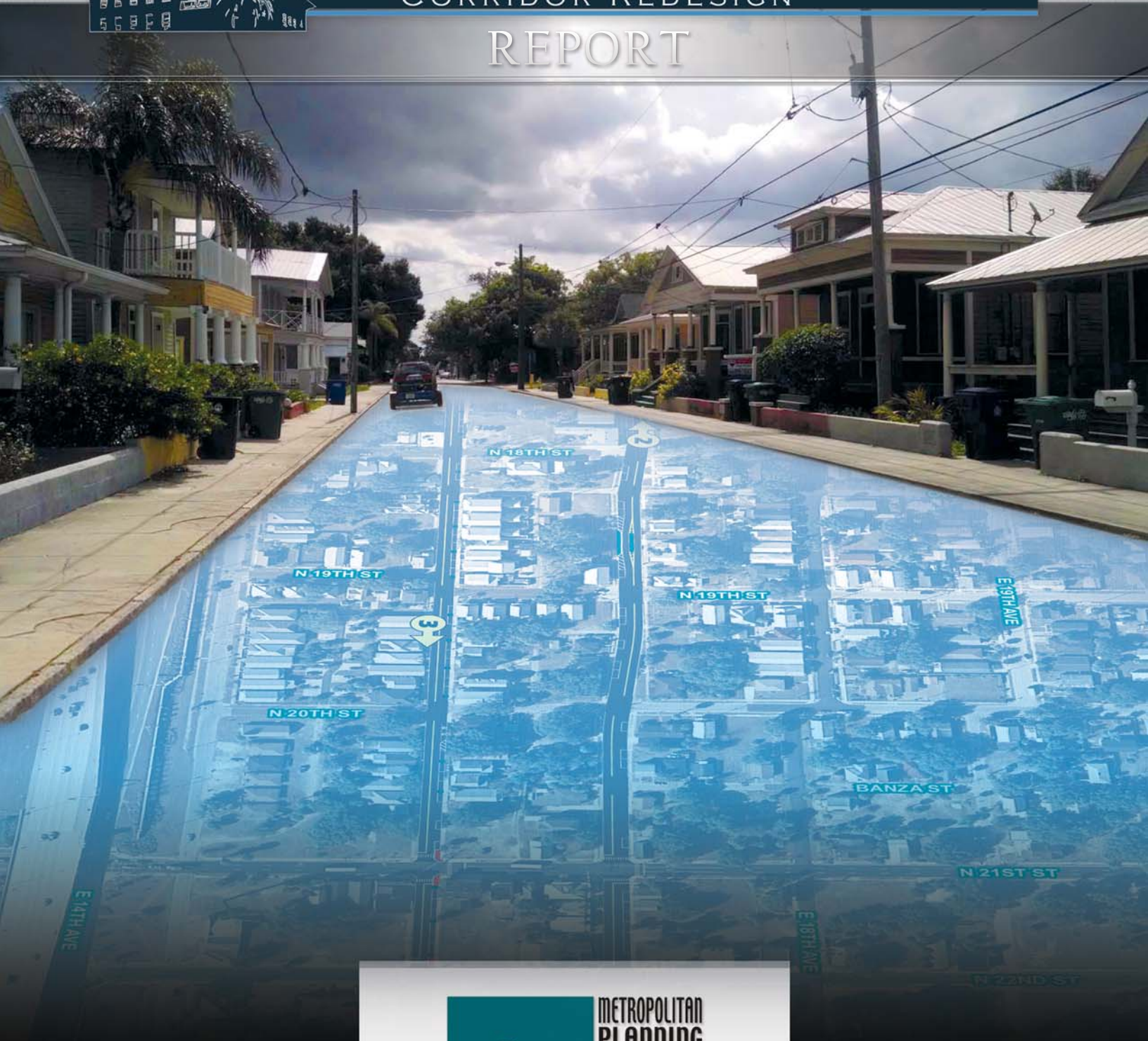




# Columbus Drive

CORRIDOR REDESIGN

REPORT



January 2015



## **Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign Summary Report**

Prepared For:  
Hillsborough Metropolitan Planning Organization for Transportation



601 E. Kennedy Boulevard, 18<sup>th</sup> Floor  
Tampa, FL 33602  
(813) 272-5940  
Contact: Gena Torres

Prepared By:  
Atkins North America

# **ATKINS**

7406 Fullerton Street, Suite 350  
Jacksonville, FL 32256  
(904) 363-6100  
Contact: Wiatt Bowers, AICP

January 2015

## Table of Contents

Chapter One	Introduction	4
Chapter Two	Public Engagement	7
Chapter Three	Existing (2014) Conditions	19
Chapter Four	Two-Way Configuration with Existing Traffic	27
Chapter Five	Design Year (2040) Conditions	33
Chapter Six	Concept Design	45

### Appendices

Appendix A	Traffic Count Data
Appendix B	Existing Year (2014) Synchro Reports for One-Way Operation
Appendix C	Existing Year (2014) Synchro Reports for Two-Way Operation
Appendix D	Tampa Bay Regional Planning Model Daily Volumes
Appendix E	Future Year (2040) Synchro Reports for One-Way Operation
Appendix F	Future Year (2040) Synchro Reports for Two-Way Operation
Appendix G	Cost Estimates Information

## List of Tables

Table 3.1	Existing Year (2014) Intersection Operations	23
Table 3.2	Existing Year (2014) Roadway Analysis	24
Table 3.3	Field Travel Time Runs	26
Table 3.4	Existing Conditions Synchro Travel Time Summary	26
Table 4.1	Existing Year (2014) Intersection Operations with Two-Way Configuration	30
Table 4.2	Existing Year (2014) Roadway Analysis with Two-Way Configuration	31
Table 4.3	2014 Existing Year Synchro Travel Time Comparison	31
Table 5.1	2040 Design Year Intersection Operations with One-Way Configuration	38
Table 5.2	2040 Design Year Roadway Analysis with One-Way Configuration	39
Table 5.3	2040 Design Year Intersection Operations with Two-Way Configuration	41
Table 5.4	2040 Design Year Roadway Analysis with Two-Way Configuration	42
Table 5.5	2040 Design Year Synchro Travel Time Comparison	44
Table 6.1	Summary of Cost Estimates	53

## List of Figures

Figure 3-1	Existing 2014 AM Peak Hour Peak Seasonal Adj. Traffic Volumes	21
Figure 3-2	Existing 2014 PM Peak Hour Peak Seasonal Adj. Traffic Volumes	22
Figure 3-3	Existing Study Area Intersection and Roadway Segment LOS	25
Figure 4-1	Existing (2014) AM Peak Hour Traffic Volumes with Two-Way Configuration	28
Figure 4-2	Existing (2014) PM Peak Hour Traffic Volumes with Two-Way Configuration	29
Figure 4-3	Existing Study Area Intersection and Roadway Segment LOS with Two-Way Configuration	32
Figure 5-1	Projected 2040 Design Year AM Peak Hour Traffic Volumes with One-Way Configuration	34
Figure 5-2	Projected 2040 Design Year PM Peak Hour Traffic Volumes with One-Way Configuration	35
Figure 5-3	Projected 2040 Design Year AM Peak Hour Traffic Volumes with Two-Way Configuration	36
Figure 5-4	Projected 2040 Design Year PM Peak Hour Traffic Volumes with Two-Way Configuration	37
Figure 5-5	2040 Design Year Study Area Intersection and Roadway Segment LOS with One-Way Configuration	40
Figure 5-6	2040 Design Year Study Area Intersection and Roadway Segment LOS with Two-Way Configuration	43
Figure 6-1	Conceptual Corridor Layout	48
Figure 6-2	Columbus Drive Artistic Rendering	49
Figure 6-3	17 <sup>th</sup> /18 <sup>th</sup> /19 <sup>th</sup> Avenue Artistic Rendering	51

## Chapter 1 – Introduction

The Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign Study is a cooperative initiative between the City of Tampa, Hillsborough County, and the Hillsborough Metropolitan Planning Organization (MPO) to examine the one way pair of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues just north of Interstate 4 (I-4) in the Ybor City area. The purpose of this study is to determine if it is feasible to convert the one way pair of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues to two-way operations, as they were in the early part of the twentieth century. Currently, Columbus Drive is an eastbound two-lane one way street between 14<sup>th</sup> Street and 19<sup>th</sup> Avenue and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues are a westbound one way street from Columbus Drive to 14<sup>th</sup> Street.

As part of looking into the feasibility of converting Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues back to two-way operation, the Columbus Drive Corridor Redesign Study addressed other priorities such as:



- Provide access to an between Ybor City and East Tampa neighborhoods for drivers, transit riders, trucks, bicyclists, and pedestrians;
- Provide access to adjacent commercial uses, industrial property, and neighborhood streets;
- Provide for a safe walking and bicycling experience on 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues, and throughout residential and commercial/industrial areas on Columbus Drive; and
- Maintain acceptable traffic operations and flows after improvements to the reconfiguration are made.

To accomplish the main goal of the study of evaluating the potential to convert Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues back to two-way operations and to assess the priorities listed above; this study included several tasks to complete to reach a final recommendation.

The first task involved establishing a Transportation Advisory Group (TAG) for the study and coordinate with those stakeholders. The TAG had representatives from:

- City of Tampa
- Hillsborough County
- Hillsborough MPO
- Hillsborough Area Regional Transit Authority (HART)
- Florida Department of Transportation (FDOT)
- East Tampa CRA
- Ybor CRA

In addition to the TAG, a robust public engagement effort was conducted, including two public meetings held within the study area. The first public meeting was held to ask the public who live and work along the corridors if they are supportive of converting Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues back to two-way operation and if so what other features such as bicycle lanes, on-street parking, etc. would they like to see as improvements along the corridors. The second public meeting was to present the preferred alternative and receive feedback from the public.

The second task was to evaluate existing conditions within the corridor. Traffic counts and other traffic data was collected from intersections within the study area and analyzed to determine existing conditions as well as performing a crash analysis of the corridor. Intersections and roadway segments were evaluated for their current Level of Service (LOS). LOS is a way to measure the operations of intersections and/or roadway segments. LOS is measured using a letter grade with LOS A being the best operation with traffic free flowing without major delays. The lowest LOS is LOS F which means that an intersection or roadway segment is failing and may have congestion and delays at certain times of the day. The LOS standard used for the analysis in this study is LOS D, meaning for an intersection or roadway segment to operate at and acceptable LOS, it must operate at LOS D or above. Following the analysis, a second evaluation was conducted of existing traffic assuming that the roads were converted into two-way operations. Finally, the two alternatives were evaluated in the design year of 2040 to determine how well the corridor would function in the future.

Following the traffic analysis, concept drawings were developed for the potential conversion of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues to two-way operations with bicycle, pedestrian, and/or on-street parking amenities presented. It is envisioned that the enhancements would be made within the existing right-of-way (ROW). Cost estimates were then developed for the conversion back to two-way operations on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues, including possible enhancements to streetscape and lighting in the area.

Finally, the findings of the study were documented and additional coordination meetings were held with City of Tampa and Hillsborough County staff. In addition to

this summary report, other deliverables included presentations to the public as well as the Hillsborough MPO Board and committees. This report is laid out to cover the public and agency engagement activities in Chapter 2. Chapters 3, 4, and 5 are the technical traffic analysis findings for existing (2014) year and design (2040) year for both one-way pair configuration and two-way operation. Chapter 6 is dedicated to presenting the design concepts of a typical roadway section for two-way operation along Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. Appendices with additional information regarding traffic counts, travel demand model forecasting, and the Synchro peak hour analyses can be found at the end of this report.

## Chapter 2 – Public Engagement

The Columbus Drive Corridor Redesign Study included a robust community engagement effort. The public was afforded multiple opportunities to provide input on the study and those are summarized here.

### Transportation Advisory Group

A Transportation Advisory Group was formed in the summer of 2014 to provide input on the Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign Study from government agencies, residents, and business entities that will be affected by changes on the Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue corridors. The group met several times and included representatives from the City of Tampa, Hillsborough County, FDOT, the Historic Ybor Civic Association, Design Styles Architecture, the Ybor City Chamber of Commerce, the Green Artery, and the JC Newman Cigar Company. Representatives from these groups were given information about the study and asked to share that information with their respective groups and provide feedback on the existing conditions, issues, and opportunities for Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue corridors.

### Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign Study Public Meetings

Two public meetings were held in this well-established and engaged neighborhood. The first meeting was held in September 2014 to hear the community's thoughts on the possible redesign and learn of any concerns that they felt needed to be addressed in the study. The second meeting was held in January 2015 to report back on the study recommendations, molded by their valuable input at the first meeting, and allow another opportunity to make any changes prior to the study being finalized.

### *September 2014 Open House*

On September 17<sup>th</sup>, 2014, the first public meeting was held to introduce the Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign Study. Over 50 people took the time out of their day to participate. Attendees included multi-generational residents, new homeowners wanting to live, work and play in the area, parents of students attending local schools, established



business owners and those hoping to make their living by investing along the corridors. Participants were asked to complete a survey where they could share their experiences share their concerns on the Columbus Drive and 17<sup>th</sup>, 18<sup>th</sup>, and 19<sup>th</sup> Avenue corridors



and whether converting the corridors to 2-way corridors would be a good idea or not. The survey also asked for other ideas of improvements needed in the area, such as parking, landscaping, lighting, and even business and housing interests. In addition to the survey, two large aerial maps of the corridor study area were laid on tables with highlighters, pens, and sticky notes. Participants were encouraged to mark on the maps anything they were concerned with: transportation, in-fill development, safety, beautification, etc.

### *Open House Survey Results*

When asked whether they would be supportive of the Columbus Drive and 17<sup>th</sup>, 18<sup>th</sup>, and 19<sup>th</sup> Avenue corridors being changed to 2-way traffic, approximately 70% of respondents said they are supportive or very supportive. People cited wrong way driving in the current one-way configuration, and speeding as reasons to support converting the corridors to 2-way. Of the 30% of respondents who were concerned or found it unacceptable to convert the corridors to 2-way, many thought the 2-way conversion would cause more traffic on the roadways.

When asked to give specific locations where wrong way driving, frequent crashes, and parking in the street or the sidewalks occurred, there were numerous intersections and segments on both Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue basically covering the entire study area. Participants were also



asked what additional improvements they would like to see out of the following choices: more street lighting; landscaping; protected bike lanes; high emphasis crosswalks; more on-street parking; less on-street parking; and other street improvements. The categories receiving the greatest response included: 24% supported more landscaping; 23% for more street lighting; 17% for more on-street parking; 15% for high-emphasis crosswalks; and 14% for protected bike lanes.

Next, participants were asked if the corridors were made two-way, would they be supportive of directing more of the traffic to Columbus Drive with greater attention to safe walking, bicycling, and slower traffic on 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. Sixty three percent said they would be either supportive or very supportive of that idea. Of those who were concerned or said this idea was unacceptable, heavy traffic, fairness of traffic

distribution, speed, noise, and width of Columbus Drive were the reasons cited for concern.

Finally, participants were given an opportunity to leave additional comments or to make other suggestions. Responses varied but major themes were encouraging more business and focusing on increasing aesthetics in the area through home rehabilitation, street signage, lighting, and public art.

