approximately \$200,000 in transportation specific funding for this project was identified in a prior year based on administrative requests to revisit citizen concerns and development changes over the last 20 years.
- Port Tampa Resident – For truck routes that must go through residential areas there should be signage indicating time of day restrictions and/or no engine breaking. The possible changes to the existing ordinance should reflect this to allow for proper enforcement. This issue is threatening the economic vitality of historic districts such as Port Tampa.
- Bayshore Home Owners Association Representative – This commenter stated that as a resident, he has never seen a truck stopped and cited on Bayshore

Boulevard. He has observed Bayshore Boulevard between 7:30-9:30 a.m. and 9:30-11:30 a.m. frequently and, during both time frames, he counted at least 35-45 trucks passing. In addition, it was mentioned that there are no signs on Gandy prior to Bayshore Boulevard and that Bay to Bay has little signage as well. Police have commented that enforcement of the existing signage is difficult. It was suggested that there be training for law enforcement to understand the truck definition and how to effectively enforce violators. In addition to the noise and vibration issues, there are safety concerns here as well. The roads on Bayshore Boulevard are narrow, and present bicycle and pedestrian issues. Please offer relief to Bayshore Boulevard.

- Bayshore Council – On Davis Island, there is no visible signage for Bayshore until the truck is already committed to this route. By the time the driver realizes this is not the proper direction and is made aware by signage, there is no room to turn around.
- Davis Island Resident – Where signage does exist on Davis Island, it is confusing, inconsistent, and often misleading for truckers unfamiliar with the area. Simple, understandable signage is needed in this area. Enforcement in this area is non-existent, and this is a safety concern for the area. Residents are attempting to make this area more pedestrian friendly (a scenic attractor) and not a branch of the cross-town expressway.
- Virginia Park Representative – We recognize the issues of Bayshore, and would like to ensure that improvements to the routes are not selective. Improvements should be encompassing of all area needs, and one area should not suffer to alleviate issues in another area. Flooding issues and low hanging canopies cause rerouting and unnecessary trips into residential areas. These issues should be investigated and remedied first. In addition, the turning radius on Bay to Bay and MacDill is destroying the sidewalk. From MacDill to Kennedy, there are turning lanes but no turning lights. This is problematic.
- Resident – Is there a HAZMAT alternative route through residential areas? Are representatives from MacDill Air Force Base included in the stakeholder group? The team responded that currently, the only HAZMAT restrictions are in the downtown area, but the study team will review this concern. Representatives from the Air Force Base were invited to the stakeholder meeting, but did not attend the first meeting.
- Ybor Historic District Representative – Our residents are eagerly awaiting the cross-town connector. Warner Donaldson Truck Company currently drives right through the center of town. This is a 24/7 operation, and is a main safety concern for residents. In particular, truckers not familiar with the area, and who are looking for the interstate, end up in residential areas that cannot support trucks. The team responded that City is looking at web-based routing that may assist with this type of concern.

- Bayshore Beautiful HOA Representative – The area of MacDill Avenue to Gandy is an area of concern. This is a heavily residential area, and has high speeds and a low canopy. Time of day restrictions may be a viable solution for this area. In addition, MacDill was originally made a truck route as an entrance to MacDill Air Force Base. This base is now closed, and the road may need to be reevaluated to determine whether it should still be included as part of the truck route.
- Resident – South Westshore Boulevard is an exclusively residential, narrow, winding road. It is being used by commercial traffic as a shortcut from St. Petersburg to the airport. There should be disincentives and better signage prior to approach. In addition to these measures, accessibility should be made more difficult through signage (e.g. no trucks in left lane, no left turn signs). In addition, the current system of communicating complaints to the City should be reviewed. Currently, the system is completely automated and there is no way to know that complaints are being relayed to staff besides an automated form letter.
- Resident of Swann Avenue (East of Henderson) – There is heavy overnight truck traffic from Henderson to MacDill even though there are no commercial destinations in the area. There are some changing land uses on Swann Avenue, but not necessarily ones that would translate to it becoming a truck route. There is concern that this might be turned into a truck route.
- Resident – If new truck routes are determined, will there be a meeting to go over these new routes? The team responded yes, this is why public involvement was initiated early in the study process. There is another meeting planned around the end of the year or beginning of next year.
- Parkland Estates Resident – Signage on Swann Avenue regarding this meeting was extremely hard to see. The visual quality of the signage would make it easier for residents to be made aware of the meeting. The team responded that the City has taken several measures to get the word out to the public, including a mass email to the neighborhoods, an article in the newspaper, a radio interview, and letters to all neighborhood presidents.
- Parkland Estates Resident – Swann Avenue beyond MacDill and Howard still floods and this is a major concern given the location of the hospital in this area. Road maintenance on Swann Avenue is minimal, and the road cannot carry any additional traffic.
- Resident – We would like to see more proactive enforcement of the existing truck route network.
- Bayside West Association Representative – There is flooding on West Gandy. The team responded that this is a state road, and not considered as part of this study, however the study team will note this issue and work with DOT to balance residential needs.
- West Cleveland Street Resident – There is a need for positive signage on the corner of Westshore and Kennedy. The strip center in this area is attracting trucks.

