

OSCEOLA COUNTY

MOBILITY FEE RENEWAL

STUDY

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Prepared by:





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1. Introduction

The purpose of this Mobility Fee Renewal Study is to update the Mobility Fee schedule utilizing the most up-to-date regional travel model (CFRPM 7.0), the Institute of Transportation Engineers (ITE) Trip Generation manual (10th Edition) and the latest localized construction cost data. The base year established for the study was 2020 and the horizon was recognized as 2045.

Osceola County’s first Mobility Fee was adopted in 2015, as a replacement to its prior transportation impact fee. The County’s Comprehensive Plan was amended to adopt several goals, objectives, and policies to promote mobility through multiple modes of transportation which were captured in the 2015 Mobility Fee Study. Of relevant importance is the following goal:

Goal 6-3: - Establishment of a Multimodal System

“To establish safe and convenient multimodal systems, supporting livable communities and economic development, where access and travel choices are increased through new and enhanced public transit, bicycle, pedestrian, and roadway systems”.



Other key policies and objectives are captured in Section 3 of this study.

In 2017, a review of the Mobility Fee Ordinance was conducted, and several changes were recommended which included modification of the Mobility Fee schedule to more accurately reflect actual construction costs, indexing of the Mobility Fees using established indicators, payment of the fee upon issuance of the permit, and effectively using the existing provision in the ordinance that requires no credit for facilities necessary to connect to the current network.



In 2020, a study was conducted to evaluate the impacts of the transportation system based on development in Osceola County. As part of this effort, the establishment of additional mobility fee districts were evaluated. The original Mobility Fee Study from 2015 recognized Florida's Turnpike as a clearly defined physical feature that impacts travel patterns within the County and was used to define the mobility fee district boundaries. The 2020 study maintained the same underlying principal and ensured that funds paid by developers within a given mobility fee district are spent on improvements to accommodate travel in that district. The 2020 study made recommendations to update the Mobility Fee costs and also recommended the incorporation of a new mobility fee district where the Florida's Turnpike remains an east-west boundary, and US 192, Pine Grove Road and Nova Road became the new north-south delineating features to separate the new Northeast Mobility Fee District and the Southeast Mobility Fee District.

As aforementioned, the purpose of this Mobility Fee Renewal Study is to update the Mobility Fee schedule utilizing the most up-to-date data.

The Mobility Fees outlined in Section 6.16 reflect the maximum allowable fees that the County is entitled to collect due to the future impacts that new development will impose on the transportation system (based on the latest available construction cost data at the time of this publication). It is important to note that the County reserves the right to promote certain types of developments by utilizing reduced or discounted mobility fee rates. Florida House Bill 337, passed in June of 2021, (Appendix A) lays out the requirements associated with the implementation and periodic escalations of Mobility Fees throughout the state. Osceola County must adhere to the stipulations of this bill and the new mobility fees will need to be adopted accordingly.

2. Legislative Principles

In 1985, the State of Florida passed the Growth Management Act which mandated that local governments in Florida adopt a Comprehensive Plan to guide and control future development. The policy required that public facilities must be provided "concurrent" with the impacts of new development. State mandated "concurrency" was adopted to ensure the health, safety, and general welfare of the public. In essence, transportation concurrency focused on accommodating or mitigating the impact of new development principally by adding roadway capacity via new and wider roadways. As a result, new development was driven away from urban areas where capacity considerations were unavailable, or cost prohibited.

The Florida Legislature has enacted changes over the last several years that limit growth management and local government's ability to require that new development mitigate their impacts to the transportation system. The foundation of the Mobility Fee is based on the mobility policies integrated into the Osceola County's Comprehensive Plan and include the established horizon year and mobility districts. The standards are for planning purposes, not for regulating timing or approval of development.

Mobility plans and mobility fees were introduced by Legislation in 2007 as a replacement for Transportation Concurrency, Proportionate Share, and Road Impact fees. In 2011, the Legislature eliminated state mandated transportation concurrency and made it optional for local governments to enact transportation concurrency polices.

In 2013, the Legislature established Mobility Plans that associate mobility fees as the primary means by which local governments allow development considerations to be consistent with adopted local comprehensive planning efforts to equitably mitigate transportation impacts and fund Premium Transit corridor, previously known as multi-modal corridor improvements.

In 2019, the Legislature required that mobility fees, based on a mobility plan, explicitly follow the requirements for impact fees per Florida Statute 163.31801.

In 2020, the Legislature, through Senate Bill 1066, made several additional changes to the Impact Fee Act to clarify that new or updated impact fees cannot be assessed on a permit if the permit was approved prior to the new or updated fee. The bill also made credits assignable and transferable to third parties under certain conditions.

In 2021, the Legislature, through House Bill 337, instituted specific limitations on the amount by which a local government may increase its impact fees. The limitations operate retroactively to January 1, 2021, and are as follows:

- *An increase to a current impact fee rate of not more than 25 percent of the current rate must be implemented in two equal annual increments beginning with the date on which the increased fee is adopted. An increase to a current impact fee rate which exceeds 25 percent but is not more than 50 percent of the current rate must be implemented in four equal installments beginning with the date the increased fee is adopted.*
- *An impact fee increase may not exceed 50 percent of the current impact fee rate.*
- *An impact fee may not be increased more than once every 4 years.*
- *An impact fee may not be increased retroactively for a previous or current fiscal or calendar year.*
- *A local government, school district, or special district may increase an impact fee rate beyond the phase-in limitations established under the above bullet points by establishing the need for such increase in full compliance with the requirements of Subsection 4 of HB 337, provided the following criteria are met:*
 - *A demonstrated need study justifying any increase in excess of those authorized in the aforementioned bullets has been completed within the 12 months before the adoption of*



the impact fee increase and expressly demonstrates the extraordinary circumstances necessitating the need to exceed the phase-in limitations.

- *The local government jurisdiction has held not less than two publicly noticed workshops dedicated to the extraordinary circumstances necessitating the need to exceed the phase-in limitations set forth in the four bullets provided above.*
- *The impact fee increase ordinance is approved by at least a two-thirds vote of the governing body.*

The legislation establishes a 5-year renewal period, and this study covers the steps taken to review the existing procedures and make recommendations for a new mobility fee structure. The horizon year will be 2045 consistent with the current Metropolitan Transportation Plan (MTP) update.

The legislation also calls for a mobility fee process designed to:

- Provide for mobility needs
- Ensure that development provides mitigation for its impacts on the transportation system in approximate proportionality to those impacts
- Fairly distribute the fee among the governmental entities responsible for maintaining the impacted roadways and transit systems
- Promote compact, mixed-use, and energy-efficient development

3. Comprehensive Plan

The County's Comprehensive Plan includes several goals, objectives, and policies to promote mobility through multiple modes of transportation. Key mobility goals, objectives, and policies in the transportation element of the Comprehensive Plan include:

Objective 6-1.1: - Coordination of Future Land Use and Transportation Planning

“Guided by the Urban Growth Strategy of the Future Land Use Element and the subarea Conceptual Master Plan/Mixed Use District areas, the County shall coordinate existing and future transportation improvements, ensuring that they are able to serve existing and proposed population densities, housing, and employment patterns.”

Policy 6-1.1.2: - Implementation of Sustainability Plan.

“Consistent with the Future Land Use Element, the transportation system shall be planned and implemented to improve safety, increase connectivity, provide high-frequency transit and create a pedestrian environment to reduce reliance on automobile travel, as well as to recognize the build-out of the County to a new sustainable vision that encourages a balanced 1:1 jobs to housing ratio.”