### *Open House Map Comments*

The comments made on the large aerial maps of the study area were sorted by location and listed below:

#### **1. Intersection of Columbus Drive and the apex of Columbus/17<sup>th</sup> Avenue (west end of one-way pairs) and N 14<sup>th</sup> St. (Avenida Republica de Cuba) and 15<sup>th</sup> St. one-way pairs:**

- "Install school crossings at each of these intersections (total of 4); very dangerous; cars repeatedly go the wrong way!"
- Academy Prep - opposes building a roundabout at 14<sup>th</sup> & 17<sup>th</sup>/Columbus intersection; strongly in favor of strip of pavement becoming a green space;



- Academy Prep - if 17<sup>th</sup>/Columbus becomes a two-way, ensure that there is on-street parking on the south side of Academy Prep for parents to pick up their children at 5p.m./6p.m. dismissal.
- Crosswalk that feeds directly into Academy Prep.
- Preserve/enhance historic lighting and install brick-paver crosswalks at the intersections of Columbus Drive & Av. Republica de Cuba, 15<sup>th</sup> St., 16<sup>th</sup> St., new alignment for 17<sup>th</sup> St. (across from Cuscaden Park).
- Make area more pedestrian friendly with lighting (Av. Republica de Cuba & 15<sup>th</sup> St. are unlit and potentially dangerous south of Columbus Drive--- Pedestrians and cyclists are not seen at night!)Install bike lanes (NOT

SHARROWS) on 15<sup>th</sup> Street and add more street lighting (many sections are unlit making potentially dangerous for pedestrians and bicyclists). 17<sup>th</sup> & N. 15<sup>th</sup> is a very dangerous intersection (referring to the west end of Columbus at the start of the two-way pairs)

## 2. 17<sup>th</sup> Avenue @ 18<sup>th</sup> Street

- This would increase volume to the side streets (residential- 18<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup> St.) to get on the interstate. Would be most interested in it remaining one-way and on-street parking w/ bike lanes.

## 3. Columbus Drive @ 19<sup>th</sup> Street

- Does Route 15 move to 19<sup>th</sup> or Columbus? Would the plan include covered stops or is that up to HART?
- 17<sup>th</sup>/Columbus intersection with 21<sup>st</sup>/22<sup>nd</sup> needs better identifying signage to prevent one-way incursions in the area. Preferably electronic one-way markets at the lights and near side streets.
- Make intersection safer and more pedestrian friendly- it's a gateway to 7<sup>th</sup> Avenue.
- Street parking on Columbus is a must!
- Street parking on Columbus. Bike lanes on 17<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup> Avenue.
- Repair any sidewalks that are damaged along the corridor.

## 4. 17<sup>th</sup> Avenue @ 21<sup>st</sup> Street ~ NO COMMENTS

## 5. Columbus Dr @ 28<sup>th</sup> Street ~ NO COMMENTS

## 6. 18<sup>th</sup> Avenue @ RR Crossing

- Close off access to 18<sup>th</sup> Avenue eastbound at 29<sup>th</sup> Place.
- Smoother travel across RR Crossings

## 7. 18<sup>th</sup> Avenue @ 33<sup>rd</sup> Street

- Restrict truck thru traffic from going west of 34<sup>th</sup> Street on Columbus Drive.
- Bike lanes
- Need parking by Franklin Middle Magnet
- Smoother travel across RR crossings
- Could some of defunct alleys be utilized for parking for main and residential streets?



## 8. Columbus and 19<sup>th</sup> Avenue @ 40<sup>th</sup> Street Intersection:

- More street lights
- Wider turn apron for trucks going north on 40<sup>th</sup> Street
- Improve turn lane at 40<sup>th</sup> Street
- Westbound right turn lane for trucks
- Bike lanes or sharrows

## 9. Columbus Drive at 19<sup>th</sup> Street

- Roundabout
- Bike lanes
- Synchronized lights
- Truck traffic & HARTLine bus depot- may need traffic signal

### *January 2015 Public Meeting*

A final public meeting with more than 40 attendees was held on Monday January 5<sup>th</sup>, 2015. As with the open house meeting in September, the meeting was held at Academy Prep Center of Tampa. At the meeting, the public was presented with the work efforts that had been completed on the corridor study, and participants were asked to provide their thoughts.



The following public comments were received at the January meeting:

- Columbus Drive & 21<sup>st</sup> Street is an accident prone intersection.
- Concern about going around the block if there is a closure at the 18<sup>th</sup> Ave/ 17<sup>th</sup> Ave curve (29<sup>th</sup> Place)
- 26<sup>th</sup> Street & Columbus Drive and 26<sup>th</sup> Street & 17<sup>th</sup> Street needs to have a stop or signal control. Traffic signals would end up being timed to cause cars to speed through.
- 26<sup>th</sup> Street needs speed tables between 21<sup>st</sup> Avenue and I-4.

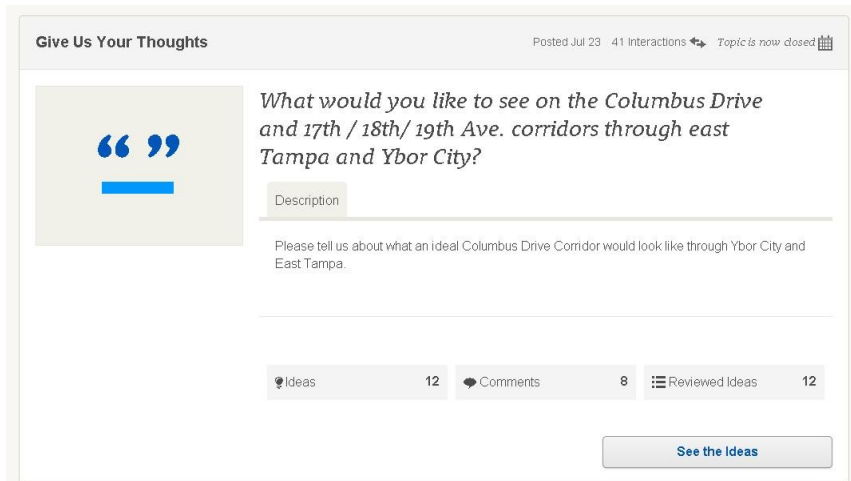
- Columbus Drive & 16<sup>th</sup> Street – JC Newman is concerned about employees crossing the Columbus Drive and 16<sup>th</sup> Street to reach their employee parking lot.
- Requests for how to follow up and with whom to find the funding for the recommendations.

As noted earlier, approximately 70% of the public at the September open house were in favor of converting Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue to two-way streets. As such, the study moved forward and further traffic analyses were conducted to determine if the corridors would function effectively as two-way streets. Those analyses are described in Chapters 3-5. Other comments from the public regarding issues such as on-street parking, pedestrian and bicycle safety, lighting, and streetscaping were addressed in the conceptual corridor design outlined in Chapter 6.

### Redesign Columbus Drive Mind Mixer Site

In addition to working with the Transportation Advisory Group and holding two public meetings, an online public involvement opportunity, the Redesign Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Mind Mixer website ([redesigncolumbusdrive.mindmixer.com](http://redesigncolumbusdrive.mindmixer.com)) was created. This easy-to-navigate, aesthetically pleasing website was set up to solicit feedback from residents and Columbus Drive stakeholders.

A number of topics were created and posted on the website for visitors to comment on, to vote for, or to provide new ideas about. The topics varied in order to increase engagement and to allow website visitors to engage, regardless of the amount of time they had or, their level of interest in the study. For example, the topics that only required a quick vote were easy for participants to engage in. Other topics, such as those that asked participants to post a picture, were more time-intensive.



The following questions were posted on the Mind Mixer site. Responses to the questions are also listed below.

- Which is more important on the 17<sup>th</sup> /18<sup>th</sup> /19<sup>th</sup> Avenue corridor: on-street parking or dedicated bicycle lanes?
  - Two votes for bicycle lanes.

- What would make public transportation along the Columbus Drive and 17<sup>th</sup>/ 18<sup>th</sup>/ 19<sup>th</sup> corridors better?
  - 3 ideas:
    - 1). Great! Do bring the trolley North to this side of I-4. The trolley will allow those who live North of I-4 to get a ride to 7<sup>th</sup> Ave., and to Water Works if the trolley went to Tampa Heights.
    - 2). Bike lanes- Given the choice, I prefer bike lanes over a trolley. However, a trolley from Columbus Drive that will take me to 7<sup>th</sup> Ave., or to Tampa Heights would be great... especially if it didn't cost nearly \$3 each way.
    - 3). Trolley Loop- I would be great if the trolley that currently connects Ybor, Channelside, and downtown could eventually loop to connect the VM Ybor and Tampa Heights neighborhoods with the rest of the urban core. This could be done with rubber wheel extensions, etc... and would likely aid in the economic development and increased density along under-developed sections of Columbus Drive.
  
- What could be done to make the I-4 overpasses feel like less of a barrier and feel safer to walk or bike under?
  - 5 ideas:
    - 1). Prettier, less industrial looking lighting. Nicer looking lights and landscape. It's a barren black topped stretch.
    - 2). Lights. It looks too industrial and it's dark. Plants/trees/lights please.
    - 3). Public Art, lighting and wider sidewalks. Public art can go a long way to soften the hard edge of the concrete jungle below I-4. Removal ore reaction of the fencing that is immediately adjacent to the sidewalk would also improve aesthetics... but this would have to be done in combination with the removal of the small hidden areas that contribute to making these overpasses dangerous (CPTED).
    - 4). Light and space. For at least the 15th street underpass there needs to be light into the alcoves up top where the bums sleep. Otherwise, the central area is well lit. Second, move the fence up the slope a couple of feet. Right now it's claustrophobic through there. It will make it feel more open and work better too.
    - 5). Lights and plants. Add prettier lighting and nicer landscaping.
  
- What would you like to see on the Columbus Drive and 17<sup>th</sup> /18<sup>th</sup> /19<sup>th</sup> Avenue corridors through east Tampa and Ybor City?
  - 12 ideas:
    - 1). Improved landscaping and protected bike lanes- Landscaping will improve the current aesthetic of Columbus Drive and protected

bike lanes will provide a safe alternative mode of transportation along the corridor. In combination, these elements have the potential to further economic development in East Tampa.

- 2). A trolley!- I think that some people who live above I-4 would rather not go to Ybor as much as they could out of fear for their safety under the bridge. If there was some kind of shuttle or trolley that would definitely encourage the neighborhood and area to grow and increase traffic down to Ybor, therefore increasing profit for the local businesses.
- 3). Protected / Landscaped bike lanes- Protected bike lanes are more use-friendly and less intimidating than the bike lanes already constructed in Tampa. They are more apt to encourage regular use.... especially if designed with the use of planters, the buffering of parked cars, etc. They could make riding a bike much more pleasant and practical way in Tampa.
- 4). Slower traffic with more comfortable pedestrian access- Bike lanes, street lighting, and on street parking.
- 5). Small business mixed with residential development- Historically Columbus Drive was vibrant with small businesses. This concentration has primarily relocated to West Tampa, leaving few services for local residents. Columbus forms an ideal neighborhood connector, and more incentives for business will only increase residential density.
- 6). Small Business. TREES. Landscaping. This is the section of Columbus/VM Ybor most people see. If they were more inviting, if the empty buildings were filled...it would help bring people to the residential area.
- 7). Columbus Dr. Should be a connection corridor- Columbus should connect 21st and 22nd st one ways with Tampa and Florida one ways. I am all for extending the one way of Columbus dr with the allowance of another one way in the opposite direction. Maybe Floribaska or Palm Avenue. I can see a trolley running along Columbus as well.
- 8). Parking, landscaping, street lights- It would be great if it could be more like 7th. Where you can walk ride a bike to where you are going.
- 9). Continuation of Ybor and beautification residential- I think this is a wonderful idea. With the brick walls of the interstate some have perceived that as a wall and separation of the beautiful residential neighborhoods on the other side. One of the anchors that anchor the continuation is the Cuesta Rey cigar building and clock tower and Cuscaden Park. Two items to connect commercial to this residential area. Restore, clean them up and people will follow. I would like to see a small fountain on the corner of 15th

and Columbus where that small triangle of city land is. Perfect place to start the beautification.

- 10). More vegetation please. The bougainvillea plants are thorny and essentially counter intuitive. There are many native Floridian flowers and plants that are aesthetically pleasing and require little maintenance. Beautification of this area would be ideal. Perhaps even pressure washing and spray sealing some of the curbs & sidewalks to refresh the look of the town.
  - 11). Landscaping. Please add a bike line, trees, a center turn lane, in addition to TRASH CANS!!!. Add pretty lighting along the sidewalk. And, what about burying the overhead electrical lines in VM Ybor?
  - 12). Trees, especially in the residential sections.
- In the industrial area of Columbus Drive, do you prefer to see a continuous center turn lane, or on-street parking?
    - Three votes for continuous center turn lane; three votes for on-street parking.
  - Would converting the 17<sup>th</sup> /18<sup>th</sup> /19<sup>th</sup> Avenue and Columbus Drive corridors to two-way streets create smoother traffic flow?
    - 19 votes yes; 1 vote no.
  - Do you have a hard time accessing any particular business, street, or area? If so, where is the access problem?
    - 4 ideas:
      - 1). Street crossings. There are hundreds of people living in the Quarter at Ybor and every one of us risks our lives every time we have to run across E. Palm Ave. to get to the other side. It makes no sense that there is no cross walk or access way from any of the side streets to the other side of E. Palm Ave.
      - 2). One way roads make it difficult to access friends homes and local businesses.
      - 3). It being a one way street.
      - 4). Getting to E17th Ave from N15th St. When I give people directions to turn onto E17th Ave (when they are traveling North on N 15th St) they always get confused and lost because it then turns into Columbus!
  - Do you have any concerns about changing Columbus Drive and 17<sup>th</sup> /18<sup>th</sup> /19<sup>th</sup> Avenue from a one-way to a two-way street?
    - 6 'No' responses
    - 2 comments:





- 1). I am a proponent for one ways. But no one seems to understand them or look for them down here. They're like roundabouts. They make sense but everyone hates them. They are good for Citation revenues! HAHA
    - 2). I have some concerns about the re-design of 17th Avenue between 15th Street and Avenida Republica de Cuba (14th). Will the re-design become more confusing and difficult for drivers and pedestrians?
- What places on Columbus Drive have safety problems?
  - Two photos were uploaded:
    - 1). Under and around the bridges separating north of I-4 with downtown Ybor
    - 2). Intersection at Columbus / 14<sup>th</sup> / 15<sup>th</sup> St. and 17<sup>th</sup> Ave / 14<sup>th</sup> / 15<sup>th</sup> St. are dangerous due to wrong way drivers.
- As the community surrounding these corridors develops and redevelops over the next 5 years, what would you like to see?
  - 8 ideas submitted:
    - 1). A focus on restoring and building a wonderful residential area- I always wondered why the north side of the interstate has taken so long to be revitalized. It has so many beautiful house structures that have been there for years and survived hurricanes and urban renewal. I would like to see a huge marketing plan and city planning to renovate and beautify this area. It would be a great place to teach others how to rebuild and renovate homes. VM Ybor had home purchasing in compensation plans for his cigar workers. Someone should do that again for the entertainment workers and restaurant workers of 7th avenue.
    - 2). Grocery Store- In addition to my previous answer of developing the residential area. Adding a grocery store would be a great idea and something that is very needed for this area. People want to walk to work and the bars and shopping in Ybor. If you want an urban village you need a grocery store in walking distance. This area would be perfect for that and a great way to connect the neighborhoods together and this area has the space for it.
    - 3). HCC get more involved- Another idea I have is to propose to HCC or USF and architect or real estate program at their schools that takes one home every semester and has the students go an renovate the house and teaches students how to do the renovation and turn them into income producing homes. They could have the architects draw up the plans and the other teams execute and that is a way for the university to make extra money will teaching students how to fix up homes and the economy. It could be tied

into several types of programs; urban development, real estate, finance, architecture, city planning, economics, team building, interior design, history etc. I would be willing to draw up the program is someone has the contact person I could propose this to. Many options here and the students feel they are a part of the community and will feel invested in the future of these neighborhoods.