- Resident – Are you considering making streets with heavy violations approved truck routes? The team responded no, there will be no reward for violations. This study will be evaluating a number of factors; however complaints on routes are not an indicator of truck route candidates. Recommendations and new routes will be available for public comment at the next public meeting.
- Resident – The City should look into the Department of Transportation (DOT) denying access on state roads. Perhaps a cooperative effort between the City and home owners associations could help to achieve this and keep trucks out of residential areas. The team responded that the City will be working with DOT, looking at engineering, and existing neighborhoods and land uses to determine routes that least impact residential areas while ensuring adequate mobility for trucks.

Public Comment Groupings

Stated Concern	Number of Comments
Truck Volume/Speed/Noise and Vibration	26
MacDill Avenue	24
Illegal Truck Traffic, Violations, and Cut-Throughs	13
Safety Concerns	13
Bayshore Boulevard/Scenic Corridor Designation	10
Signage for Truck Routes	9
Public Involvement	8
Damage to Trees, Roads, and Property	8
Enforcement/Truck Definition	8
Ybor Historic District	4
Narrow Residential Streets	4
Westshore Boulevard	3
Trucks Impacting Tourism	2
Hours of Truck Traffic	2
Howard Avenue	2
Interbay Boulevard	2
Palm Drive	2
Report Availability	1
Bay to Bay Boulevard	1
Commerce Street	1
Moody Boulevard	1
Ysabella Avenue	1
<i>Please note that some people submitted comments more than one time.</i>	

Citizens were thanked for their participation and encouraged to submit written comment forms at the end of the meeting or by mail/email.

3.5.4 Stakeholder Coordination Meeting December 8, 2009

A meeting was held on December 8, 2009 at the City of Tampa Police Department conference room with representatives of the City of Tampa Police, City of Tampa legal department, the FDOT, Hillsborough County and the City of Tampa Transportation Department. The meeting was to discuss the logistics and requirements to update the City's codes and establish new enforcement methods.

During this meeting agreed that study was on schedule and sufficient data collection and analysis was completed to proceed with the next public meeting. Attendees, material distributed, and a summary of the discussions is provided in Appendix C3.

3.5.5 Stakeholder/Public Input Meeting February 24, 2010

This Stakeholder/Public input meeting was held in the auditorium of H.B. Plant High School on February 24, 2010. The attendees included seventeen (17) citizens plus the project team members. The attendance list, handouts and summary are included in this report's Appendix C4.

The meeting began with a project overview and PowerPoint presentation of the project and its recommendations. The key recommendations presented were as follows:

- Update to the City's truck definition as essentially any vehicle with 6 tires or more,
- Changes to the "off-route truck driving instructions" were discussed,
- Changes to regulatory/enforcement process,
- Recommended modifications to the existing truck route maps,
- Prohibition of hazardous materials trucking through the Central Business District (CBD),
- "Positive Guidance" and "No Truck" signage evaluation

Most concern was expressed by citizens regarding changes to the "off-route driving instructions", which would allow more travel by trucks on local streets, and continued requests to remove MacDill Avenue from Gandy Blvd. to either Euclid Avenue or to Bay-to-Bay Avenue from the designated truck route system. In addition, a new request to prohibit the use of "engine brakes" on Interbay Avenue west of Manhattan Avenue was expressed.