Goal 6-3: - Establishment of a Multimodal System

“To establish safe and convenient multimodal systems, supporting livable communities and economic development, where access and travel choices are increased through new and enhanced public transit, bicycle, pedestrian, and roadway systems.”

Objective 6-3.1: - Integrated Transportation Network

“The County shall promote alternative modes of transportation to provide a safe, comfortable, attractive, efficient, and energy-efficient multimodal transportation network and shall encourage the use and expansion of alternative modes of transportation for commuting, as well as for recreational purposes. This coordinated web of streets and travel modes will address resident and visitor travel demands and ensure adequate movement of people and goods as a means to attract and sustain economic development.”

The 2040 Osceola County Comprehensive Plan established an Urban Growth Boundary (UGB) which identified the area targeted for urban development with the remainder of the County outside of that boundary to remain as a rural agricultural use.

The calculated Mobility Fees presented in this study, meet the Dual Rational Nexus Test, which outlines two (2) requirements that give local governments the authority to impose regulatory fees, such as mobility fees. Local governments must demonstrate a reasonable connection, or rational nexus, between proposed new development and its projected impacts. The Mobility Fee is a combination of a consumption based and an improvement-based fee, where development is assessed and charged based off its future congestion (projected impact), thus proving there is a rational nexus between new development and the need for congestion mitigation. The second requirement that local governments must demonstrate is a rational nexus between the mobility fees collected and the expenditures they are tied to. In other words, the mobility fees collected must directly benefit proposed new development. Figure 8, located in Section 7, establishes three (3) mobility fee districts in the County as approved by Ordinance No. 2020-63. These mobility fee districts help meet the second requirement of the Dual Rational Nexus Test, whereby expenditures will be limited to mobility fee districts that are directly proportionate to where the fees are collected.

4. Expansion Costs

Recent available Expansion Costs (EC) which include engineering, right-of-way (ROW), Construction Engineering and Inspection (CEI), and construction data from FDOT District 5 were utilized to establish the EC for Avenues, Boulevards and Premium Transit Corridor facilities on a per lane mile basis.

4.1 Land Development Code

Avenues

Osceola County describes the layout of Avenues through the Osceola County Land Development Code as a 2-lane roadway along with sidewalks, a planting strip, bike lanes, and optional on-street parking. The figures below illustrate these characteristics.

Figure 1: Two-Lane Avenue

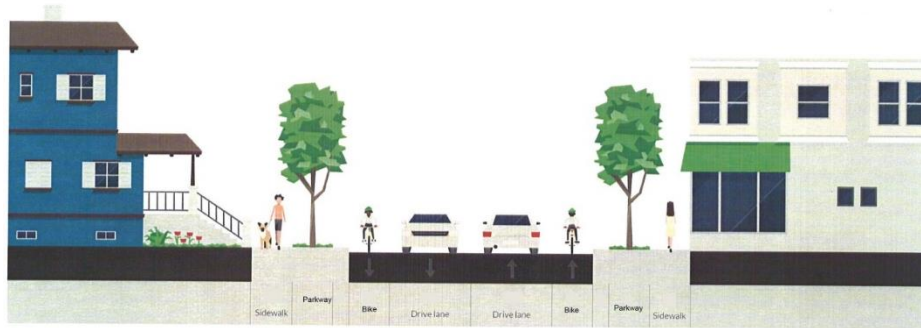
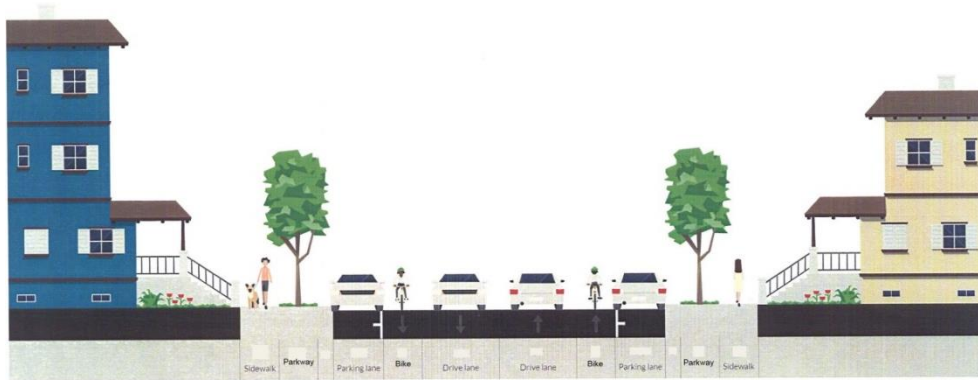


Figure 2: Two-Lane Avenue with On-Street Parking



Boulevards

Boulevards are outlined by the Osceola County Land Development Code as a 2-lane or 4-lane roadway that is accompanied by some of the following: a turn lane/median, optional on-street parking, bike lanes, plantings strips, and sidewalks.

Figure 3: Two-Lane Avenue/Boulevard with Median and On-Street Parking



Figure 4: Two-Lane Avenue/Boulevard with Median and On-Street Parking



Figure 5: Four-Lane Avenue/Boulevard with Turn Lane/Median

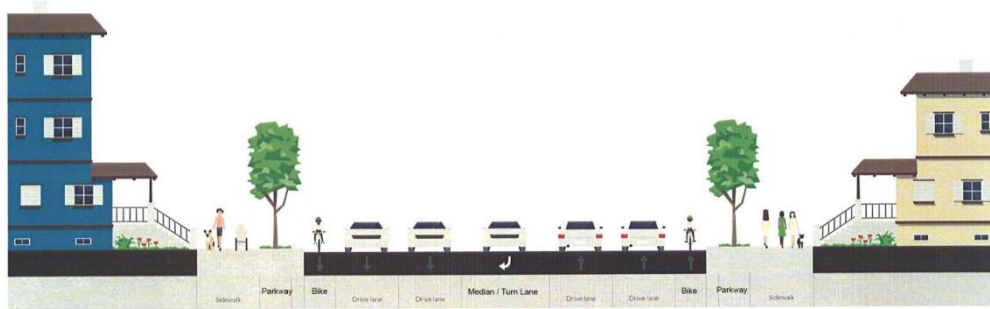
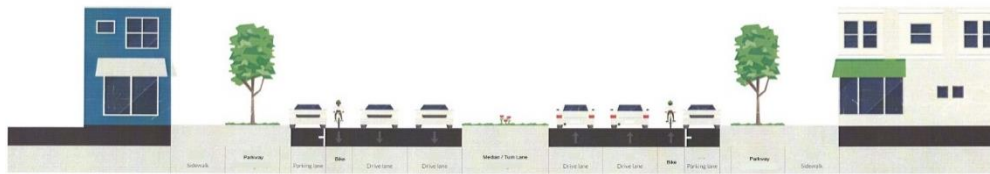


Figure 6: Four-Lane Avenue/Boulevard with Turn Lane/Median and On-Street Parking



Premium Transit Corridor

According to the Osceola County Land Development Code a Premium Transit Corridor is defined as a 4-lane roadway accompanied by a median accommodating designated transit lanes.