- 4). On street parking - We need more on street parking to accommodate infill development.
  - 5). More local coffee shops and places to eat- I think the sense of community above I-4 could be developed more with more local businesses. I would LOVE to see a small pub or a coffee shop on E Columbus in the near future.
  - 6). More small businesses and density along Columbus Dr.- The additional of more commercial amenities along the Columbus Drive corridor will help the VM Ybor / East Tampa community become a more walkable / bikeable community... and a more desirable community. Bike lane development will also allow residents to more readily access Ybor City, Tampa Heights and the downtown core by bike rather than car, making it a better place to live and encouraging smart infill development of underutilized and vacant properties.
  - 7). The main corridors developed with landscaping & business- No one sees the beautiful homes in the neighborhood because the connections aren't fully developed. There are many vacant properties/lots on the through corridors.
  - 8). Code enforcement/Less section 8/overhead wires- How about more action on the city's part to enforce code violations, specifically requiring people to adhere to historical guidelines on property modifications? And, how about fewer rentals and greater encouragement of single family home ownership? Finally, eliminate overhead wires, bury them and make it visually appealing, even overhead!
- 
- Is the area a safe and comfortable place to walk?
    - Yes- 2 (12.5%); No- 14 (87.5%)
  
  - Is our community safe for bicycle activity?
    - Yes- 2 (11.8%); No- 15 (88%)

After site visitors answered the above questions, site administrators followed up on their ideas to get clarification, to ask for additional details, and to encourage further participation. The interaction between site administrators and site visitors gave reassurance that their valued input was being heard and documented accurately.



 **Courtney M.** added a new photo in **Safety hot spots!** Aug 2



Under and around the bridges separating north of I-4 with downtown Ybor.


[Share](#) [Delete](#)


---

 **Audrey Postal, Site Admin**   
4 months ago  
What do you think could be done to make this area safer?

[Delete](#)

---

 **K H.** added a new photo in **Safety hot spots!** Jul 28



Intersection at Columbus/14th/15th St. and 17th Ave./14th/15th St. are dangerous due to wrong way drivers.

[Share](#) [Delete](#)

## Chapter 3 – Existing (2014) Conditions

Currently, Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues are an east/west one way pair that is located north of and parallel to Interstate 4 (I-4) in Tampa, Florida. The one way pairing begins at the intersection of Columbus Drive/17<sup>th</sup> Avenue & 14<sup>th</sup> Street on the west end of the study area to the intersection of Columbus Drive & 19<sup>th</sup> Avenue near the east end of the study area. Columbus Drive carries eastbound traffic while 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues carry westbound traffic. Both facilities have two lanes going one-way with a posted speed limit of 30 miles per hour (mph).

Pavement width within the study area varies on both Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. The pavement widths are as follows:

### Columbus Drive

- 14<sup>th</sup> Street to 22<sup>nd</sup> Street – 28 feet
- 22<sup>nd</sup> Street to 29<sup>th</sup> Street – 30 feet
- 29<sup>th</sup> Street to west of 31<sup>st</sup> Street – 24 feet
- West of 31<sup>st</sup> Street to 40<sup>th</sup> Street – 36 feet
- 40<sup>th</sup> Street to 19<sup>th</sup> Avenue – 24 feet

### 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues

- 14<sup>th</sup> Street to 22<sup>nd</sup> Street – 33 feet
- 22<sup>nd</sup> Street to 28<sup>th</sup> Street – 24 feet
- 28<sup>th</sup> Street to 40<sup>th</sup> Street – 33 feet
- 40<sup>th</sup> Street to Columbus Drive – 22 feet

Both roads have sidewalks along the majority of their length, with the exception of the sections east of 40<sup>th</sup> Street. There are no bicycle lanes or shared use markings on either road. Finally, transit service is provided by the Hillsborough Area Regional Transit's (HART) Route 15, which connects downtown Tampa with the Netp@rk transfer center. Service frequency varies between every 30 minutes (peak) and every 60 minutes (off-peak).

The existing conditions are the baseline year that the study uses. For the *Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign* study, 2014 was used as the baseline or existing year for most of the traffic counts, model runs, and field travel time trials, although one of the traffic counts, the intersection of 40<sup>th</sup> Street & 19<sup>th</sup> Avenue, is from 2013. The majority of the traffic counts were conducted in June 2014. Traffic count data can be found in **Appendix A**.

The study area includes seventeen (17) major intersections sixteen (16) of which are signalized. The intersection of Columbus Drive & 19<sup>th</sup> Avenue is the only unsignalized intersection. The intersections include:

- Columbus Drive/17<sup>th</sup> Avenue & 14<sup>th</sup> Street
- Columbus Drive & 15<sup>th</sup> Street
- 17<sup>th</sup> Avenue & 15<sup>th</sup> Street
- Columbus Drive & 21<sup>st</sup> Street
- 17<sup>th</sup> Avenue & 21<sup>st</sup> Street
- Columbus Drive & 22<sup>nd</sup> Street
- 17<sup>th</sup> Avenue & 22<sup>nd</sup> Street
- I-4 Westbound Ramps & 21<sup>st</sup> Street\*
- I-4 Westbound Ramps & 22<sup>nd</sup> Street\*
- Columbus Drive & 34<sup>th</sup> Street
- 18<sup>th</sup> Avenue & 34<sup>th</sup> Street
- Columbus Drive & 40<sup>th</sup> Street
- 19<sup>th</sup> Avenue & 40<sup>th</sup> Street
- Columbus Drive & 19<sup>th</sup> Street
- Columbus & HART Drive\*
- Columbus Drive & I-4 Westbound Ramps\*
- Columbus Drive & I-4 Eastbound Ramps\*

\*These intersections were counted to get a feel for traffic patterns within the study area.

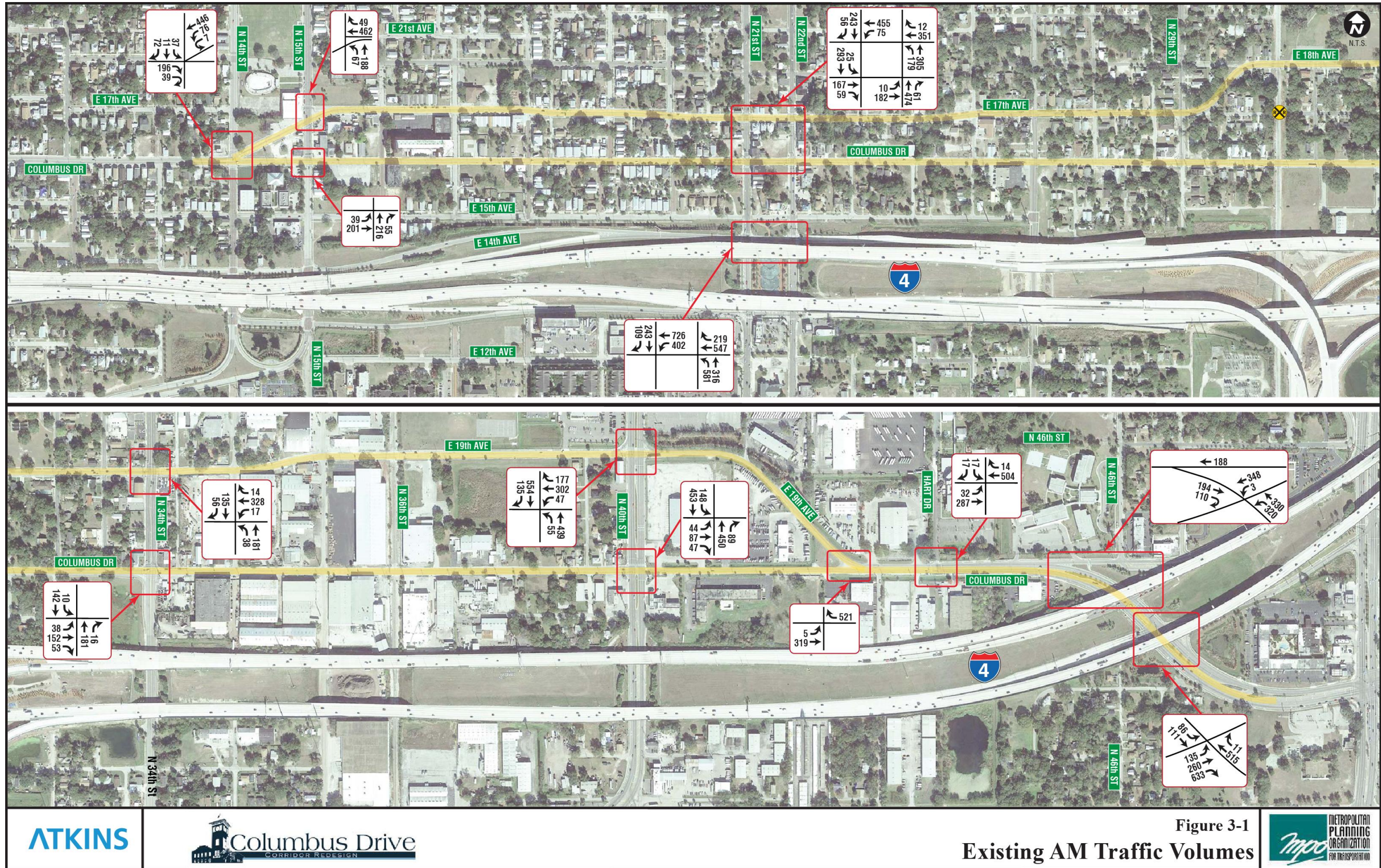
### Existing Traffic Volumes

The AM and PM peak hour turning movement counts collected at the 17 study area intersections were seasonally adjusted using a peak season factor to reflect peak season conditions. The peak season factor was obtained from the Florida Department of Transportation (FDOT) 2013 Florida Transportation Information (FTI) and was .98, .99, 1.04, 1.03, and 1.06 depending on the week that the counts were taken. The FDOT peak season factor report is provided with the count data in Appendix A.

**Figure 3-1** details the existing (2014) AM peak hour peak seasonal adjusted traffic volumes and **Figure 3-2** is the existing PM peak hour peak.

### Existing Traffic Operations

The adjusted shown in **Figures 3-1** and **3-2** were then used to perform peak hour traffic analyses. The intersection and roadway segment analyses for the study intersections and roadway segments were performed using Synchro, utilizing Highway Capacity Manual (HCM) methodologies. Synchro is a traffic engineering software program that calculates LOS based upon traffic volumes, signal timings, lanes, speed limits, etc. In addition, Synchro can model and simulate traffic conditions. The existing signal timings for the intersections, supplied by Hillsborough County, were used in the analysis.



ATKINS

Columbus Drive  
CORRIDOR REDESIGN

Figure 3-1  
Existing AM Traffic Volumes

MPO  
METROPOLITAN  
PLANNING  
ORGANIZATION  
FOR TRANSPORTATION

Figure 3-1 Existing 2014 AM Peak Hour Peak Seasonal Adjusted Traffic Volumes

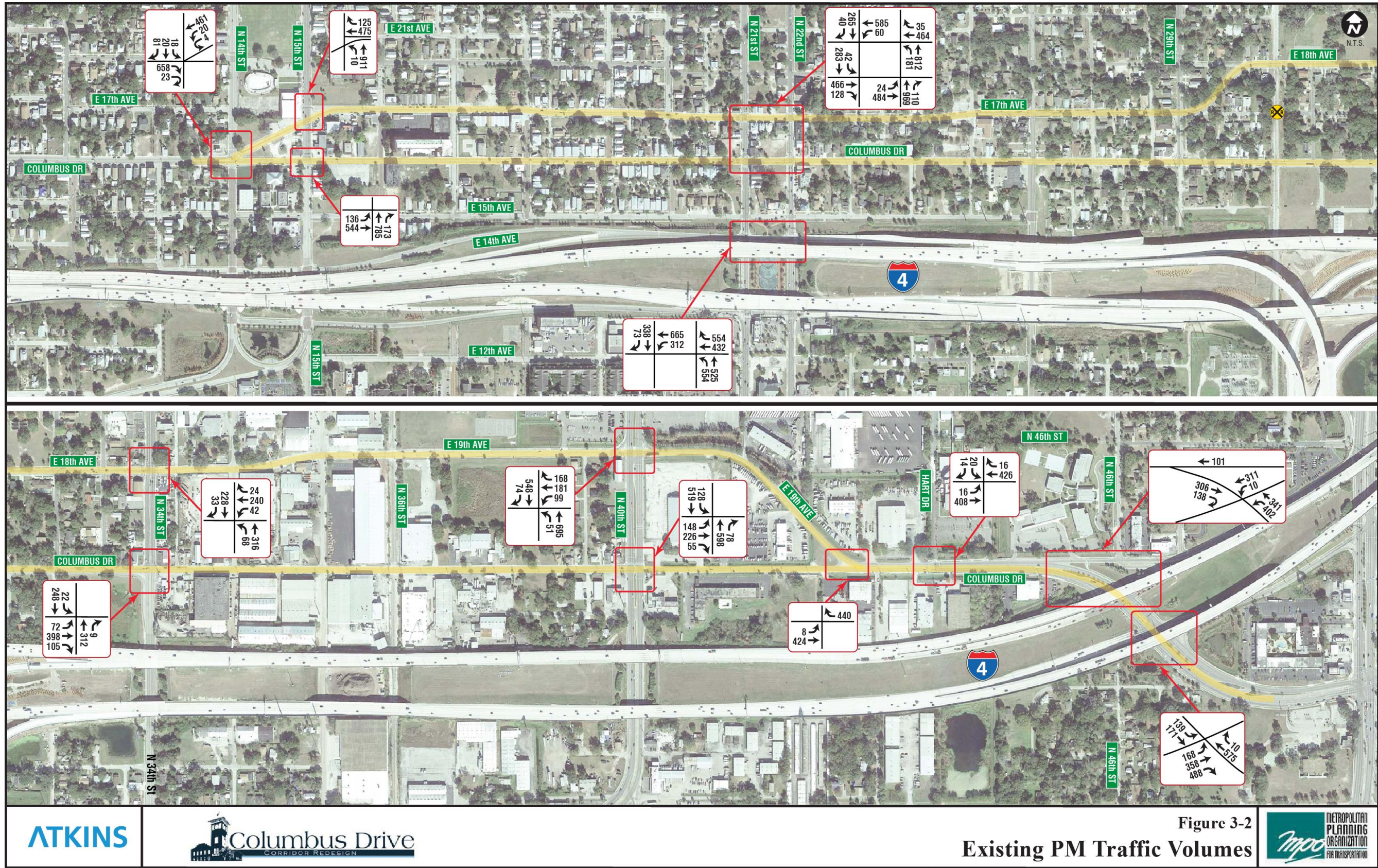


Figure 3-2 Existing 2014 PM Peak Hour Peak Season Adjusted Traffic Volumes

### Existing Year (2014) Intersection Conditions

The 2014 AM/PM peak hour analyses showed that all study intersections are currently operating at LOS C or better. **Table 3.1** details the 2014 Existing Year intersection LOS.

Intersection	Intersection Control	Level of Service	
		AM Peak	PM Peak
Columbus Drive/17 <sup>th</sup> Avenue & 14 <sup>th</sup> Street	Signal	C	C
Columbus Drive & 15 <sup>th</sup> Street	Signal	B	B
17 <sup>th</sup> Avenue & 15 <sup>th</sup> Street	Signal	B	C
Columbus Drive & 21 <sup>st</sup> Street	Signal	B	B
17 <sup>th</sup> Avenue & 21 <sup>st</sup> Street	Signal	B	C
Columbus Drive & 22 <sup>nd</sup> Street	Signal	C	C
17 <sup>th</sup> Avenue & 22 <sup>nd</sup> Street	Signal	B	C
Columbus Drive & 34 <sup>th</sup> Street	Signal	B	B
18 <sup>th</sup> Avenue & 34 <sup>th</sup> Street	Signal	B	A
Columbus Drive & 40 <sup>th</sup> Street	Signal	A	B
19 <sup>th</sup> Avenue & 40 <sup>th</sup> Street	Signal	A	A

### Existing Year (2014) Conditions: Roadway Segments

While the study area intersections are currently operating at an acceptable level of service, several of the study area roadway segments are operating at LOS F during the AM and PM peak periods. The segment of Columbus Drive from 14<sup>th</sup> Street to 15<sup>th</sup> Street is operating at LOS F during the PM peak hour. The segment of Columbus Drive between 21<sup>st</sup> Street and 22<sup>nd</sup> Street is operating at a LOS F during the AM and PM peak periods. The portion of 17<sup>th</sup> Avenue from 14<sup>th</sup> Street to 15<sup>th</sup> Street is operating at a LOS F during the AM peak hour. 17<sup>th</sup> Street from 15<sup>th</sup> Street to 21<sup>st</sup> Street and from 21<sup>st</sup> Street to 22<sup>nd</sup> Street is operating at a LOS F during the AM and PM peak periods. **Table 3.2** describes the level of service for each of the study area roadway segments.