Citizens were thanked for their participation and encouraged to submit written comment forms at the end of the meeting or by mail/email.

3.6 Truck Route Network Analysis

The update to the Truck Routes in the City of Tampa is based on the analysis of the collected data, public and stakeholder comments, and a technical discriminant analysis. The analysis considered all roads within the City but a limited number of segments stood out, based on the evaluation criteria, as requiring enhanced review for final consideration. At the enhanced level, both internal review and field reviews of the segments were performed to formulate final recommendations.

3.6.1 Functional Classification Review

All interstates and State roadways within the City of Tampa are classified as Principal Arterials (P) and are on the truck route. Most minor arterials (M), some collectors (C) and some neighborhood collectors (NC) are on the truck route while no local (L) roads are on the truck route. All minor arterials that are not on the truck route system were considered for enhanced review, they are:

- Westshore Blvd. from Gandy to Kennedy
- Bayshore Blvd. from Gandy to Kennedy
- Himes Ave. from Cypress to Hillsborough
- New Tampa Blvd. from Highwoods Preserve Parkway to Bruce B. Downs

Numerous collector route segments were also identified for enhanced review. The complete list of routes included for enhanced review is depicted in the ADD/DROP summary table later in this section. Westshore Blvd. (Gandy to Azelee) is a constrained roadway due to physical constraints and community concerns.

3.6.2 Public and Stakeholder Recommendations

Numerous segments were identified for review by public and stakeholder comments as identified in the meeting summaries and included in the enhanced review table. Many of the public comments related to trucks using Westshore Boulevard and Bayshore Boulevard between Gandy Boulevard and Kennedy Boulevard. Both of these road segments are classified as minor arterials, but are not on the designated truck route system. Based on these comments it was agreed to not add these segments to the truck route system, but to address these concerns with signage, education and enforcement.

3.6.3 Discriminant Analysis

The purpose of discriminant analysis is to develop a quantitative procedure that will help decide whether a road segment has characteristics consistent with other truck route road segments, or if it does not. The procedure would be applicable:

- when considering whether a segment should be added to the truck route system
- if the City were challenged to remove a particular road segment on the basis that it is not characteristic of other typical truck route segments.

The procedure involves weighted assignments for characteristics of the road, such as number of lanes, type of land uses adjacent to the road, route continuity, and other variables. These measures are used as independent variables in a linear equation, and the determination of its similarity or difference with other truck route segments is based on the resulting value, or score.

The analytical procedure is called Discriminant Analysis, and it uses data from road segments that are on the truck route system and from segments that are not on the truck route system to create equations that emphasize the differences between the groups of segments.

Some roads are disqualified from the truck route system because of safety concerns, specifically bridges that cannot bear the load of a heavy truck, or where low structures prevent the passage of a truck. After eliminating these segments from the City's truck route system, we then applied the discriminant analysis to generate the following equations, using all variables. Scores are computed, and segments with negative scores are more likely not characteristic of truck routes, and those with positive scores are. The further a score is from zero, the more strongly the characteristics are evidenced. This is a quantitative guide, and not an infallible process.

This method was applied to the existing truck route system. Using all 21 variables, 96 percent of the segments were classified correctly -- a very good rate of success. The method was applied in this analysis to provide guidance in the reconsideration of segments of the designated truck route system.

3.6.4 Enhanced Review Summary

A total of 44 segments were identified for enhanced review. Seven segments were identified for addition/deletion to the truck route system due to construction of new roads and other clear reasons that did not require enhanced review. The results of the enhanced review are depicted in the following ADD/DROP summary spreadsheet.