Figure 7: Premium Transit Corridor



Table 1: Average Total Cost per Lane Mile

FDOT Financial Project ID	Facility	Total Cost per Lane Mile		
		Avenue	Boulevard	Premium Transit Corridor
FDOT Generic New Urban 2 Lane	2 Lane	\$4,597,929	\$4,788,111	\$6,022,179
FDOT Generic New Urban 4 Lane	4 Lane	\$3,316,555	\$6,823,292	\$8,057,360
FDOT Generic Widen 2 to 4 Lane	2 to 4 Lane	\$4,732,308	\$4,922,490	\$6,156,558
FDOT Generic Widen 4 to 6 Lane	4 to 6 Lane	\$4,134,627	\$4,324,809	\$5,558,876
240216-2	2 to 4 Lane	\$9,027,633	\$9,192,457	\$10,261,982
239266-3/4	2 to 4 Lane	\$10,727,335	\$10,892,159	\$11,961,685
415030-2/3/5/6	2 to 4 Lane	\$10,299,793	\$10,489,975	\$11,724,042
239682-1	4 to 6 Lane	\$12,176,241	\$12,341,065	\$13,410,591
418403-2	4 to 6 Lane	\$8,078,215	\$8,243,039	\$9,312,564
239535-3	4 to 6 Lane	\$19,662,508	\$19,789,296	\$20,612,008
240196-1	4 to 6 Lane	\$16,407,309	\$16,572,133	\$17,641,658
Average Total Cost per Lane Mile		\$ 9,378,223.00	\$ 9,852,620.00	\$10,974,500.00

This mobility fee renewal study adheres to Florida Statue requirements whereby the most current and localized available data must be used. The latest available construction costs data from the FDOT District 5 was used to update the total expansion cost per lane mile. No recent comparable Osceola County construction cost data was available during the preparation of this study.

5. Mobility Fee

The County’s adopted Comprehensive Plan Transportation Element establishes policies that promote land use designs that support a multimodal transportation system. The Plan identifies multimodal transportation projects that are integral to providing mobility in the County. The Mobility Fee is calculated as the capital expense required to satisfy the future multimodal demand on the transportation network imposed by new development in Osceola County.

This Mobility Fee Renewal Study continues to be based on the projected travel demand within Osceola County between 2020 and 2045 and the premium transit corridor improvements in the adopted Transportation Element.

The Mobility Fee is based on the need for future multimodal transportation improvements in Osceola County to accommodate future growth as established by the Transportation Element. Mobility fees are one-time (up-front) charges assessed to new developments for their impacts to the local transportation network.

Mobility fees allow for more flexibility in the use of collected funds than a traditional roadway impact fee and can promote compact, mixed-use, and energy-efficient development. Mobility fees are shared by all developments creating the need for transportation system investments. (Planning, 2016)

Oftentimes Transit Oriented Developments (TOD) take a phased building approach by incorporating residential development first, to establish the population masses suitable for transit and mixed-use activities. The mixed-use component, including retail, office, and entertainment evolves over time as the development matures and transit stop ridership increases. The mixing of uses and increased density is what is really needed to achieve higher internal capture rates and mode shift. TODs may take years to reach full buildout becoming true live, work, play destinations. By design, TODs that have achieved full buildout would have a much higher internal capture rate, as more trips would be completed internally, and the mode shift would be significantly greater.

Mixed-use development means development meeting the development standards established in the future land use element of the county's comprehensive plan for the Celebration (CEL) or Harmony (HAR) policies, or contain a Mixed Use Land Use designation with development meeting the development standards established for mixed use development in the county's land development code or other development process approved by the county manager as established in the Mixed Use (MX) policies of the future land use element of the county's comprehensive plan, or meeting the designation for village infill development classification as established in the future land use element of the county's comprehensive plan, or meeting the development standards established in the county's land development code for the Florida Technological Farm Use District (FARM). Transit-oriented development means development within an approved Station Area Plan boundary as established in the future land use element of the county's comprehensive plan.

Due to the County's emphasis on multimodal transportation strategies, the mobility fee analysis recognizes other mode share capacities, including sidewalks, bike lanes, and transit ridership. TODs reduced trips on the overall transportation system by being close to frequent transit service such as that currently provided by SunRail and potentially the future Brightline service. The Transit Cooperative Research Program Report (TCRP) 128 "Effects of TOD on Housing, Parking and Travel" is one of the most extensive evaluations conducted on the reduced trip impacts for TODs. The results of the analysis in the report shows the following:

"Over a typical weekday period, the 17 surveyed TOD-housing projects averaged 44% fewer vehicle trips than that estimated by the ITE manual (3.754 versus 6.715). The weighted average differentials were even larger during peak periods – 49% lower rates during the A.M. peak and 48% lower rates during the P.M. peak (TCRP Report 128 page 8)."

This analysis included the cumulative impacts of both internal capture and mode share. A reduction of close to 50% in trips over traditional non-mixed-use developments was observed. A trip reduction range of 25%-50% for Mixed-use and TODs is based on this research. A reduction in trips of 25% for mixed-use developments is warranted based on the effects of Internal Capture in these types of developments as shown by the research. TODs, which are by their nature also mixed-use developments, reduce trips up to an additional 25% based on the research. Based on the aforementioned, the existing discounts offered by the County for Mixed-use and TODs are being recommended to remain as illustrated in Table 18.

The following steps document the approach used to calculate the total Mobility Fee that the County will need to adequately meet their future transportation needs.

5.1 Travel Demand Model

The latest Central Florida Regional Planning Model (CFRPM) Version 7.0 developed as part of the Orlando MetroPlan 2045 Metropolitan Transportation Plan (MTP) was utilized to evaluate growth in vehicle miles of travel (VMT) within Osceola County. CFRPM was validated to a base year of 2015 with scenarios every 5-years up to the horizon year of 2045 consistent with the adopted MetroPlan Orlando MTP. 2020 was used as the base year for this study to perform calculations. The CFRPM is recognized by the Florida Department of Transportation (FDOT) District 5 and Osceola County as the adopted travel demand model for the region.



5.2 Validation Methodology

The CFRPM is validated to its base year of 2015. No further modifications or validation of the travel demand model is anticipated as part of this study.

5.3 Model Setup

Citilabs Cube software was utilized to run the new CFRPM Version 7.0 for both the base and horizon years of 2020 and 2045 respectively. The purpose is to compare the impact on the roadway network caused by new development. This renewal study took the 2020 Project Base Year model (and its socio-economic data) and adjusted it to include the 2045 cost feasible transportation network as the first step in the current reevaluation process depicted in Table 2. This approach was determined to have a higher level of accuracy in comparing the differences between the base and horizon year models.

Table 2: Cube Model Runs

	2020 Model	2045 Model
Network	2045	2045
Socio-Economic Data	2020	2045

Note: By keeping the network constant and allowing the socio-economic data to change a true idea of the impact on the network can be attained.

5.4 Model Outputs

After the model runs were complete, the next step involved organizing the output data into a manageable format that facilitated the analysis process. The 2020 and 2045 model outputs were exported to Microsoft Excel. This software allowed for the comparison of the two models. Appendix B captures the model outputs. The following fields were used for the analysis “LINK_ID”, “FAC_TYPE”, “SIS”, “NHS”, “COUNTY”, “NUM_LANES”, “DISTANCE, AM_VCC”, “AM_TOTVOL”, “PM_TOTVOL” and “PM_VCC”. Each individual link throughout the entire system was compared using the “LINK_ID” field.

5.5 Comparison

The AM and PM peak volumes were compared separately for the 2020 project base year against the 2045 horizon year to determine a percentage difference. The difference between the 2020 and 2045 model runs both in the AM and PM peak periods for each segment were compared to arrive at a volume difference or delta value. In the CFRPM Version 7.0 model, roadway segments are defined as small sections of an entire roadway corridor, for example Boggy Creek Road is broken out into five (5) segments per direction.