<b>Table 3.2: Existing Year (2014) Roadway Analysis</b>		
<b>Roadway Segment</b>	<b>Level of Service (LOS)</b>	
	<b>AM Peak</b>	<b>PM Peak</b>
<b>Columbus Drive</b>		
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	D	F
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	B
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	F	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	C	D
40 <sup>th</sup> Street to 19 <sup>th</sup> Avenue	B	B
<b>17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue</b>		
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	F	E
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	F	F
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	F	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	B	C
40 <sup>th</sup> Street to Columbus Drive	D	D

**Figure 3-3** is a study area map that identifies the existing LOS of each study area intersection and roadway segment



Figure 3-3 Existing Study Area Intersection and Roadway Segment LOS

### Existing (2014) Travel Times

Existing travel times were taken in the field and simulated in Synchro with existing seasonally adjusted traffic counts as a comparison. **Table 3.3** shows the travel times taken in the field. The field travel time runs were conducted for the AM and PM peak periods on three different days and were calculated to determine the average travel time during the AM and PM peak periods. The field travel time runs were conducted on Tuesday June 24, 2014, Tuesday July 1, 2014, and Wednesday July 16, 2014.

<b>Table 3.3: Field Travel Time Runs</b>				
	<b>Day 1</b>	<b>Day 2</b>	<b>Day 3</b>	<b>Average</b>
<b>AM Peak Hour</b>				
Columbus Drive EB	7:06	7:08	7:18	7:11
17 <sup>th</sup> /18 <sup>th</sup> /19 <sup>th</sup> Avenues WB	6:17	6:30	6:14	6:20
<b>PM Peak Hour</b>				
Columbus Drive EB	5:24	5:23	6:26	5:44
17 <sup>th</sup> /18 <sup>th</sup> /19 <sup>th</sup> Avenues WB	6:07	7:01	5:37	6:15

The existing travel time runs simulated in Synchro are similar to the field travel time run averages, meaning that the model is generally replicating actual conditions. Synchro modeled a travel time of 6 minutes and 18 seconds on Columbus Drive eastbound during the AM peak period compared to 7 minutes and 11 seconds in the field travel time run averages. During the PM peak the Synchro model runs have a travel time run of 7 minutes and 3 seconds and 5 minutes and 44 seconds for the field travel time run averages. The difference in travel time runs can be attributed to how many red lights and railroad crossings one may catch. **Table 3.4** details the Synchro simulation existing year travel time runs.

<b>Table 3.4: Existing Conditions Synchro Travel Time Summary</b>			
		<b>Existing Year (2014)</b>	
		<b>AM Peak Hour One-Way</b>	<b>PM Peak Hour One-Way</b>
Columbus Drive	EB	6:18	7:03
	WB	N/A	N/A
17/18/19	EB	N/A	N/A
	WB	6:00	6:20

Detailed summaries of the existing year Synchro analysis, including segment and intersection reports, can be found in **Appendix B**.

## Chapter 4 – Two-Way Configuration with Existing Traffic

As previously stated, the purpose of this study is to determine if the existing one-way configuration of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues can be converted to two-way operation to improve safety, attract new businesses and residents to the corridor, as well as provide on-street parking and an enhanced environment for bicycling and walking. This chapter will examine how a two-way configuration on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues would operate with existing traffic volumes.

### Existing Traffic Volumes with Two-Way Configuration

The existing (2014) seasonally adjusted traffic volumes identified in Chapter 2 were used to model two-way traffic on the corridor. The traffic volumes were redistributed from the existing one-way operation to two-way operation on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. The redistributed traffic was assigned to approximately a 2/3 and 1/3 split. Because Columbus Drive has more commercial properties along it and it is considered the main roadway of the two corridors, it was assigned 2/3 of all traffic traveling along the corridor. The more residential nature of 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues lends itself as a local street more so than Columbus Drive so thus 1/3 of the traffic in the corridor was assigned to 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. This distribution was confirmed through modifications to the Tampa Bay Regional Travel Demand Model (TBRPM), which is discussed in more detail in Chapter 5.

Because Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues were modeled from a one-way configuration to a two-way operation, two operational changes had to be made. On the west end of the corridor, 17<sup>th</sup> Avenue, being assumed as a local street, ended in a “T” intersection into 15<sup>th</sup> Street instead of its current alignment angling to the southwest to end into Columbus Drive at the intersection of Columbus Drive & 14<sup>th</sup> Street. On the east end of the corridor, 19<sup>th</sup> Avenue was reconfigured to end as a “T” intersection into Columbus Drive.

**Figures 4-1** and **4-2** show the AM and PM existing (2014) traffic volumes in a two-way configuration on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues within the study area.

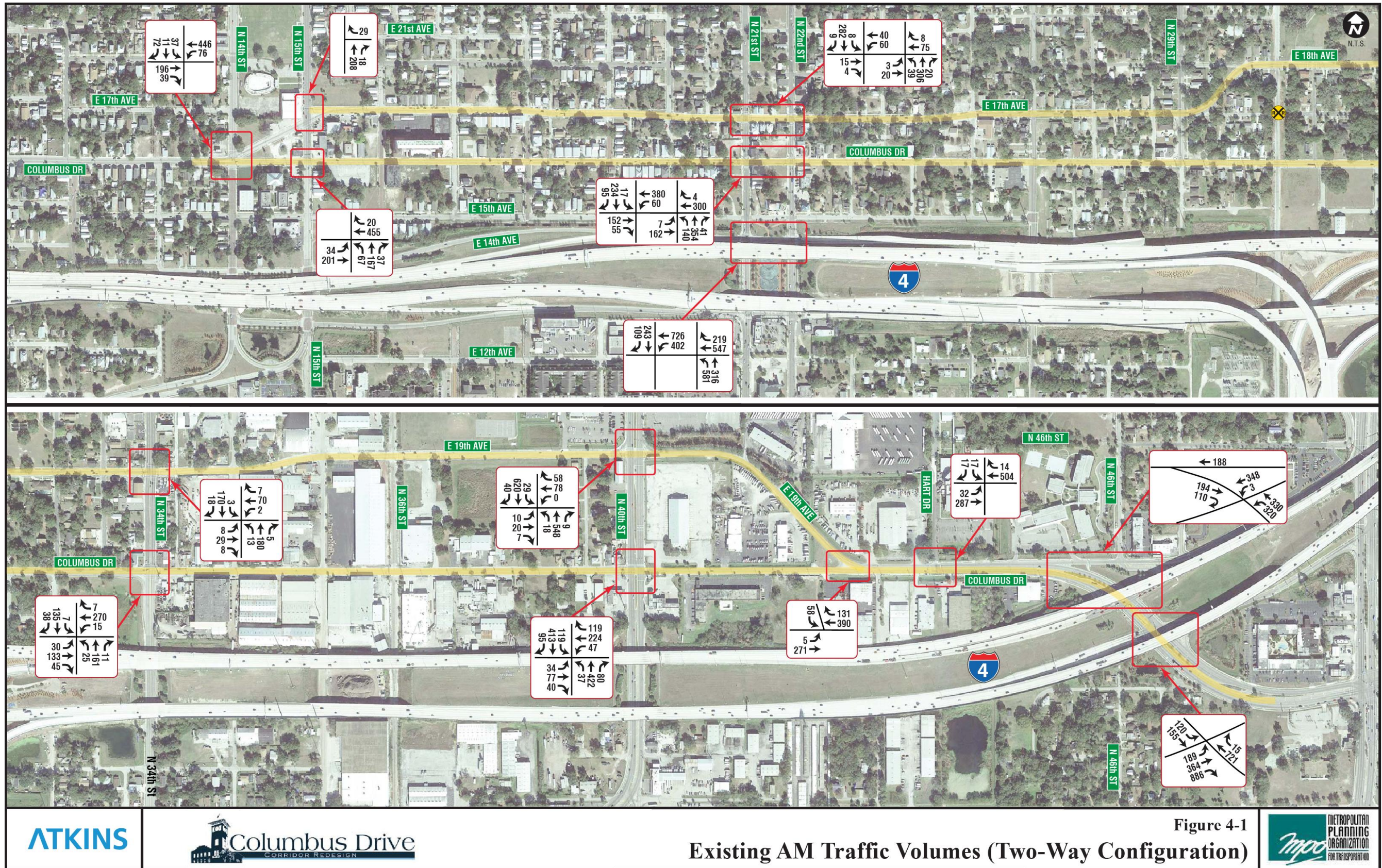


Figure 4-1 Existing (2014) AM Peak Hour Traffic Volumes with Two-Way Configuration

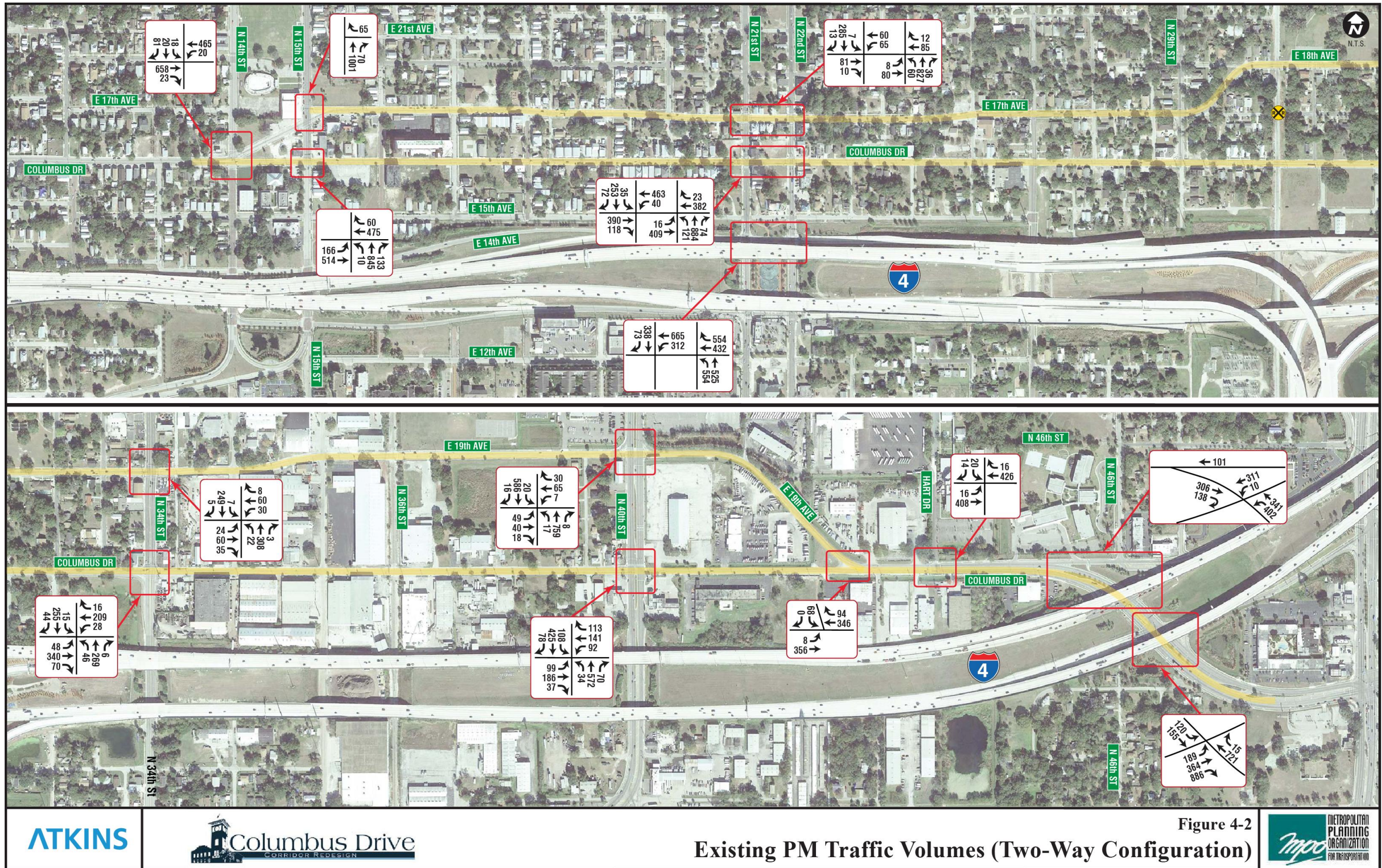


Figure 4-2 Existing (2014) PM Peak Hour Traffic Volumes with Two-Way Configuration

### Existing Traffic Operations with Two-Way Configuration

The volumes used in the intersection and roadway segment analyses are the volumes previously shown in **Figures 4-1** and **4-2**. The intersection and roadway segment analyses for the study intersections were performed using Synchro, utilizing the Highway Capacity Manual (HCM) methodologies. The signal timings are still based on the existing signal timings supplied by Hillsborough County but have been adjusted for two-way operations.

#### *Existing Year (2014) Two-Way Operation Conditions: Intersections*

The 2014 AM and PM peak hour analyses showed that the study intersections would operate operating at LOS C or better with a two-way operation. **Table 4.1** details the 2014 Existing Year intersection LOS in a two-way operation.

Intersection	Intersection Control	Level of Service	
		AM Peak	PM Peak
Columbus Drive & 14 <sup>th</sup> Street	Signal	B	B
Columbus Drive & 15 <sup>th</sup> Street	Signal	B	C
17 <sup>th</sup> Avenue & 15 <sup>th</sup> Street	Signal	A	A
Columbus Drive & 21 <sup>st</sup> Street	Signal	B	B
17 <sup>th</sup> Avenue & 21 <sup>st</sup> Street	Signal	B	B
Columbus Drive & 22 <sup>nd</sup> Street	Signal	B	C
17 <sup>th</sup> Avenue & 22 <sup>nd</sup> Street	Signal	B	C
Columbus Drive & 34 <sup>th</sup> Street	Signal	B	B
18 <sup>th</sup> Avenue & 34 <sup>th</sup> Street	Signal	B	B
Columbus Drive & 40 <sup>th</sup> Street	Signal	B	C
19 <sup>th</sup> Avenue & 40 <sup>th</sup> Street	Signal	A	A

The Synchro analysis for two-way operations using the redistributed existing year (2014) traffic volumes indicate that several study area intersections would have an improved LOS over the one-way operations. The intersection of Columbus Drive & 14<sup>th</sup> Street improves from a LOS C in the AM and PM peak periods in the current one-way configuration to a LOS B in both the AM and PM peak hours in a two-way operation. This improvement has to do with eliminating the existing fifth leg of the intersection which is 17<sup>th</sup> Avenue.

In addition the intersection of 17<sup>th</sup> Avenue & 21<sup>st</sup> Street improves from a LOS C in the current one-way configuration during the PM peak hour to a LOS B in a two-way operation. The intersection of Columbus Drive & 22<sup>nd</sup> Street improves from a LOS C during the AM peak hour to a LOS B with a two-way operation.

#### Existing Year (2014) Two-Way Operation Conditions: Roadway Segments

While the study area intersections are projected to operate at an acceptable level of service with existing traffic volumes in a two-way configuration, two of the study area roadway segments would still operate at LOS F during the AM and PM peak periods. During the AM peak hour, both directions of 17<sup>th</sup> Avenue and the westbound direction of Columbus Drive are anticipated to operate at LOS F between

21<sup>st</sup> Street and 22<sup>nd</sup> Street. In addition, the eastbound direction of Columbus Drive between 21<sup>st</sup> Street and 22<sup>nd</sup> Street is LOS F in the PM peak hour. This is most likely due to the short distance between 21<sup>st</sup> Street and 22<sup>nd</sup> Street. **Table 4.2** describes the level of service for each of the study area roadway segments in the two-way operation scenario.