Enhanced Review Add/Drop Summary

Location Number	On Street	From	To	Func Class	Marit Respons	Exist Road	Date of Count	Daily Volume	Speed Limit	Current Status	ADD/DELETE	NOTES
1	22nd St N	22nd St S/Causway	Durham Street	M	STATE	5LU	6/10/1996	22,538	ON	ON	DELETE	Adjacent road widened to replace this section
2	30th St	Hillsborough Av	Slight Av	C	CITY	2LU	1/27/2008	10,385	OFF	OFF	nc	-
3	34th St	MLK Blvd	Hillsborough	C	CITY	2LU	1/29/2008	4,461	OFF	OFF	nc	-
4	46th St	Bougainvillea Av	Fowler	C	CITY	2LU	7/20/2008	4,113	OFF	OFF	nc	Signed as "on system". Can be removed.
5	Ascafe Street/Park City	Florida Av	Armenia	C	County	4LU	11/2/2008	12,513	OFF	OFF	ADD	-
6	Bougainvillea Av	Florida Av	Nebraska Av	C	CITY	2LU	8/7/2008	2,973	OFF	OFF	nc	-
7	Boulevard	Kennedy	Cass	M	County	4LU	10/11/2006	13,249	ON	ON	nc	-
8	Channelside	Meridian St	Cumberland	P	County	4LU	9/14/2008	12,930	ON	ON	DELETE	-
9	Cross Creek Boulevard	Bruce B. Downs	Morris Bridge Road	C	County	4LD	1/20/2008	29,715	OFF	OFF	ADD	Coordinates with County to add MBR to Pasco.
10	Davis Blvd	Plant Ave South	Balfic Ave	M	County	4LU	9/15/2008	23,143	OFF	OFF	nc	-
11	Davis Blvd East	Balfic Ave	Hudson Ave	C	CITY	4LU	16/2/2008	2,360	OFF	OFF	nc	-
12	Davis Blvd South	Severn Ave	Hudson Ave	C	CITY	4LU	9/15/2008	3,161	OFF	OFF	nc	-
13	Davis Blvd West	Balfic Ave	Severn Ave	C	CITY	4LU	9/15/2008	9,294	OFF	OFF	nc	-
14	El Prado	Manhattan	Dale Mabry Hwy	NC	CITY	4LD	3/26/2008	8,573	OFF	OFF	nc	-
15	El Prado	Dale Mabry Hwy	MacDill	NC	CITY	4LD	3/26/2008	5,345	OFF	OFF	nc	-
16	Euclid Av	Manhattan	Dale Mabry Hwy	NC	CITY	2LU	3/26/2008	10,363	OFF	OFF	nc	-
17	Euclid Av	Dale Mabry Hwy	MacDill	NC	CITY	2LU	3/26/2008	9,894	OFF	OFF	nc	-
18	Himes Av	Gandy	Euclid	C	CITY	4LU	12/2/2007	10,445	OFF	OFF	nc	-
19	Himes Av	Euclid	Kennedy	C	CITY	2LU	12/2/2007	6,862	OFF	OFF	nc	-
20	Himes Av	Kennedy	Cypress St	C	CITY	5LU	12/2/2007	14,924	OFF	OFF	ADD	-
21	Himes Av	Cypress	Columbus	M	CITY	5LU	12/2/2007	22,671	OFF	OFF	nc	-
22	Himes Av	Columbus	MLK	M	CITY	4LD	12/2/2007	24,107	OFF	OFF	nc	-
23	Himes Av	MLK Blvd	Hillsborough	M	CITY	4LD	12/2/2007	15,064	OFF	OFF	nc	-
24	Hyde Park Ave South	Sayshore	Kennedy	OM	CITY	2LO	10/9/2006	14,150	OFF	OFF	nc	-
25	Interbay	West Shore	Manhattan	C	CITY	2LU	12/2/2007	12,062	ON	ON	nc	-
26	Interbay	Manhattan	Dale Mabry Hwy	C	CITY	2LU	12/2/2007	12,062	ON	ON	nc	-