In this analysis, additional lanes needed to provide capacity to accommodate future demand were determined by using the volume differences as follows:

- $(V_{\text{difference}} / 1950) > 1$, then an additional 2-lanes would be required
- $1 > (V_{\text{difference}} / 1950) > 0$, then an additional 1-lane would be required

Note: 1950pcphpl – Base saturation flow rate for Interrupted Flow Facilities per FDOT QLOS Handbook

Although whole lanes are the basis of this calculation, new developments will be assessed their corresponding percentage share for their increase in congestion.

The final value that was calculated is the Mobility Fee for the various segments that make up the Osceola County network. Table 3 summarizes the formulas that were utilized in the calculation.

Table 3: Formulas

New Variable	Formula	Notes
Percentage Increase	$= \frac{(V)_{2045} - (V)_{2020}}{N_{AL} * 1950}$	This was calculated twice for the AM and PM peak periods. The maximum value was selected. N_{AL} = Additional Lanes Needed V = Volume
Additional Lanes	$= \frac{V_{2045} - V_{2020}}{1950} > 1, \text{ then } 2 \text{ lanes}$ $= 1 > \frac{V_{2045} - V_{2020}}{1950} > 0, \text{ then } 1 \text{ lanes}$	Additional lanes based on Volume difference
Mobility Fee (per segment)	$= S_L * N_{AL} * \% * EC$	S_L = Segment Length N_{AL} = Additional Lanes Needed $\%$ = Percent Increase in Volume EC = expansion cost per lane mile

Appendix C includes a step-by-step example (Boggy Creek Road) of the calculated values using the formulas depicted in Table 3.

5.6 Total Mobility Fee

The total Mobility Fee that the County will need to adequately meet their future transportation needs calculated by the aforementioned method will be \$ 4,888,345,134. This equates \$195.5M annually for the next 25-years at present worth value. This Mobility Fee represents the maximum amount that the County may be entitled to collect for new development from the years 2020 to 2045 prior to taking into consideration HB 337. Please note that this fee excludes credits and discounts which are covered in Sections 6of this study.

6. Methodology

6.1 Demand and Future Growth

According to the medium projection from the University of Florida Bureau of Economic and Business Research (BEBR) (Appendix D), the Osceola County population is anticipated to grow by approximately 60% between the years of 2020 and 2045. Osceola County is primed to be Orlando’s fastest-growing county in the next decade surpassing the projected growth for its neighboring counties of Orange and Seminole. In addition to the hotel and theme park industry continuing to drive growth, the centralized location of Osceola County and accessibility to major throughfares will also continue to grow industrial development.

Future transportation improvements associated with the I-4 Beyond the Ultimate projects and expansion of the SunRail system will continue to attract new residents to the County. Table 4 shows the projected growth for Osceola County over a 25-year span according to the University of Florida Bureau of Economic and Business Research.

Table 4: Population Forecast

Osceola County	Population Estimate April 2020	2025	2030	2035	2040	2045
Low	387,055	409,200	447,500	476,000	499,500	518,300
Medium		453,600	512,500	560,700	603,600	643,100
High		491,900	574,500	649,300	723,900	798,500

Source: University of Florida Bureau of Economic and Business Research (Volume 54, Bulletin 189, April 2021).



Travel Demand or the amount of transportation system consumed by a unit of new land development is calculated using the following variables and is a measure of the vehicle-miles of new travel a unit of development places on the existing roadway system:

- Number of daily trips generated
- Average length of those trips
- Proportion of travel that is new travel

The trip characteristics variables were primarily obtained from the ITE Trip Generation Manual (10th Edition) and the US Department of Transportation, 2017 National Household Travel Survey. (Appendix E)

Table 5: Average Trip Length by Trip Purpose

Trip Purpose	2017 National Average Trip Length (Miles)	Local Average Trip Length (Miles)
All Purposes	9.55	9.16
To / From Work	10.1	7.51
Recreational Activities	15.21	12.23
Exercise	6.5	5.63
Religious or Other Community Activity	8.73	7.09
Drop Off/Pick Up Someone	7.25	7.46
Attend Child Care	7.49	5.51
Work Related Business	9.69	7.82
Work	11.61	10.82
Warehouse	15.67	5.44
Shopping	6.91	6.32
Other Family / Personal Errands	7.95	6.41
School	7.25	7.46
Pharmacy	8.3	5.89
Buy Meals	7.49	7.55
Auto Parts/Sales	6.91	6.32
Hotels	24.89	6.94
Other	50.4	3.94

Source: National average trip lengths from the US Department of Transportation, 2017 National Household Travel Survey (Table 5b). To/From Work was calculated using the 2017 NHTS categories of Regular Home Activities, Work from Home, Work, Drop off/Pick up Someone, Attend Child Care, Buy Goods, Buy Meals, Other General Errands, Recreational Activities, Exercise, Health Care Visit, and Something Else. Work Related Business was calculated using the 2017 NHTS categories of Work from Home (paid) and Work. Other Family/Personal Errands was calculated using the 2017 NHTS categories of Drop off/Pick Up Someone, Other General Errands, and Health Care Visits. Warehouse was calculated using the 2017 categories of Something else, Other General Errands. Shopping was calculated using the 2017 NHTS categories of Buy Goods, Other General Errands. School was calculated using the 2017 NHTS categories of Drop off/Pick up someone. Pharmacy was calculated using the 2017 NHTS categories of Other General Errands and Health Care Visit. Auto Parts/Sales was calculated using the 2017 NHTS categories of Buy Goods and Other General Errands.

6.2 Roadway Capacity

The 2020 Florida Department of Transportation’s (FDOT) Generalized Service Volume Tables were used to establish daily capacities for roadways and intersections (Appendix F). A principal difference between a road impact fee based on vehicle miles of travel (VMT) and a mobility fee based on person-miles of travel (PMT) is accounting for vehicle occupancy. To account for vehicle occupancy, the road capacities in Table 8 are multiplied by a Vehicle Occupancy factor of 2.44, based on the “Estimation and Prediction of Average Vehicle Occupancies using Traffic Accident Records” Study prepared by Florida International University (FIU) for Social and Recreational Travel (Appendix G). The Vehicle Occupancy factor is used in the multimodal capacity analysis for road and intersection projects identified in the Mobility Plan.



The types of future projects utilized to calculate capacities include 2, 4, and 6 lane roads. The only roadways that were proposed to be widened to 8 and 10 lanes were toll roads and Interstate 4; these are included in the 2045 MetroPlan Orlando MTP.

Table 6: Daily Roadway Capacities

Lane Type & Number	Number of Lanes	Daily Capacity	Daily Capacity/Lane	Daily Person Capacity/Lane
Class I Arterials				
2-Lane Divided Class I (State)	2	17,700	8,850	21,594.0
2-Lane Divided Class I (Non-State)	2	15,930	7,965	19,434.6
4-Lane Divided Class I (State)	4	39,800	9,950	24,278.0
4-Lane Divided Class I (Non-State)	4	35,820	8,955	21,850.2
6-Lane Divided Class I (State)	6	59,900	9,983	24,359.3
6-Lane Divided Class I (Non-State)	6	53,910	8,985	21,923.4
Class I Arterials				
2-Lane Divided Class II (State)	2	15,600	7,800	19,032.0
2-Lane Divided Class II (Non-State)	2	14,040	7,020	17,128.8
4-Lane Divided Class II (State)	4	33,800	8,450	20,618.0
4-Lane Divided Class II (Non-State)	4	30,420	7,605	18,556.2
6-Lane Divided Class II (State)	6	50,900	8,483	20,699.3
6-Lane Divided Class II (Non-State)	6	45,810	7,635	18,629.4
Highways				
2-Lane Divided Highway	2	32,600	16,300	39,772.0
4-Lane Divided Highway	4	75,300	18,825	45,933.0
6-Lane Divided Highway	6	113,100	18,850	45,994.0

Source: Capacities are based on FDOT QLOS Generalized Annual Average Daily Volumes for Florida's Urbanized Areas (Table 1).