Roadway Segment	Level of Service (LOS)			
	AM Peak		PM Peak	
	EB	WB	EB	WB
<b>Columbus Drive</b>				
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	D	E	E	C
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	C	B	C
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	E	F	F	D
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B	B	C
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	C	C	D	C
40 <sup>th</sup> Street to 19 <sup>th</sup> Avenue	B	D	B	E
<b>17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue</b>				
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	B	C	B
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	F	F	D	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	D	C	D	C
40 <sup>th</sup> Street to Columbus Drive	N/A	E	N/A	D

The map on **Figure 4-1** details the intersection and roadway segments LOS with existing traffic volumes in the two-way configuration scenario on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues.

Finally, travel time summaries from the Synchro model were again documented. **Table 4.3** shows the Synchro simulation for travel times under both the one-way and two-way operation scenarios. The Synchro simulation suggests that travel times from one end of the corridor to the other end may decrease with a two-way operation on both Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues with existing traffic conditions. This is in part due to several modifications along the corridor, including additional turn lanes. These will be discussed in Chapter 6.

		Existing Year (2014)			
		AM Peak Hour		PM Peak Hour	
		One-Way	Two-Way	One-Way	Two-Way
Columbus Drive	EB	6:18	5:52	7:03	6:20
	WB	N/A	6:39	N/A	7:20
17/18/19	EB	N/A	4:54	N/A	4:53
	WB	6:00	4:29	6:20	4:31

Finally, **Appendix C** contains Synchro summaries for the peak hour segment and intersection analyses for the existing year two-way operation scenario.



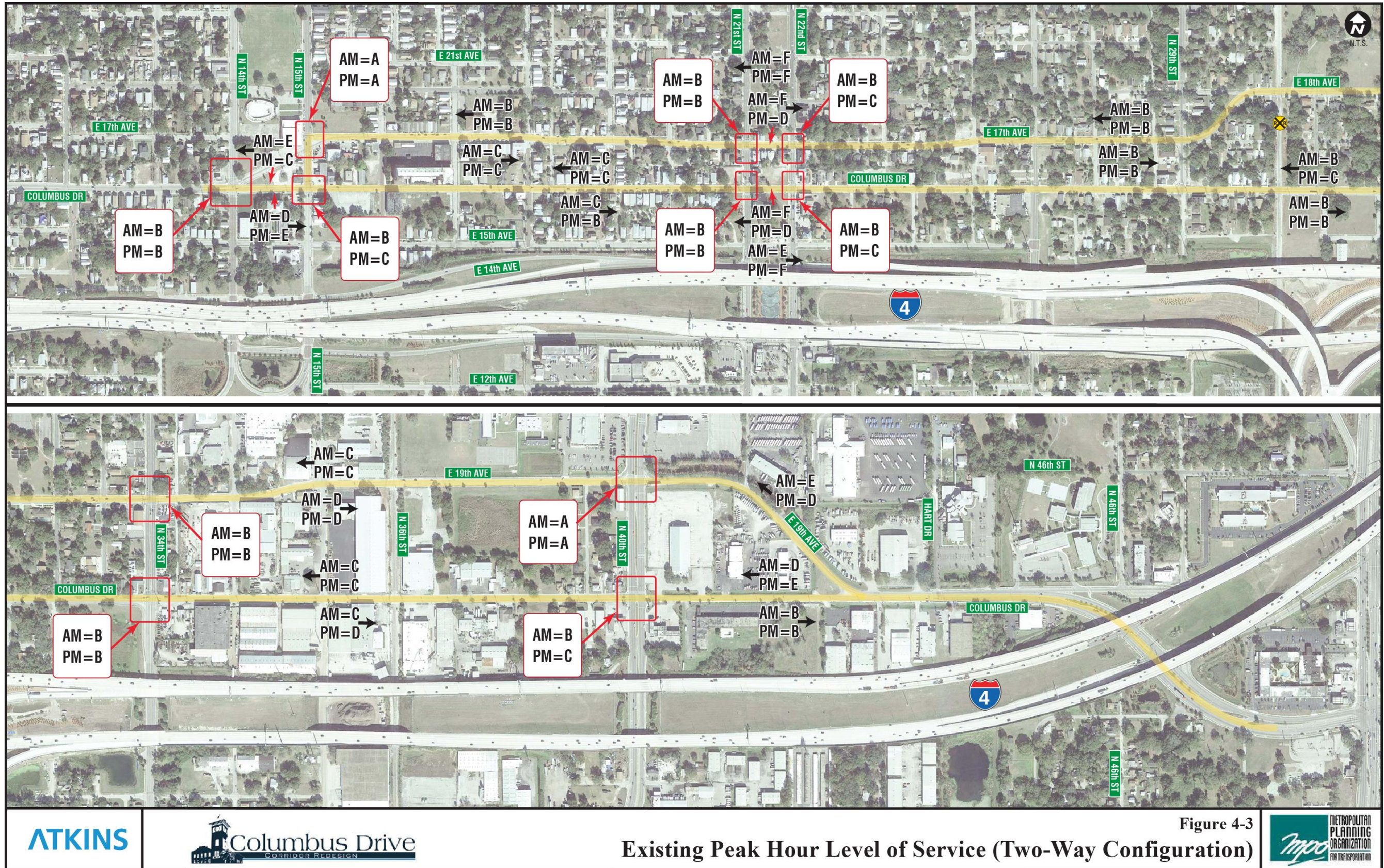


Figure 4-3 Existing Study Area Intersection and Roadway Segment LOS with Two-Way Configuration

## Chapter 5 – Design Year (2040) Conditions

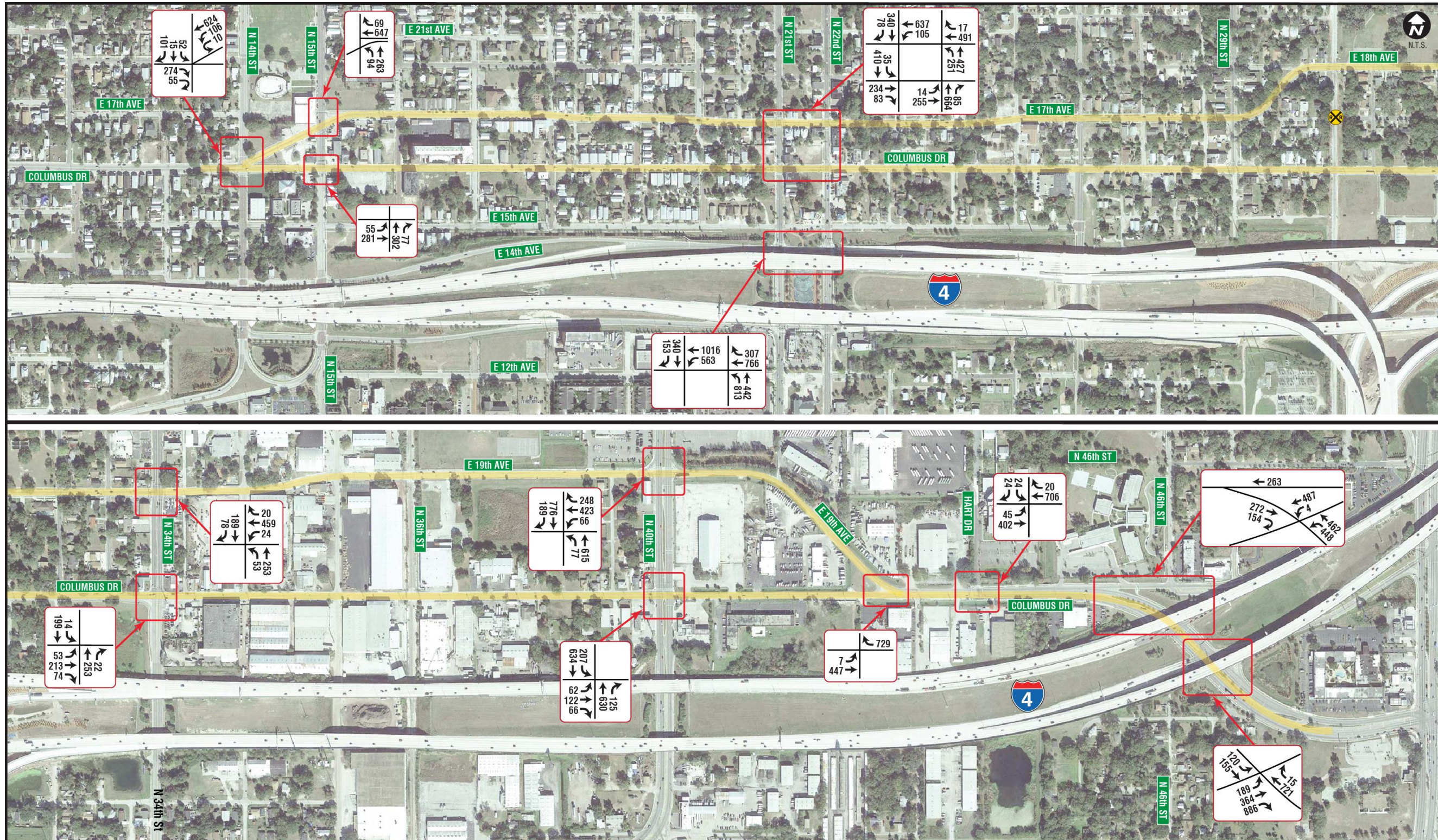
As noted in the introduction, the design year for the traffic analysis for the *Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign* study is 2040. The design year is usually at least 20 years beyond the existing year. The year 2040 was chosen for the design year because the latest Tampa Bay Regional Planning Model (TBRPM) and Hillsborough MPO Long Range Transportation Plan (LRTP) have a horizon year of 2040. This section will detail the traffic volumes and LOS in 2040 with both the one-way operation and the two-way operation for Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues.

The first step to determine future traffic conditions within the study area is to calculate what the projected growth rates will be to determine future traffic volumes. For the *Columbus Drive/17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue Corridor Redesign* study, the latest version of the TBRPM, including a 2010 base year model and a 2040 cost affordable model, was used. The 2010 model was compared with the 2040 model to determine growth rates. Within the study area, the TBRPM 2040 model showed traffic volumes approximately 30-50% higher in the study area as compared to the 2010 model.

Based on this, a growth rate of 40% was applied to the 2014 existing year seasonally adjusted traffic volumes found in Chapters 2 and 3 to estimate 2040 traffic volumes. The 40% growth rate within the study area can be attributed to anticipated redevelopment in East Tampa and Ybor City areas as well as vehicles using Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues as an alternate to Interstate 4 due to congestion on the interstate.

The TBRPM 2010 and 2040 model printouts for the study area can be found in **Appendix D**.

**Figure 5-1** and **5-2** are the projected AM and PM peak hour 2040 design year traffic volumes in the one-way configuration on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. As with the existing year analysis, the projected 2040 Design Year traffic volumes for the two-way configuration for Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues within the study area was determined by splitting the traffic volumes by having 2/3 of the traffic using Columbus Drive and 1/3 of the traffic traveling on 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues, just as was done in the existing traffic conditions in Chapter 3. In addition, just as in Chapter 4, 17<sup>th</sup> Avenue ended in a “T” intersection at 15th Street on the west end of the study area and 19<sup>th</sup> Avenue ended in a “T” intersection into Columbus Drive on the east end of the study area. **Figure 5-3** and **5-4** are the anticipated AM and PM peak hour 2040 Design Year traffic volumes with the two-way configuration.



ATKINS

Columbus Drive  
CORRIDOR REDESIGN

Figure 5-1  
Design AM Traffic Volumes

MPO  
METROPOLITAN  
PLANNING  
ORGANIZATION  
FOR TRANSPORTATION

Figure 5-1 Projected 2040 Design Year AM Peak Hour Traffic Volumes with One-Way Configuration

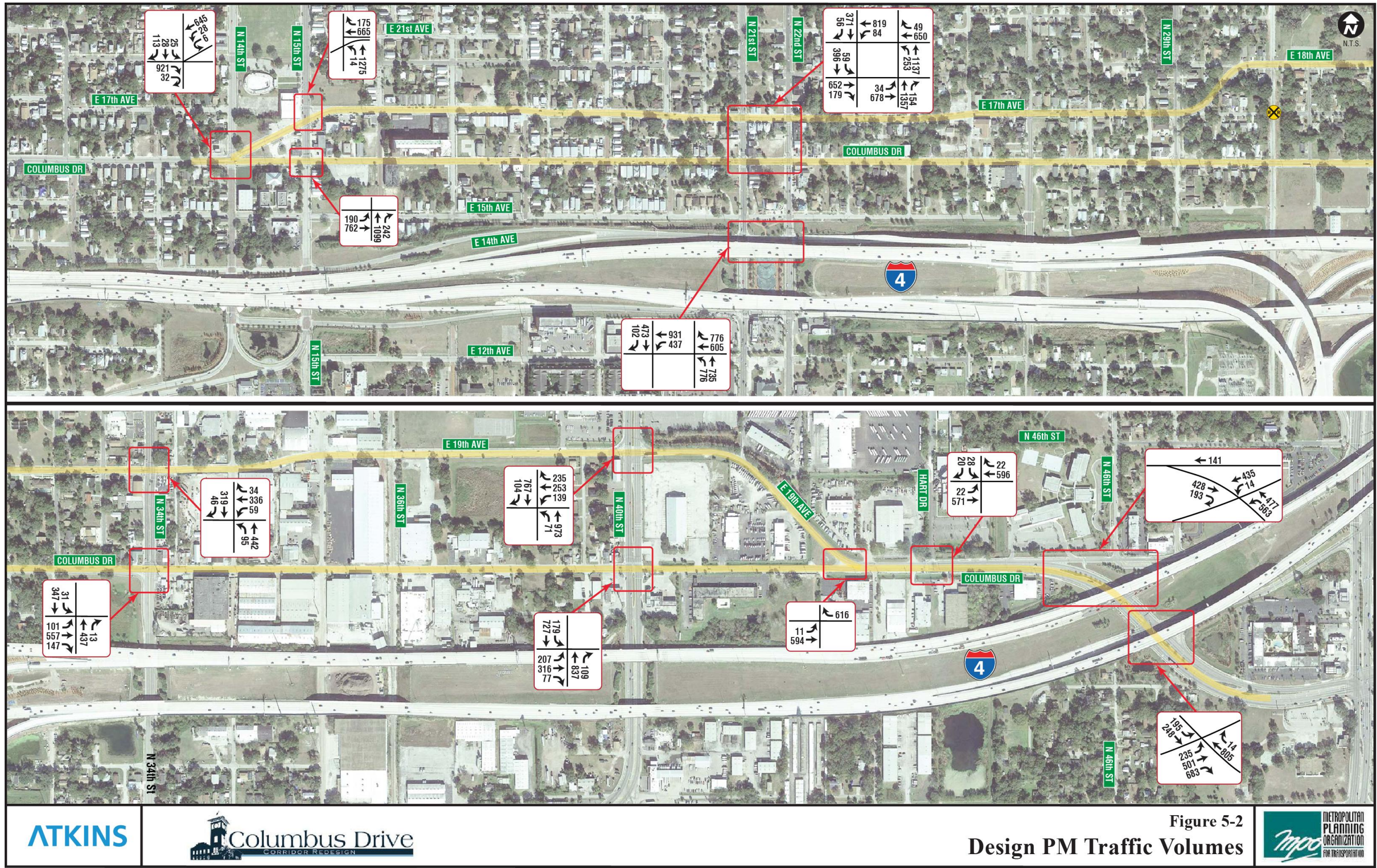


Figure 5-2  
Design PM Traffic Volumes



Figure 5-2 Projected 2040 Design Year PM Peak Hour Traffic Volumes with One-Way Configuration