27	Linebaugh Av	Florida Av	Nebraska Av	C	CITY	2LU	12/6/2006	3,302	OFF	OFF	nc	-
28	Lois Av	Kennedy	Cypress St	C	CITY	4LU	6/24/2008	17,785	ON	ON	nc	-
29	Lois Av	Cypress	Boy Scout	C	CITY	4LU	6/24/2008	15,534	ON	ON	DELETE	-
30	MacDill Av	Gandy	Euclid	C	CITY	2LU	3/25/2008	6,737	ON	ON	nc	-
31	Manhattan Av	Interbay	Pearl	C	CITY	2LU	4/21/2008	6,034	OFF	OFF	nc	-
32	Nuccio Pkwy (11th/12th-14th/15th OMP)	Nebraska	Columbus	C	CITY	5LU	1/8/2008	6,608	OFF	OFF	nc	-
33	Nuccio Pkwy (15th)	Columbus	MLK	OC	CITY	2LO	2/3/2008	7,660	OFF	OFF	nc	-
34	Palm Avenue	Boulevard	Nebraska Av	C	CITY	4LU	4/1/2008	14,772	OFF	OFF	nc	-
35	Palm Avenue	Nebraska	22nd St	C	CITY	5LU	4/9/2008	7,540	OFF	OFF	nc	-
36	Plant Ave South	Kennedy	Davis Blvd	OM	CITY	2LO	5/13/2008	5,317	OFF	OFF	nc	-
37	Rowleia park Dr	Slight	Water	C	CITY	2LU	1/27/2008	8,704	OFF	OFF	nc	-
38	Slight Av	Nebraska	22nd St	C	CITY	2LU	1/27/2008	5,266	OFF	OFF	nc	-
39	Swann Av	Henderson	MacDill	C	CITY	2LU	6/19/2008	6,189	OFF	OFF	nc	-
40	Swann Av	MacDill	Howard	C	CITY	2LU	6/19/2008	14,185	OFF	OFF	nc	-
41	Swann Av	Howard	Boulevard	C	CITY	2LU	6/19/2008	4,419	OFF	OFF	nc	-
42	WestShore Blvd	Kennedy	Spouce	P	County	6LD	2/10/2008	42,133	ON	ON	nc	-
43	Willow Av	Plant St	Cypress St	C	CITY	2LU	6/18/2008	6,778	OFF	OFF	ADD	-
44	Yukon St	Florida Av	Nebraska Av	C	CITY	2LU	1/22/2008	4,549	OFF	OFF	nc	-
a	Cargo Road	Ohio Avenue	Hillsborough Av	new	new	new	new	new	NEW	NEW	ADD	New road to replace West Shore
b	Lauber Way	Tampa Bay Blvd	Ohio Ave	L	CITY	2LU	none	NS	OFF	OFF	ADD	Part of Cargo Road System
c	Marin Luther King Blvd	West Shore	Cargo Road	C	CITY	2LU	8/6/2008	4,512	ON	ON	DELETE	Cargo road replaced this section.
d	Tampa Bay Boulevard	West Shore	Lauber Way	C	CITY	4LU	6/19/2008	2,543	ON	ON	DELETE	Cargo road replaced this section.
e	WestShore Blvd	Tampa Bay Blvd	Hillsborough Av	C	CITY	2LU	2/10/2008	2,766	ON	ON	DELETE	Cargo road replaced this section.
f	Tanker Way	Interbay	AFB	new	new	new	new	new	NEW	NEW	ADD	New road for trucks to AFB
g	MacDill Av	Interbay	AFB	C	CITY	2LU	3/9/2008	6,947	ON	ON	DELETE	No longer needed per AFB due to Tanker Way
*Functional Classification of roads												
	P-Principal Arterial	4-Interstate	M-Minor arterial	OM-one-way minor arterial	C-Collector	OC-one-way collector						NC-Neighborhood collector