6.3 Multimodal Capacity

To establish a multimodal capacity to account for pedestrian, bicycle, and transit travel, it is necessary to establish a capacity for each of these forms of transportation. The process for establishing capacities for bicycle and pedestrian facilities is based upon the methodologies used in several multimodal level of service (LOS) reports and the Transportation Research Board 2010 Highway Capacity Manual. The capacity for transit vehicles is based upon methodologies from the Quality of Service Manual, 3rd Edition, as well as the Transportation Research Board Transit Capacity. The capacity for bicycle and pedestrian facilities was based on a LOS standard of B. The methodology for calculating capacity for Local Transit is based upon the Transportation Research Board Transit Capacity and Quality of Service Manual, 3rd Edition. The capacity for Local Transit Vehicle was derived based upon the functional carrying capacity for one vehicle (60 passengers - 40 seated and 20 standing) projected to run at 20 minute headways during peak periods for a span of service of 8 hours and 30 minute headways during off-peak hours for a span of service of 8 hours. The cost to operate and maintain transit service would be funded by sources other than the Mobility Fee. Table 7 illustrates the calculated multimodal capacities:

Table 7: Multimodal Daily Capacity per Lane Mile

Facility Type	Unit of Measure	Daily Capacity per Lane Mile
Sidewalk	5' Wide	3600
Transit	per Vehicle	2400
Bicycle Lane	4'-5' wide	2760
Multi-Use Path	8'-10' wide	3840
Trail	10'-12' wide	7920

Source: Capacities are based on Transportation Research Record 1636 Paper No. 98-0066 of Maximum Hourly Volumes. Assuming two peak hour movements a day.



6.4 Future Person Miles of Capacity

To determine the future lane miles of Person Miles of Capacity (PMC) needed to accommodate the projected increase in Person Miles of Travel (PMT), the planned lane miles for Avenues, Boulevards, and Premium Transit Corridors per the Comprehensive Plan was calculated. Analysis of CFRPM 7.0 indicates 28% of the planned improvements consist of Avenues, 52.5% consists of Boulevards, and 19.5% consists of Premium Transit Corridors as captured below in Table 8. In addition, Map A illustrates the County's Roadway Network including roadway reconstruction, planned limited access expressways, and planned roadway networks. Person Miles of Capacity is derived by multiplying Future Lane Miles by the Facility Capacity added and dividing by the Number of Lanes.

Per Lane Person Miles of Capacity is derived by dividing Future Person Miles of Capacity by Future Lane Miles. Facility Capacity is based on Tables 6 and 7. The Multimodal Capacity elements per Facility Type are identified in Table 8. The Avenue Facility Type capacity is based on the addition of 2 new lanes, for Boulevard Corridors new capacity is based on the addition of 2 and 4 lanes, and for Premium Transit Facilities is based on an additional 4 lanes and the increase in capacity from 2 to 4 and 4 to 6 lanes, plus the Multimodal Capacities covered in Table 7 for the aforementioned facility types.

Table 8: Per Lane Person Miles of Capacity

Facility Type	Facility Lanes Added	Future Lane Miles	% of Future Lane Miles	Facility Capacity Added	Future Person Miles of Capacity	Per Lane Person Miles of Capacity
Avenue	New 2-Lane	99	28%	48,881	2,419,600	24,440
Avenue		99	28%	48,881	2,419,600	24,440
Boulevard	New 2-Lane	25	7%	54,229	677,858	27,114
Boulevard	New 4-Lane	162	45.5%	118,656	4,805,584	29,664
Boulevard		187	52.5%	86,443	5,483,442	29,323
Premium Transit Corridor	New 4-Lane	23	6.5%	144,576	831,314	36,144
Premium Transit Corridor	Widen 2 to 4 Lanes	23	6.5%	55,473	637,942	27,737
Premium Transit Corridor	Widen 4 to 6 Lanes	23	6.5%	53,538	615,684	26,769
Premium Transit Corridor		69	19.5%	84,529	2,084,940	30,217
Total		355	100%		9,618,543*	

*Note: Future Person Miles of Capacity is derived by the weighted average of three facility types based on center lane miles (131.25) and average Facility Capacity Added (73,284.14).

6.5 Cost per Person Mile of Capacity

To determine the total cost of the PMC needed to accommodate the increase in PMT, it was necessary to calculate an Average Total Cost per Lane Mile (Table 1). Construction Costs are based on per mile cost from FDOT District 5. The construction cost per mile for all facility types include the cost for right turn lanes at \$338,100 and two acres of stormwater ponds at \$450,800. The construction cost for Boulevards and Premium Transit Corridors include \$253,576 for a traffic signal. The construction cost for Premium Transit Corridors included \$450,800 for wider pedestrian facilities on each side of the road and \$67,620 for transit stops. The cost for transit vehicles at \$1,127,000 was added to the total per mile cost for Premium Transit Corridors. Transit operation and maintenance are assumed to be funded by revenue sources other than Mobility Fees. For FDOT Generic Projects the following cost assumptions were made:

1. Design/Engineering – 10% of construction cost
2. Right-of-Way – 30% of construction cost
3. Engineering and Inspection – 10% of construction cost

As shown in Table 9 below, the Cost per Person Mile of Capacity was calculated. This was derived by dividing the Average Total Cost per Lane Mile (Table 1) by the Per Lane Person Mile of Capacity (Table 8).

Table 9: Cost per Person Mile of Capacity

Facility Type	Total Cost Per Lane Mile	Per Lane Person Mile of Capacity	Cost per Person Mile of Capacity
Avenue	\$9,378,223	24,440	\$ 383.72
Boulevard	\$9,852,620	29,323	\$ 336.00
Premium Transit Corridor	\$10,974,500	30,217	\$ 363.20

6.6 Person Mile of Capacity (PMC) Rate

The weighted Person Mile of Capacity (PMC) Rate is derived by multiplying Cost per Person Mile of Capacity (Table 9) by the Percent of Future Lane Miles (Table 8). The Person Mile of Capacity Rate derived by summing the Weighted Person Mile of Capacity Rate. The calculated rate per PMC is shown in Table 10 below:

Table 10: Person Mile of Capacity (PMC) Rate

Facility Type	Cost per Person Mile of Capacity	% of Future Lane Miles	Weighted Average Person Miles of Capacity Rate
Avenue	\$ 383.72	28%	\$ 107.01
Boulevard	\$ 336.00	52.5%	\$ 176.99
Premium Transit Corridor	\$ 363.20	19.5%	\$ 70.59
PMC Rate		100%	\$ 354.59

6.7 Transportation Revenue Credits

To ensure new development is not paying more than its impact and is also not paying for existing deficiencies, transportation revenue credits are provided. Transportation revenue credits will be allotted for dedicated revenues that will be generated by new development and used to pay for Avenues, Boulevards, and Premium Transit Corridors within the County. The credits will equate to a reduction in the PMC rate to ensure that new development is not charged twice for capacity improvements, once through mobility fees, and again through general taxes.