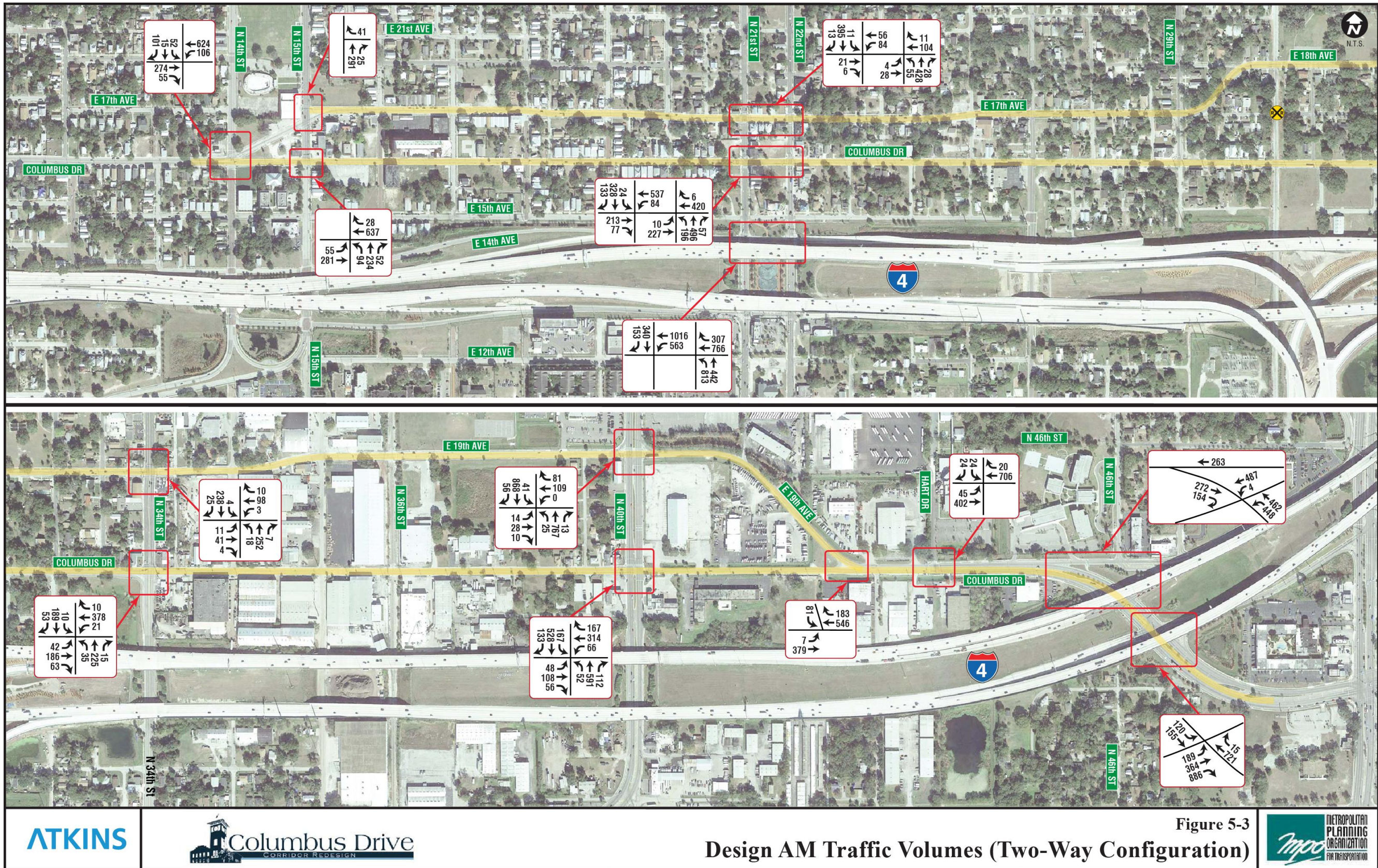


Figure 5-3 Projected 2040 Design Year AM Peak Hour Traffic Volumes with Two-Way Configuration

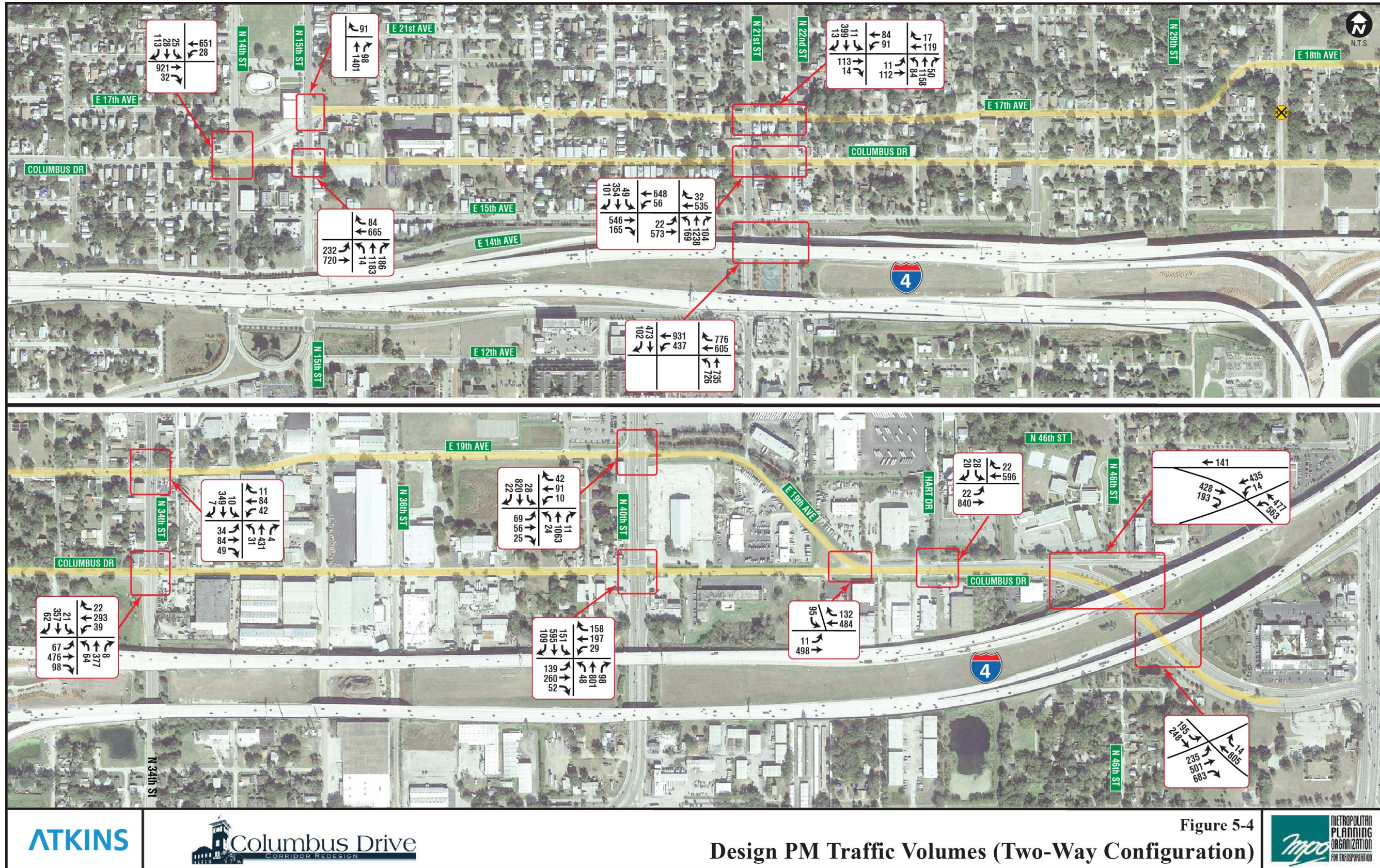


Figure 5-4 Projected 2040 Design Year PM Peak Hour Traffic Volumes with Two-Way Configuration

### Projected 2040 Design Year Traffic Operations

The volumes used in the intersection and roadway segment analyses are the volumes previously shown in **Figures 5-1** and **5-2** for the 2040 Design Year one-way configuration of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues and **Figures 5-3** and **5-4** for the 2040 Design Year two-way operation of Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenues. The intersection and roadway segment analyses for the study intersections were performed using Synchro, utilizing the Highway Capacity Manual (HCM) methodologies. The signal timings used in the existing traffic operations analysis from Chapters 2 and 3 were used in the 2040 analysis as a base and were adjusted accordingly if needed.

#### 2040 One-Way Operation Analysis

The 2040 AM/PM peak hour analyses showed that the study intersections are anticipated to operate at LOS D or better, with the exception of the intersection of Columbus Drive/17<sup>th</sup> Avenue & 14<sup>th</sup> Street during the PM peak hour. **Table 5.1** details the 2040 Design Year intersection LOS.

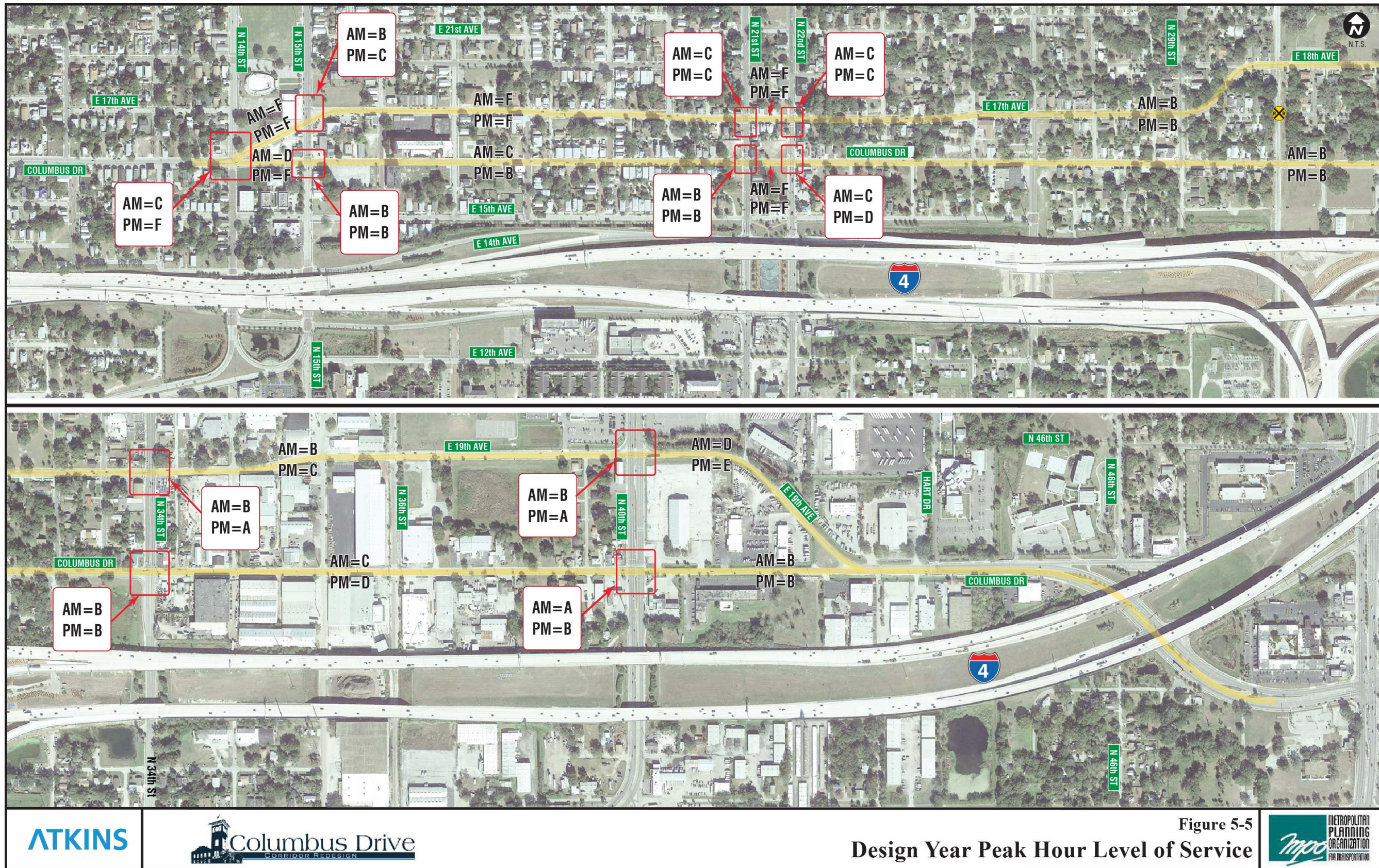
Intersection	Intersection Control	Level of Service	
		AM Peak	PM Peak
Columbus Drive/17 <sup>th</sup> Avenue & 14 <sup>th</sup> Street	Signal	C	F
Columbus Drive & 15 <sup>th</sup> Street	Signal	B	B
17 <sup>th</sup> Avenue & 15 <sup>th</sup> Street	Signal	B	C
Columbus Drive & 21 <sup>st</sup> Street	Signal	B	B
17 <sup>th</sup> Avenue & 21 <sup>st</sup> Street	Signal	C	C
Columbus Drive & 22 <sup>nd</sup> Street	Signal	C	D
17 <sup>th</sup> Avenue & 22 <sup>nd</sup> Street	Signal	C	C
Columbus Drive & 34 <sup>th</sup> Street	Signal	B	B
18 <sup>th</sup> Avenue & 34 <sup>th</sup> Street	Signal	B	A
Columbus Drive & 40 <sup>th</sup> Street	Signal	A	B
19 <sup>th</sup> Avenue & 40 <sup>th</sup> Street	Signal	B	A

While all but one of the study area intersections are anticipated to operate at an acceptable level of service, several of the study area roadway segments are operating at LOS F during the AM and PM peak periods. The segment of Columbus Drive from 14<sup>th</sup> Street to 15<sup>th</sup> Street is projected to operate at LOS F during the PM peak hour in 2040. The segment of Columbus Drive between 21<sup>st</sup> Street and 22<sup>nd</sup> Street is projected to operate at LOS F during the AM and PM peak periods. The portion of 17<sup>th</sup> Avenue from 14<sup>th</sup> Street to 15<sup>th</sup> Street is anticipated to operate at LOS F during the AM and PM peak hours in 2040. 17<sup>th</sup> Street from 15<sup>th</sup> Street to 21<sup>st</sup> Street and from 21<sup>st</sup> Street to 22<sup>nd</sup> Street is projected to operate at LOS F during the AM and PM peak periods in 2040. **Table 5.2** describes the anticipated level of service for each of the study area roadway segments in the 2040 Design Year with one-way operations.

<b>Table 5.2: 2040 Design Year Roadway Analysis with One-Way Configuration</b>		
<b>Roadway Segment</b>	<b>Level of Service (LOS)</b>	
	<b>AM Peak</b>	<b>PM Peak</b>
<b>Columbus Drive</b>		
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	D	F
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	B
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	F	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	C	D
40 <sup>th</sup> Street to 19 <sup>th</sup> Avenue	B	B
<b>17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue</b>		
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	F	F
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	F	F
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	F	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	B	C
40 <sup>th</sup> Street to Columbus Drive	D	E

**Figure 5-5** is a study area map that identifies the projected 2040 Design Year LOS of each study area intersection and roadway segment in the one-way configuration scenario.





**Figure 5-5** 2040 Design Year Study Area Intersection and Roadway Segment LOS with One-Way Configuration

### 2040 Two-Way Operation Analysis

The 2040 Design Year AM/PM peak hour analyses showed that the study intersections are currently operating at LOS D or better, except for the intersection of Columbus Drive & 15<sup>th</sup> Street with a two-way operation. **Table 5.3** details the projected 2040 Design Year intersection LOS in a two-way operation.