3.7 Web Based Routing Options

There are three levels at which the City could publicize the truck route system through internet map provision. They are:

1. Posting a “static map” such as the one that is posted now,
2. Develop a City-hosted Google/ESRI GIS online mapping application, and
3. Develop and post online a Truck Route database for access by private routing companies such as PC*Miler and Tom-Tom.

3.7.1 Static Map

Posting a “static” map such as the one that is posted now would be the easiest option and would remain consistent with the level of service historically provided to the public and users. The new map could, and should, be collaborated with the County in order to publish a single map that is accessible through the County, City and MPO websites. Updates would be posted that coincide with updates to the functional classification network and comprehensive plan land use changes.

The static map could be provided as to truckers via an informational pamphlet conveniently distributed at larger fueling sites, weigh stations, driver schools, and DHSMV licensing centers.

3.7.2 Google/ ESRI Map

The City of Tampa Information Technology department answered numerous questions relating to the feasibility of hosting an application and determined it could be done within current City guidelines. It was agreed, however, that this is probably not a task the City should undertake because it would address only roads within the City boundary, whereas most trucks operate throughout the region and the application would not address roads outside the City limits. Development and update costs are a concern as is the need to interact with public domain technologies.

Should this option be pursued, additional data could be incorporated to better guide truck deliveries, including load size, type, and time of delivery. Future enhancements could include interconnection with the Florida DOT Intelligent Transportation Network incorporating construction activities and congestion management re-routing.

3.7.3 PC*MILER Site

This option would require coordination with private vendors to determine a common platform that could be accessed by the companies that do truck routing applications. Discussions with PC*Miler in Sarasota, who collects and maintain truck route information for the entire nation indicated they access the City's map and data and integrate it into the data they distribute nation-wide in "real-time". They also publish static datasets in May of each year upon which trucking companies base their route charges.

A major advantage of this public/private approach, similar to the City-hosted concept, is the potential to include road closure and parade activity updates on a "real-time" basis. Truckers could then know to avoid affected segments and the software would re-route appropriately based on the truck route network.

The amount of data that the company captures in order to accurately route trucks is extensive; some variables in their data set include:

- Bridge heights
- Material being transported
- Time delay From Point to Point
- Traffic Conditions
- Speeds for Roadways
- Federal/State restriction zones (linked to cargo info)
- Routing duplication restrictions of sensitive cargo

This method would provide directions to truckers using the correct and up-to-date truck route information, thus providing defensible justification for deviating from the truck route system.

3.8 Truck Route Signage Program

The City of Tampa Truck Route Study signage program was developed by Bayside Engineering. The purpose of the program is to evaluate signage for designated truck routes within the limits of the City of Tampa. Proposed routes for trucks carrying hazardous material were also considered.

Signage is necessary at any intersection that includes the junction of any two or more truck routes. The need for either guidance or prohibitive signage is assessed and recommendations for sign locations are made accordingly.

3.8.1 Positive Guidance Signage Program

At the intersection of two or more designated truck routes, existing signage was noted. On each route, the approach leg should have guidance signage directing truck traffic to the available routes: through the intersection or onto another route. The departure legs of each route should also have signage. If the departure leg is along an existing truck route, there should be guidance signage. If the departure leg is not a truck route, there should be prohibitive signage restricting travel by truck traffic for clarification.

Each intersecting truck route was evaluated for positive guidance or prohibitive signage. The majority of the intersecting routes had no positive guidance signage. There was prohibitive signage on intersecting non-truck routes and some local streets. New signage locations were identified and documented at the intersecting routes (see accompanying table). Signage should be consistent with MUTCD Section 2B.51 – Truck Route Signs.

3.8.2 Hazardous Materials Signage

Another potential signage need was to identify alternative routes around the Tampa central business district (CBD) for truck carrying hazardous materials. Routes were identified for prevailing eastbound and westbound directions.

The limited access freeways surrounding the CBD are available for trucks carrying hazardous materials: I-275, I-4, and the Lee Roy Selmon Crosstown Expressway. Trucks approaching the CBD from the west (eastbound) could be routed north along Howard Avenue to I-275, Columbus Drive, or Dr. Martin Luther King, Jr. Boulevard. Trucks approaching the CBD from the east (westbound) could be routed north along 22nd Street to either I-4, Columbus Drive, or south to the crosstown expressway. Signage types should be consistent with MUTCD Section 2B.5 – Hazardous Material Signs.