In the calculation of mobility fees in this renewal study, credit is given for the portion of Federal, State, and local fuel taxes that are being used to fund improvements to the transportation network throughout the County that help to expand or enhance capacity. This update also includes a credit for capacity related funding from the infrastructure sales tax and ad valorem revenues allocated for transportation capacity and scheduled principal repayment for long-term road related debt that added roadway capacity. This section summarizes the sources of revenue available that will be converted into transportation revenue credits due for new growth, to ensure that the new growth is only paying its share of the cost of new capacity. The analysis conducted provides projections for the revenues and transportation revenue credits that will potentially fund the improvements within the County's Transportation and Capital Improvements Element.



The major sources of transportation funds are fuel taxes levied at federal, state and local levels. Federal funds are collected and distributed to federal highway, rail, and transit programs from which Florida receives funding for eligible programs. State funds are collected from state tax levies and distributed to state funding programs, with the State Transportation Fund receiving the bulk of these funds. These programs fund statewide projects, as well as distribute funds to counties and municipalities. On the local level, funds are collected from local tax levies, as well as state tax levies. The federal government imposes taxes on gasoline, diesel fuel, special fuels, compressed natural gas, gasohol, tires, truck and trailer sales, and heavy vehicle use. These revenues are distributed to each state through a system of formula grants and discretionary allocations. State highway fuel sales taxes are shared between the State of Florida Department of Transportation (FDOT) and Florida's county governments. Local Governments have the ability to raise revenues through levying local taxes. Osceola County has used a combination of sales taxes, gas taxes, and Mobility Fees, previously impact fees, to pay for transportation projects. The taxes most frequently utilized are the Local Option Gas Tax (LOGT), the Constitutional Gas Tax, and the Local Government Infrastructure Sales Surtax. The State collects and distributes the Constitutional Gas Tax, county and municipal gas taxes, and fuel use taxes on behalf of local governments. Osceola County has an Infrastructure Surtax that is used to fund capital improvements. Osceola County also has a Dedicated Ad Valorem Trust Fund allocation for funding within its Urban Growth Transportation System. The County has also utilized bonding to pay for existing roadway deficiencies for which new development will receive a transportation revenue credit. This section provides an analysis of available funds for the Osceola County Mobility Fee from current sources. These funds are projected to be available to fund Avenues, Boulevards, and Premium Transit Corridors and will reduce the total Mobility Fee required to fund the entire transportation plan. Osceola County provided projections for future funding levels from their current funding sources, which have then been projected out to 2045.

The formula for calculating transportation revenue credit looks at the total funding available from a given revenue source, the total years the funding is available, and the present value of funding based on the current discount rate. The previous study used the Federal Reserve’s monthly H.15-1 release to determine the appropriate discount rate (which is the average annual interest rate on state and local bonds from the Federal Reserve). Due to the aforementioned source being discontinued; this renewal study recommends the use of the average Bond Buyer Revenue Bond Index of 2.59% as of July 2021.

To derive a credit per Person Mile of Capacity added, the present value of the funding is divided by the total PMC of 9,618,543 as provided in Table 8 by multiplying the total Center Lane Miles by the average Facility Capacity Added. The credit per PMC formula used is provided below. The credit formula for debt service payments varies from this formula and is described in further detail under the debt service payment section. FDOT developed revenue forecasts of state and federal transportation funds for MTP through the year 2045. These forecasts are based on a statewide estimate of revenues that fund the State Transportation Program (STP). This study provides a credit based directly on the average annual Federal and State tax funding for capacity expanding road projects per PMC.

The MetroPlan Orlando adopted Five-Year (FY 2020/2021 to 2024/2025) Transportation Improvement Program and the adopted 2045 MTP (FY2019/2020 to FY 2044/2045) estimate \$389,171,00 in Federal and State Funding being available to fund Avenues, Boulevards, and Premium Transit Corridors in Osceola County. Separate Federal and State funds are available for improvements to Interstate 4. Separate funding from tolls paid to and allocated by the various Expressway Authorities are available for improvements to toll roads such as the Florida Turnpike and are not included in the available funding. Over the 25-year Mobility Fee Plan Horizon, \$15.6 million dollars will be available annually. This equates to a present value of approximately \$283.9 million. Over the 25-year horizon, roughly 9.6 million PMC are projected to be added to the transportation system. To determine the projected credit of \$29.51, as illustrated in Table 11, the Present Value is divided by the future PMC.

In addition to Federal and State funding for capacity expansion on major roads in Osceola County, the County utilizes a variety of local funding sources to fund transportation improvements.

Table 11: Federal & State Capacity Funding

Federal & State Capacity Funding FY 2020-2045	\$ 389,171,000.00
Total Years in Mobility Fee	25
Average Annual Funding	\$ 15,566,840.00
Present Value of State & Federal Capacity Funding	\$ 283,878,818.04
Increase in Person Miles of Capacity	9,618,543
Federal & State Revenue Credit per PMC	\$ 29.51

6.8 Fuel Tax Credit

Osceola County receives revenues from the sixth-cent and ninth-cent local option fuel taxes, the Constitutional, County and Municipal Fuel Taxes. The County receives a portion of an existing local government infrastructure sales surtax that could be used for mobility capacity expansion as well. Historically, Osceola County uses all of its gas tax revenue for operations and maintenance, with the exception of 14% of the Constitutional Gas Tax for capacity building transportation projects. As such,

\$13.3 million of the total fuel tax revenue is available for Avenues, Boulevards, and Premium Transit Corridors.

As the percentage of electric vehicles and hybrid vehicles significantly increases every year gas taxes continue to decline not only statewide but nationally as well. Such impacts will need to be accounted for in the future so that adjustments can be made to mitigate for the reduction in revenue streams generated from fuel taxes which are essential to the County to support operations, maintenance, and expansion projects.

Table 12 shows that the total capital use portion of the Constitutional gas tax will generate a mobility fee credit of \$1.01 per PMC.

Table 12: Constitutional Fuel Tax Credit

Constitutional Fuel Tax Revenue FY 2020-2045	\$ 13,300,00.00
Total Years in Mobility Fee	25
Average Annual Funding	\$ 532,000.00
Present Value of State & Federal Capacity Funding	\$ 9,701,617.75
Increase in Person Miles of Capacity	9,618,543
Fuel Tax Credit per PMC	\$ 1.01

6.9 Dedicated Ad Valorem Credit

Osceola County initiated a funding program that allocates a portion of the ad valorem revenues for capacity expansion transportation projects within its Urban Growth Transportation System. This funding source is an annual policy adopted through the budget process. The projection of funding utilized in this analysis is based upon the assumption of the Board of County Commission past practices. The current allocation is amount equal to the Tax Increment or ten percent of the countywide ad valorem tax revenue, whichever is less, or an amount determined by the County Manager as determined through the budget process.

At this level, the Dedicated Ad Valorem (DAT) is projected to total \$382 million by 2040. For Fiscal Years (FY) based on these calculations, new development could be expected to generate about \$36.21 in capacity-expanding road funding from DAT sources for every daily person-mile of capacity, as shown in Table 13.