Intersection	Intersection Control	Level of Service	
		AM Peak	PM Peak
Columbus Drive & 14 <sup>th</sup> Street	Signal	B	B
Columbus Drive & 15 <sup>th</sup> Street	Signal	B	E
17 <sup>th</sup> Avenue & 15 <sup>th</sup> Street	Signal	A	A
Columbus Drive & 21 <sup>st</sup> Street	Signal	C	B
17 <sup>th</sup> Avenue & 21 <sup>st</sup> Street	Signal	B	B
Columbus Drive & 22 <sup>nd</sup> Street	Signal	B	D
17 <sup>th</sup> Avenue & 22 <sup>nd</sup> Street	Signal	B	C
Columbus Drive & 34 <sup>th</sup> Street	Signal	B	B
18 <sup>th</sup> Avenue & 34 <sup>th</sup> Street	Signal	A	A
Columbus Drive & 40 <sup>th</sup> Street	Signal	C	C
19 <sup>th</sup> Avenue & 40 <sup>th</sup> Street	Signal	A	A

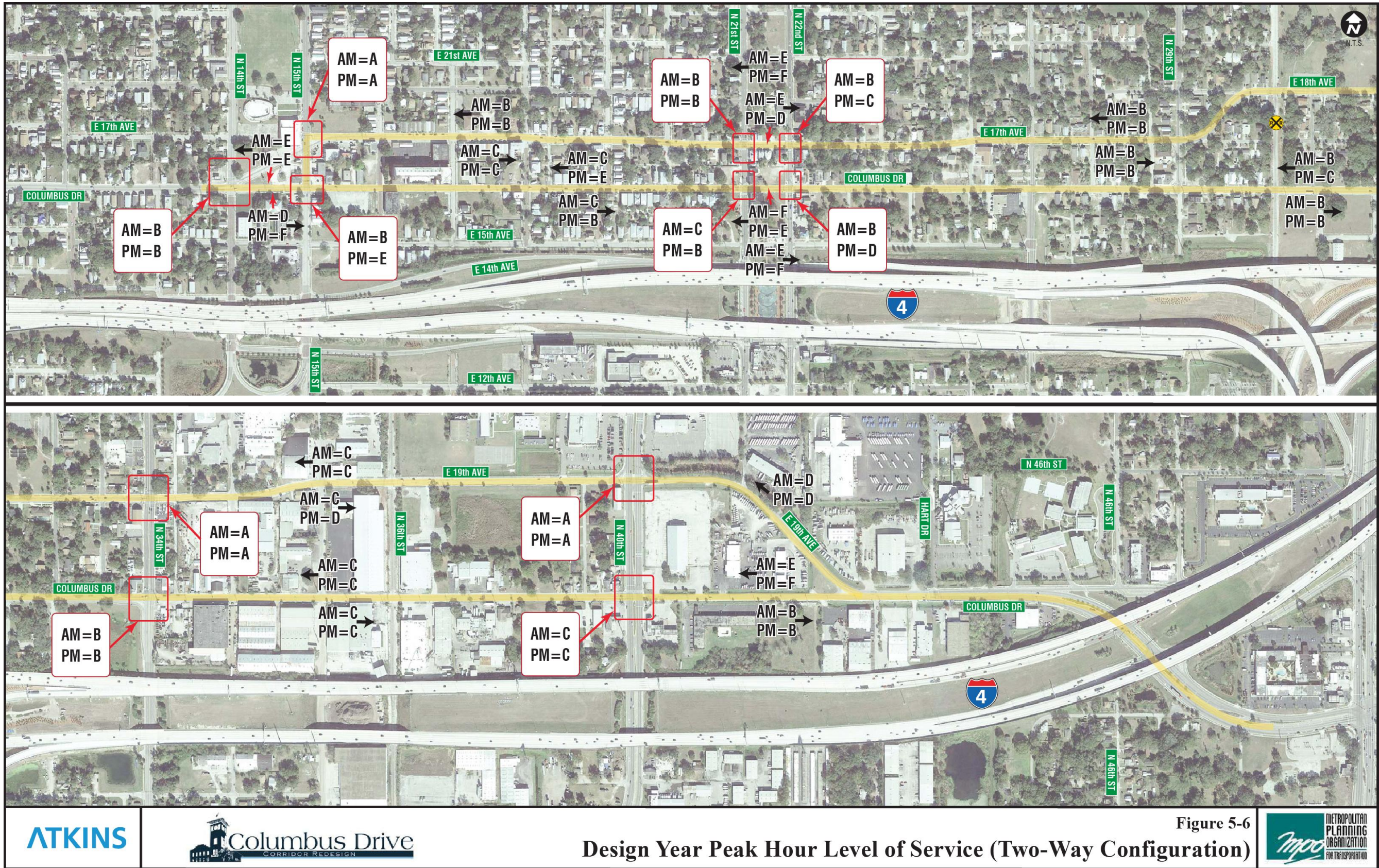
The Synchro analysis for two-way operations using 2040 Design Year traffic volumes indicates that several study area intersections have an improved LOS over the one-way operation scenario. The intersection of Columbus Drive & 14<sup>th</sup> Street improves from a LOS F in the PM peak hour in the one-way configuration to a LOS B in the PM peak hour in a two-way operation. This improvement has a lot to do with eliminating the existing fifth leg of the intersection which is 17<sup>th</sup> Avenue. Furthermore, additional turn lanes have been proposed at several locations. These modifications are discussed in detail in Chapter 6.

While most of the study area intersections are projected to operate at an acceptable LOS with projected 2040 traffic volumes in a two-way configuration, several of the study area roadway segments are operating at LOS F during the AM or PM peak periods. The eastbound direction of Columbus Drive between 14<sup>th</sup> Street and 15<sup>th</sup> Street is anticipated to operate at LOS F in 2040. During the PM peak hour the eastbound segment of Columbus Drive and the westbound segment of 17<sup>th</sup> Avenue between 21<sup>st</sup> Street and 22<sup>nd</sup> Street is projected to operate at LOS F in 2040 with two-way operations, as is the westbound segment of Columbus Drive during the AM peak hour. This is most likely due to the short distance between 21<sup>st</sup> Street and 22<sup>nd</sup> Street. The westbound segment of Columbus Drive is also anticipated to operate at LOS F during the PM peak hour in 2040 with two-way traffic. **Table 5.4** describes the LOS

for each of the study area roadway segments in the two-way operation scenario with 2040 Design Year traffic volumes.

<b>Table 5.4: 2040 Design Year Roadway Analysis with Two-Way Configuration</b>				
<b>Roadway Segment</b>	<b>Level of Service (LOS)</b>			
	<b>AM Peak</b>		<b>PM Peak</b>	
	<b>EB</b>	<b>WB</b>	<b>EB</b>	<b>WB</b>
<b>Columbus Drive</b>				
14 <sup>th</sup> Street to 15 <sup>th</sup> Street	D	E	F	E
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	C	B	E
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	E	F	F	E
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B	B	C
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	C	C	C	C
40 <sup>th</sup> Street to 19 <sup>th</sup> Avenue	B	E	B	F
<b>17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue</b>	<b>EB</b>	<b>WB</b>	<b>EB</b>	<b>WB</b>
15 <sup>th</sup> Street to 21 <sup>st</sup> Street	C	B	C	B
21 <sup>st</sup> Street to 22 <sup>nd</sup> Street	E	E	D	F
22 <sup>nd</sup> Street to 34 <sup>th</sup> Street	B	B	B	B
34 <sup>th</sup> Street to 40 <sup>th</sup> Street	C	C	D	C
40 <sup>th</sup> Street to Columbus Drive	N/A	D	N/A	D

**Figure 5-6** is a study area map that identifies the projected 2040 Design Year LOS of each study area intersection and roadway segment with a two-way configuration on Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/ 19<sup>th</sup> Avenues.



**ATKINS**

**Columbus Drive**  
CORRIDOR REDESIGN

**Design Year Peak Hour Level of Service (Two-Way Configuration)**

Figure 5-6

**MPO**  
METROPOLITAN  
PLANNING  
ORGANIZATION  
FOR TRANSPORTATION

*Figure 5-6 2040 Design Year Study Area Intersection and Roadway Segment LOS with Two-Way Configuration*

2040 Design Year Corridor Travel Time Projections

Finally, the 2040 Design Year travel time runs were simulated in Synchro using the projected 2040 traffic volumes for the AM and PM peak hours. **Table 5.5** details the Synchro simulation 2040 Design Year travel times from one end of the corridor to the other end.

<b>Table 5.5: 2040 Design Year Synchro Travel Time Comparison</b>					
		<b>Design Year (2040)</b>			
		AM Peak Hour		PM Peak Hour	
		One-Way	Two-Way	One-Way	Two-Way
Columbus Drive	EB	6:27	6:04	9:17	7:20
	WB	N/A	7:29	N/A	8:59
17/18/19 Avenues	EB	N/A	4:53	N/A	5:02
	WB	6:13	4:28	6:39	4:34

Additional information on the 2040 Synchro analysis for the one-way scenario can be found in **Appendix E**. The 2040 Synchro two-way operation information is included in **Appendix F**.

## Chapter 6 – Concept Design

After meeting with the Transportation Advisory Group (TAG) committee and gathering initial public comments at the September 2014 Open House, it became apparent that the community was in favor of converting Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue to two-way operations. Furthermore, the traffic analysis presented in the previous three chapters showed that the concept would not result in significant congestion and delay during the AM and PM peak hours. As such, development of a conceptual corridor design for both roadways commenced. Initial concepts for both corridors were developed and then refined as the study progressed.

### Initial Design Concepts

The effort began using the information on street widths gathered during the data collection phase. As noted earlier in Chapter 3, pavement widths on Columbus Drive varied between 24' and 36', while pavement widths on 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue varied from 22' to 33'. At the first meeting of the TAG, it was decided that staying within the current curb-to-curb pavement width wherever possible would be ideal. Given those parameters, the Streetmix website ([www.streetmix.net](http://www.streetmix.net)) was used at the TAG meeting to visualize how each corridor might look given the ROW constraints.

### *Columbus Drive*

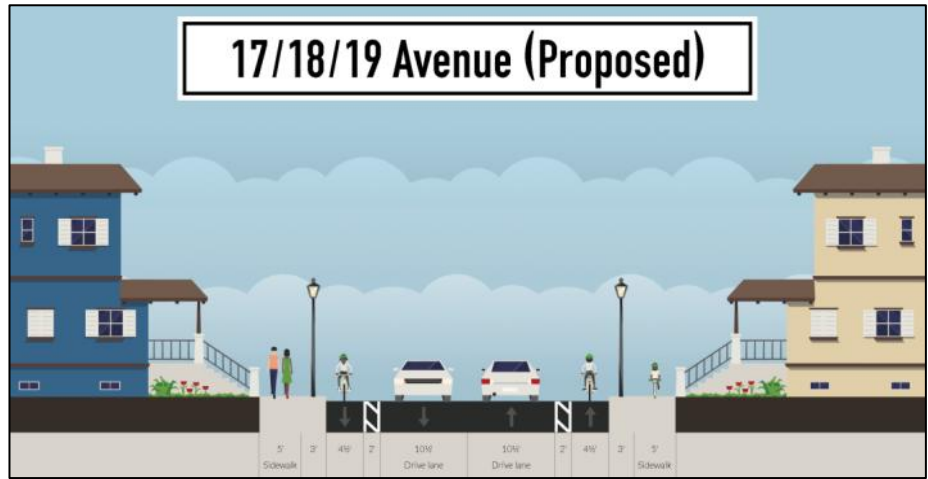
For Columbus Drive, the committee noted the importance of on-street parking in helping businesses in the area grow. A first cut typical section containing two 10.5' travel lanes and a 7' parking lane was developed to fit in the 28' curb-to-curb width on Columbus Drive from 14<sup>th</sup> Street



to 22<sup>nd</sup> Street. The widths widened slightly to two 11' lanes and an 8' parking lane from 22<sup>nd</sup> to 29<sup>th</sup> Streets, and the parking lane would be eliminated around the railroad crossing at 30<sup>th</sup> Street. From east of the railroad crossing to 40<sup>th</sup> Street, the curb-to-curb width increases to 36'. The committee felt that, given the industrial nature of that portion of Columbus Drive, on-street parking was not necessary. Instead a center turn lane was proposed. East of 40<sup>th</sup> Street, the pavement width is 24' with minimal curb and gutter infrastructure, so it was recommended that two 12' travel lanes be provided. Given the constraints, the TAG agreed that bike lanes could not be provided on Columbus Drive.

### 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue

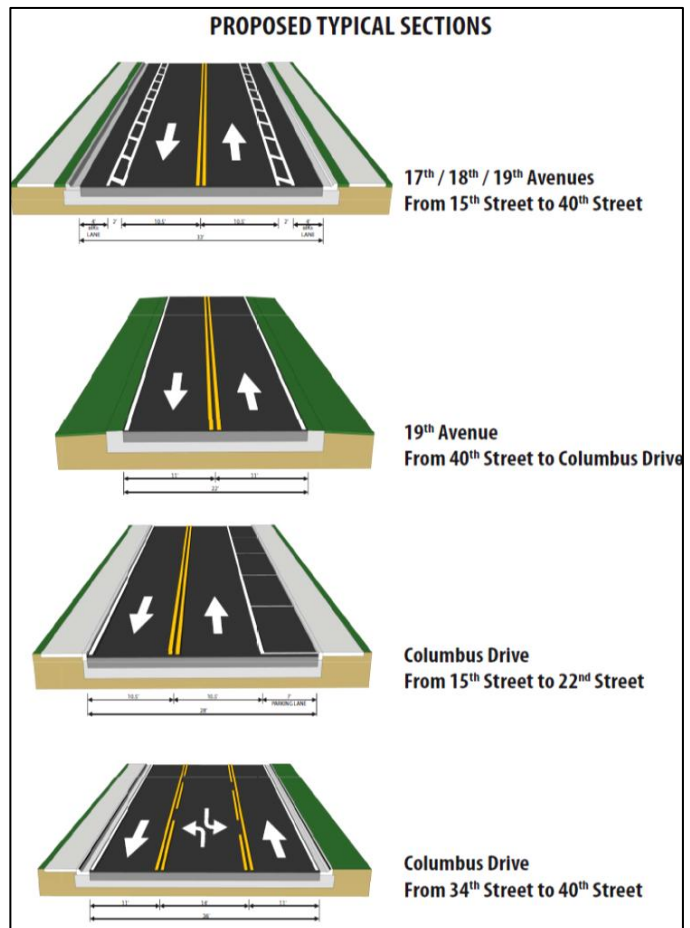
The discussion then moved to the westbound corridor, comprised of 17<sup>th</sup>, 18<sup>th</sup>, and 19<sup>th</sup> Avenues. The TAG felt that this corridor, as compared with Columbus Drive, was more residential in nature. They felt that providing enhanced bicycle facilities on



the corridor may be more valuable to the community than on-street parking. The curb-to-curb widths along much of the 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> corridor are wider, with 33' available from 14<sup>th</sup> Street to 22<sup>nd</sup> Street and from 28<sup>th</sup> Street to 40<sup>th</sup>. In between these stretches, the pavement narrows to 24', and it is only 22' east of 40<sup>th</sup> Street. An initial typical section was developed showing two 10.5' lanes with buffered bike lanes in each direction.

In order to facilitate the bike lanes between 22<sup>nd</sup> and 28<sup>th</sup> Street, the road would need to be widened and the curbs rebuilt. There is room to do this within the current ROW, as there is an approximately 4'-5' wide grass strip between the curb and the sidewalk on each side. As proposed, there would be no bike lane east of 40<sup>th</sup> Street, with the road having two 11' travel lanes.

Following the TAG meeting, the Streetmix typical sections were refined into concept designs and both corridors were laid out using engineering standards. The information was then taken to the public for their input at the September 2014 Open House. Based on their comments, another TAG meeting was held and the concepts were refined.



## Final Design Concepts

As noted previously in the report, members of the public who attended the Open House strongly favored the idea of converting the corridors back to two-way operations. That said, they also voiced strong support for on-street parking along 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue, and felt that was more important than bicycle facilities. They also felt that moving westbound HART bus service from 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue made sense, thereby enhancing the mixed-use character of Columbus Drive. Finally, the public requested that additional enhancements be considered for the corridor. As noted in Chapter 2, these include increased lighting, more trees and landscaping, better-maintained sidewalks, and traffic calming.