Table 13: Dedicated Ad Valorem (DAT) Credit

Dedicated Ad Valorem (DAT) Credit FY 2020-2040	\$ 382,000,000
Total Years in Mobility Fee	20
Average Annual Funding	\$ 1,910,000.00
Present Value of State & Federal Capacity Funding	\$ 348,309,960.44
Increase in Person Miles of Capacity	9,618,543
Dedicated Ad Valorem Funding per PMC	\$ 36.21

6.10 Local Government Infrastructure Sales Surtax Credit

Osceola County has approved a local government infrastructure sales surtax pursuant to Section 212.055(2), Florida Statutes, to fund some of the capital facility needs of the County. This funding mechanism expires in 2025. The County has historically allocated 20% of the Local Government Infrastructure Sales Surtax to fund capacity. Total funding available through December 2025 is projected to be \$101 million. Approximately \$4.6 million is available annually to fund Avenues, Boulevards, and Premium Transit Corridors. Based on these calculations, new development could be expected to generate about \$2.18 in capacity-expanding road funding from the local infrastructure sales tax for every daily person mile of capacity (Table 14).

Table 14: Local Government Infrastructure Sales Surtax Credit

Local Government Infrastructure Sales Surtax FY 2020-2025	\$ 4,600,000
Total Years in Mobility Fee	4
Average Annual Funding	\$1,150,000
Present Value of State & Federal Capacity Funding	\$ 20,971,542.12
Increase in Person Miles of Capacity	9,618,543
Fuel Tax Credit per PMC	\$ 2.18

6.11 Debt Service Credits

The County’s Capital Improvement Plan includes capacity-expanding projects funded through the issuance of long-term debt. The existing debts will be retired between 2025 and 2045. A credit for outstanding debt will reduce the PMC rate to account for future debt service payments from new development. These payments will go towards partly retiring outstanding debt on existing facilities. Providing the debt service credit ensures that the County accounts for the contribution of new development toward remedying existing deficiencies. Given that new development will pay mobility fees to provide the existing level of service for itself, the fact that new development may also be paying for the facilities that provide that level of service for existing development could amount to paying for more than its proportionate share.

A credit for outstanding debt reduces the mobility fee by accounting for future debt service payments that will be made with funds generated by new development. The debt service credit is based upon the percentage of the total outstanding principal bond proceeds that are used for avenues, boulevards, and premium transit corridors. Consequently, the PMC rate used to calculate the mobility fees will be reduced to account for future payments that will retire outstanding debt on existing facilities. A simplified methodology was utilized that differs from the other credits, to ensure that new development is not required to pay for existing facilities, through funds used for debt retirement. This places new development on the same level as existing development in terms of funding its share of capital costs funded through debt. As shown in Table 15, the debt credit is \$8.91 per PMC.

Table 15: Debt Service Credit

Sales Tax Revenue Bonds, Series 2016	\$ 14,136,874
Infrastructure Sales Surtax Revenue Bonds, Series 2017	\$ 10,096,000
Capital Improvements Revenue Bond, Series 2019	\$ 61,477,816
Total Outstanding Road Debt on Major Road System	\$ 85,710,690
Increase in Person Miles of Capacity	9,618,543
Debt Service Credit per PMC	\$ 8.91

6.12 Total Credits

The total credits related to Federal and State fuel taxes, the local option fuel taxes, the Constitutional fuel tax, the dedicated ad valorem revenue, infrastructure sales tax revenue, debt service, and the local government transportation surcharge funding for Avenues, Boulevards, and Premium Transit Corridors are summarized in Table 16.

Table 16: Total Credits per Person Mile of Capacity

Federal & State Revenue Credit	\$ 29.51
Fuel Tax Credit	\$ 1.01
Dedicated Ad Valorem (DAT) Credit	\$ 36.21
Local Government Infrastructure Sales Surtax Credit	\$2.18
Debt Service Credit	\$ 8.91
Total PMC Credit	\$ 77.83

New development could be expected to generate the current equivalent of \$77.83 in funding over the next 25 years per PMC.



As shown in Table 17, the results of the VMT and PMT analysis yields an increase of 4,927,529 and 8,278,249, respectively, between the base year and future year within Osceola County. The VMT from Interstate 4, the Florida’s Turnpike, and the toll roads were excluded in the analysis as these facilities primarily serve metropolitan and regional travel demand. The annual rate of growth for Osceola County was 3.08 percent, indicating a fairly significant increase in future travel demand within the County.

Table 17: Base Year and Future Year Model Derived Travel Demand

Vehicle and Person Miles of Travel	County Wide Model VMT
2020 Base Year Model Vehicle Miles of Travel (VMT)	6,399,231
2020 Base Year Model Person Miles of Travel (PMT)	10,750,708
2045 Future Year Model Vehicle Miles of Travel (VMT)	11,326,760
2045 Future Year Model Person Miles of Travel (PMT)	19,028,957
Increase in Vehicle Miles of Travel (2020 – 2045)	4,927,529
Increase in Person Miles of Travel (2020 – 2045)	8,278,249
Annual Rate of Growth in VMT & PMT	3.08%

6.13 Trip Generation

Trip generation is the process of estimating the number of trips land uses will generate. Rates are based on information published in the ITE Trip Generation Manual, 10th Edition. The ITE Manual provides the most recent, uniform and widely utilized source for trip generation rates, and is the accepted source for trip generation rates by the FDOT.

The ITE Trip Generation Manual currently does not include extensive amounts of data that incorporate compact dense land use forms, access to transit, and greater mixed uses in more urbanized contexts. It is known throughout the industry as well as in real life applications that these factors lead to fewer and shorter vehicle trips and that the trips will use alternative travel modes or remain internal (entirely within the development). As a result, these trips are not added to the roadway network, and a trip reduction rate is applied as part of the trip generation process. The ITE Manual lags more recent studies that show a higher trip reduction rate because of a higher percentage of internal trips within mixed use developments. Therefore, The Transportation Research Board National Cooperative Highway Research Program (NCHRP) Report 684 “Enhancing Internal Trip Capture Estimation for Mixed-Use Development” was used as a more accurate representation to develop internal rates. The Report references studies that illustrate internal capture rates between 20% and 30% and for larger scale mixed-use developments that are compact and walkable featuring rates as high as 50%. This data is consistent with studies conducted in Florida for larger scale mixed use developments that showed an average internal capture rate of 36%.

6.14 New (Primary) Trips

For this renewal study, the percentage of new (primary) trips was kept the same as the adopted 2015 Mobility Fee Study as there are no industry indicators that suggest the need to implement new trip percentages.

6.15 Vehicle Miles Traveled (VMT) to People Miles Traveled (PMT) Factor

The assessment of future person miles of travel (PMT) is the initial component in the development of a mobility fee. To account for person trips made by walking, biking, riding transit, and vehicle occupancy in a multimodal travel environment, vehicle travel demand is converted into PMT based on data from the 2017 National Household Travel Survey (NHTS). PMT is calculated based on person trips and person trip length from the NHTS data. An evaluation of the personal travel data from the NHTS resulted in a PMT factor of 1.68 (Appendix H).

The multimodal projects necessary to serve person miles of travel demand include sidewalks, paths, trails, bike lanes, transit, low speed and complete streets, streetscape, intersections, and roadways. These multimodal projects are necessary to meet future person miles of travel demand and lay the foundation for use of new micro mobility devices (electric pedal assist bicycles, electric scooters) and micro transit vehicles (autonomous transit shuttles, golf carts, neighborhood electric vehicles).

6.16 Fee Schedule

The result of combining trip generation rates, percent of new trips, and localized trip length is a travel demand schedule that establishes the PMT per land use during the average weekday per unit of development for Osceola County. The localized trip lengths are based upon the values provided in Table 5. Equation 1 below illustrates the calculation for PMT per land use.