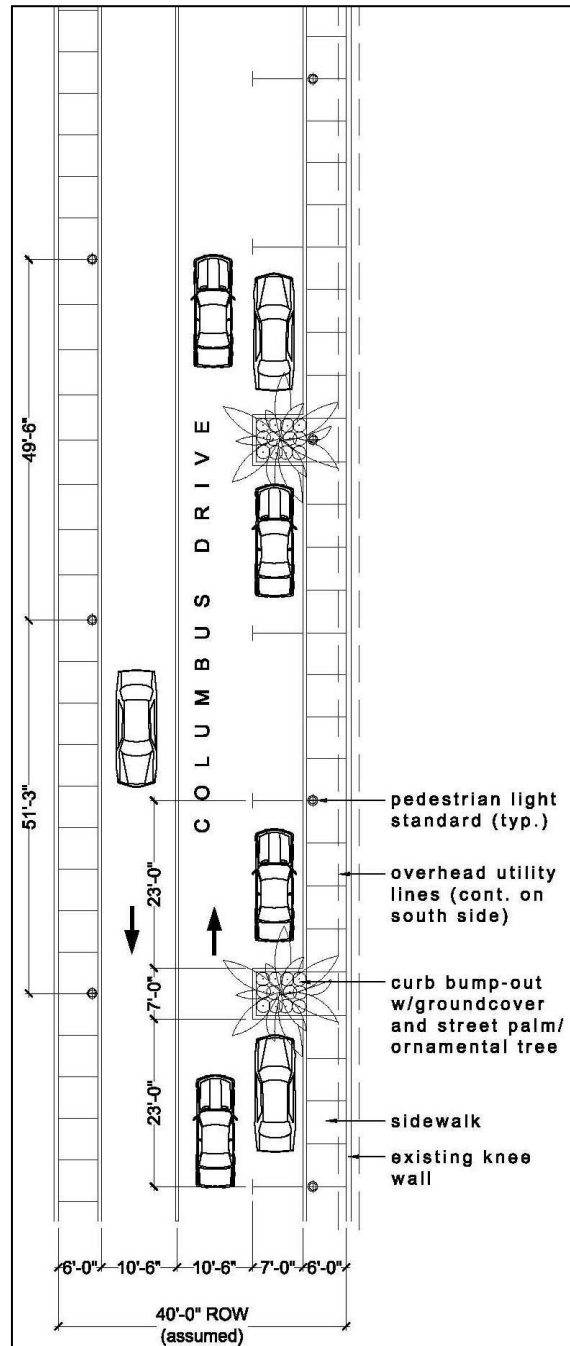
Based on these comments, as well as additional comments received from agency partners and through the MindMixer site, revisions to the initial design concepts were made. **Figure 6-1** depicts the revised conceptual layout of both roads from 14<sup>th</sup> Street to east of 40<sup>th</sup> Street. Several modifications were made to the roads. These are highlighted below.

### *Columbus Drive*

- Widened block between 14<sup>th</sup> and 15<sup>th</sup> Street to accommodate raised median and eastbound let turn lane
- Bulbouts to narrow crossing distance at 15<sup>th</sup>, 21<sup>st</sup>, and 22<sup>nd</sup> Streets
- Provided loading zone in lieu of on-street parking from 16<sup>th</sup> to 17<sup>th</sup> Street adjacent to JC Newman Cigar Factory
- Westbound right turn lane at 40<sup>th</sup> Street

Furthermore, the exhibit notes preliminary locations for on-street parking, lighting, and landscape islands between parking spaces. The lighting and landscape islands are on the north side of Columbus Drive, so as not to be impeded by the power lines on the south side of the road.

A before and after rendering of what Columbus Drive could look like is shown on **Figure 6-2**. The street trees could be something simple, such as a standard Crepe Myrtle, and the lighting could be decorative and, while simpler, reminiscent of those used in nearby Ybor City.





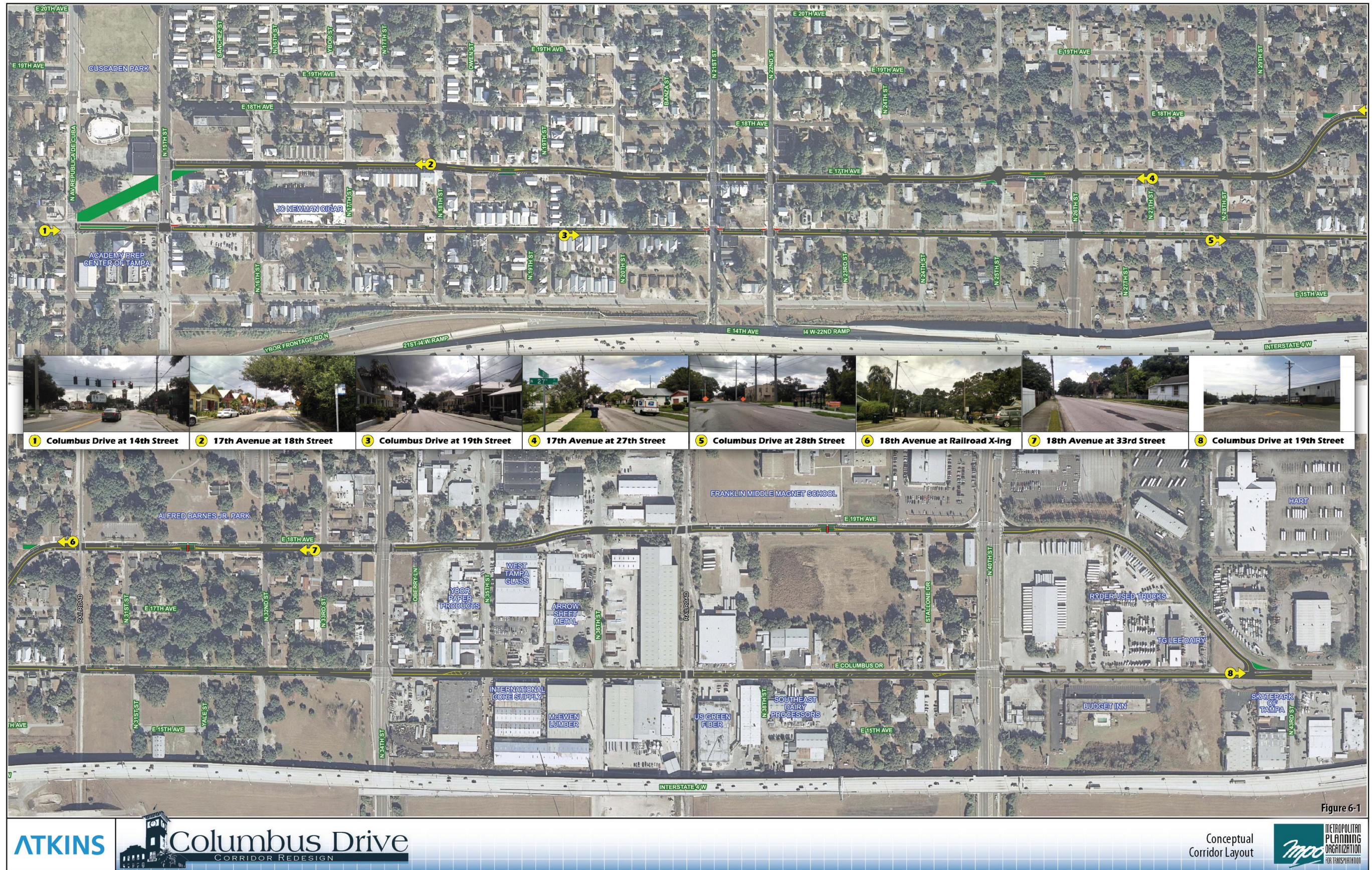


Figure 6-1



Figure 6-2

**ATKINS**



**Columbus Drive**  
CORRIDOR REDESIGN

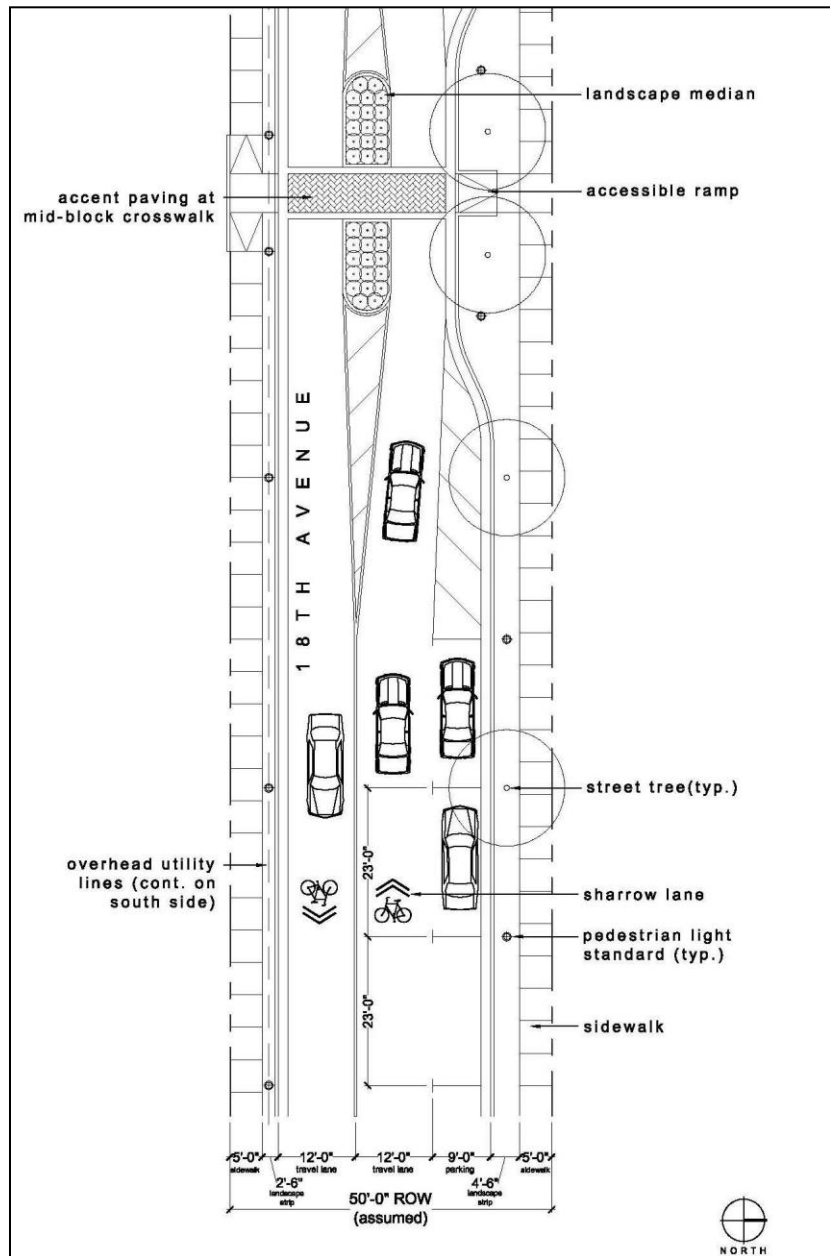
Columbus Drive  
Artistic Rendering

## 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue

- Close portion between 14<sup>th</sup> Street and 15<sup>th</sup> Street and realign intersection at 15<sup>th</sup> Street as t-intersection with stop control
- Provide median islands for traffic calming near 19<sup>th</sup> Street, 26<sup>th</sup> Street, 31<sup>st</sup> Street, and west of 40<sup>th</sup> Street
- Widen 17<sup>th</sup> Avenue from 22<sup>nd</sup> Street to 28<sup>th</sup> Street to accommodate on-street parking
- Realign intersection of 19<sup>th</sup> Avenue and Columbus Drive as a t-intersection

Many of these modifications will discourage through traffic, allowing the roadway to be primarily residential in nature. Additional traffic calming will be accomplished by alternating the on-street parking from the north side of the road to the south side every few blocks.

With less traffic and slower speeds on 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue, bicycles will use the travel lanes safely through shared lane markings, also known as sharrows.



A before and after rendering of what the 18<sup>th</sup> Avenue at the Alfred Barnes Jr. Park (32<sup>nd</sup> Street) could look like is shown on **Figure 6-3**. As shown above, a mid-block pedestrian crossing with decorative brick is imagined here. Another mid-block pedestrian crossing is proposed on 19<sup>th</sup> Avenue across from Franklin Middle Magnet School, just west of 40<sup>th</sup> Street. Both locations are along straight stretches of the corridor and the median islands will help slow traffic. Finally, the rendering shows street trees and enhanced lighting, similar to those envisioned for Columbus Drive.



Figure 6-3

**ATKINS**



**Columbus Drive**  
CORRIDOR REDESIGN

17th/18th/19th Avenue  
Artistic Rendering

Another modification shown on **Figure 6-1** is the possible closure of 18<sup>th</sup> Avenue at 29<sup>th</sup> Place, where the road curves. This idea was first mentioned at the Open House in September as a way to minimize speeding and cut-through traffic in the neighborhood. However, some residents expressed displeasure with this idea at the January public meeting and would prefer speed humps or other methods to calm traffic in the area.



Finally, safety concerns at the Columbus Drive intersection with 26<sup>th</sup> Street were mentioned at the January meeting. There is a church on the southwest corner and many pedestrians cross Columbus Drive when attending church functions. Figure 6-1 depicts a crosswalk at that location, but some members of the public would prefer a four-way stop or even a traffic signal. These concerns, as well as others, will require further coordination with the neighborhood as they progress into design and implementation.

### Cost Estimates

After finalizing the design concepts, cost estimates were developed for the various components of the project. While some may think that converting a road from one-way operation to two-way is as simple as restriping the facility, there is much more involved. For the Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue corridors, modifications to the traffic signals, roadway realignments, additional turn lanes, and streetscape enhancements are all proposed. As shown on **Table 6.1**, it is anticipated that the cost to accomplish all of these elements will be approximately \$10,625,200 in current dollars.

It is important to note that the costs were generally calculated using the FDOT District Seven Long Range Estimate (LRE) System as of August 2014. Construction costs include a 10% set aside for maintenance of traffic, 10% for mobilization, and 20% for project unknowns. Once these have been added in, another 15% is set aside for

design and 15% for construction engineering inspection (CEI). Finally, it is important to note that the costs do not include money for utility relocations or ROW acquisition.

<b>Table 6.1: Summary of Cost Estimates</b>				
Description	Convert to Two-Way Operation	Widen 17 <sup>th</sup> Ave - 22 <sup>nd</sup> St to 28 <sup>th</sup> St	Remove 17 <sup>th</sup> Ave - 14 <sup>th</sup> St to 15 <sup>th</sup> St	Streetscape Enhancement
Milling & Resurfacing	\$2,075,240			
Signalization	\$4,150,025			
Signing & Marking	\$179,815			
Roadway Widening		\$1,001,720		
Roadway Removal			\$45,970	
Architectural Pavers				\$19,885
7 ft. x 7 ft. Planters				\$281,505
Streetlights (every 75 ft.)				\$2,871,040

While these costs may seem daunting, the estimate is comprised of several components and everything does not need to be accomplished at one time. For example, it is assumed that all signals will need to be replaced and mast arms installed, but full replacement may not be needed at all intersections. Additionally, the segment of 17th Avenue from 22<sup>nd</sup> Street to 28<sup>th</sup> Street does not have to be widened, and cars could park on the grass as they currently do. Finally, the streetscape enhancements could be accomplished over time as funds permit. Additional details on the cost estimates are provided in **Appendix G**.

### Next Steps

With strong public support and traffic analyses showing little to no impact on the circulation system, it is recommended that Columbus Drive and 17<sup>th</sup>/18<sup>th</sup>/19<sup>th</sup> Avenue be converted to two-way operations. Both roads are maintained by Hillsborough County but are located within the City of Tampa. As such, close coordination between the two local governments will be necessary to implement the modifications proposed by this study. Further, HART should be engaged in the process as the conversion may affect their Route 15 local bus. Finally, while impacts to the state system are expected to be negligible, the City and County should coordinate with FDOT as plans progress.

As noted earlier, the project can be implemented in phases as funds become available. The cost estimates outlined above are for consideration in future updates of the Hillsborough County and City of Tampa Capital Improvement Programs as well as the MPO's Transportation Improvement Program in an effort to look at a variety of funding sources available to implement the study recommendations. Funds will first need to be allocated for a detailed design effort, which may result in some changes to the initial recommendations documented by this study. This effort should also include additional public involvement to keep the community abreast of the progress and any changes.