Equation 1: Mobility Fee

$$PMT_{per\ land\ use} = TG_{2022\ Mobility\ Fee\ Study} * Percent\ New\ Trips * TL_{Adjusted} * \frac{PMT_{Factor}}{2}$$

$$TG_{2022\ Mobility\ Fee\ Study} = 2022\ Mobility\ Fee\ Study\ Trip\ Generation$$

$$TL_{Adjusted} = Adjusted\ Trip\ Length$$

$$PMT_{Factor} = Person\ Miles\ Traveled\ Factor$$

* Note – The $PMT_{per\ land\ use}$ equation gets divided by 2 to avoid double counting trips for origin and destination



Mobility Fee is achieved by multiplying the PMT per land use by the PMC Rate minus the PMC Credits available.

Equation 2: Mobility Fee

$$\text{Mobility Fee} = (\text{PMC}_{\text{rate}} - \text{PMC}_{\text{credit}}) * \text{PMT}_{\text{per land use}}$$

The travel demand schedule for each land use is presented in Table 18.

Table 18: Mobility Fee Schedule

Proposed Mobility Fee Categories									
Category/Item	ITE Code (10th Ed.)	Unit	2022 Mobility Fee Study Trip Gen.	% New Trips	Adjusted Local Trip Length	PMT per land use	Mobility Fee	Mobility Fee Mixed-Use	Mobility Fee Transit Oriented Development
Living/Residential									
Single Family	210	D.U.	9.44	1	7.51	59.52	\$16,474.55	\$12,355.91	\$8,237.27
Condo/Townhouse/Multi-Family (Apartments)	220	D.U.	7.32	1	7.51	46.16	\$12,774.76	\$9,581.07	\$6,387.38
Mobile Home	240	D.U.	5	1	7.51	31.53	\$8,725.93	\$6,544.44	\$4,362.96
Active Adult	251, 252	D.U.	3.99	1	7.51	25.16	\$6,963.29	\$5,222.47	\$3,481.64
Assisted Living/Care/Nursing Home	254	1000 s.f.	4.19	1	7.51	26.42	\$7,312.33	\$5,484.24	\$3,656.16
Recreation/Entertainment									
Marina	420	Berth	2.41	1	12.23	24.76	\$6,852.32	\$5,139.24	\$3,426.16
Golf Course	430	Hole	30.38	0.5	12.23	156.05	\$43,189.54	\$32,392.16	\$21,594.77
Amusement Park	480	Acres	53.41	0.75	12.23	411.52	\$113,895.00	\$85,421.25	\$56,947.50
Movie Theater	444	Seat	1.99	0.75	12.23	15.33	\$4,243.61	\$3,182.71	\$2,121.80
Racquet/Tennis Club	490, 491	Tennis Court	29.015	0.5	5.63	68.61	\$18,988.70	\$14,241.53	\$9,494.35
Health/Fitness/Athletic Club	492, 493	1000 s.f.	35.27	0.5	5.63	83.40	\$23,082.25	\$17,311.69	\$11,541.13
Recreational Community Center/Multipurpose Recreational Facility	495	1000 s.f.	28.82	0.5	6.94	84.00	\$23,249.72	\$17,437.29	\$11,624.86
Campground/Recreational Vehicle park	416	Acres	4.85	0.5	12.23	24.91	\$6,894.97	\$5,171.23	\$3,447.49
Institutional									
Place of Worship	560	1000 s.f.	6.95	0.9	7.09	37.25	\$10,310.22	\$7,732.66	\$5,155.11
Private School (K-8)(K-12)	534	Student	4.11	0.4	7.46	10.30	\$2,851.25	\$2,138.44	\$1,425.62
Day Care Center	565	1000 s.f.	47.62	0.4	5.51	88.16	\$24,400.31	\$18,300.23	\$12,200.16
Office									
General Office Building	710	1000 s.f.	9.74	0.75	7.815	47.95	\$13,272.22	\$9,954.16	\$6,636.11
Single Tenant Office Building	715	1000 s.f.	11.25	0.75	7.815	55.39	\$15,329.82	\$11,497.37	\$7,664.91
Business park	770	1000 s.f.	12.44	0.75	7.815	61.25	\$16,951.38	\$12,713.53	\$8,475.69
Corporate Headquarters	714	1000 s.f.	7.95	0.75	7.815	39.14	\$10,833.07	\$8,124.81	\$5,416.54
Medical Building									
Medical/Dental Offices	720	1000 s.f.	34.8	0.5	6.41	93.69	\$25,929.95	\$19,447.46	\$12,964.97
Hospitals	610	1000 s.f.	10.72	0.75	6.41	43.29	\$11,981.42	\$8,986.07	\$5,990.71
Industrial									
Warehousing/Manufacturing/Industrial	140, 150	1000 s.f.	2.84	0.9	10.82	23.23	\$6,429.58	\$4,822.18	\$3,214.79



Category/Item	ITE Code (10th Ed.)	Unit	2022 Mobility Fee Study Trip Gen.	% New Trips	Adjusted Local Trip Length	PMT per land use	Mobility Fee	Mobility Fee Mixed-Use	Mobility Fee Transit Oriented Development
High-Cube Transload and Short-Term Storage Warehouse	154, 157	1000 s.f.	1.76	0.9	5.44	7.24	\$2,003.31	\$1,502.48	\$1,001.66
High-Cube Fulfillment Center Warehouse	155, 156	1000 s.f.	7.97	0.9	5.44	32.76	\$9,066.12	\$6,799.59	\$4,533.06
Mini-Warehouse	151	1000 s.f.	1.51	0.9	5.44	6.21	\$1,718.75	\$1,289.06	\$859.38
General Commercial Retail									
Shopping Center	820	1000 s.f.	37.75	0.5	6.32	100.20	\$27,733.10	\$20,799.82	\$13,866.55
Variety/Dollar Store	814	1000 s.f.	63.47	0.4	6.32	134.78	\$37,302.67	\$27,977.00	\$18,651.34
Factory Outlet Store	823	1000 s.f.	26.59	0.8	6.32	112.93	\$31,255.02	\$23,441.26	\$15,627.51
Grocery Store	850, 854	1000 s.f.	197.65	0.5	6.32	524.64	\$145,203.90	\$108,902.92	\$72,601.95
Pharmacy/Drugstore Without Drive Thru	880	1000 s.f.	90.08	0.4	5.89	178.27	\$49,339.87	\$37,004.91	\$24,669.94
Pharmacy/Drugstore With Drive Thru	881	1000 s.f.	109.16	0.4	5.89	216.03	\$59,790.64	\$44,842.98	\$29,895.32
Fast Casual Restaurant	930	1000 s.f.	315.17	0.25	7.55	499.70	\$138,301.28	\$103,725.96	\$69,150.64
Fast-Food Restaurant without Drive Thru	933	1000 s.f.	346.23	0.25	3.94	286.47	\$79,285.78	\$59,464.33	\$39,642.89
Fast-Food Restaurant with Drive Thru	934	1000 s.f.	470.95	0.25	3.94	389.66	\$107,846.34	\$80,884.75	\$53,923.17
Coffee/Donut Shop without Drive Thru	936	1000 s.f.	754.55	0.5	3.94	1248.63	\$345,580.01	\$259,185.01	\$172,790.01
Coffee/Donut Shop with Drive Thru	937	1000 s.f.	820.38	0.5	3.94	1357.56	\$375,729.82	\$281,797.36	\$187,864.91
Coffee/Donut Shop with Drive Thru, no indoor seat	938	1000 s.f.	2000	0.25	3.94	1654.80	\$457,994.85	\$343,496.14	\$228,997.43
Car Sales	840, 841	1000 s.f.	27.45	0.75	6.32	109.29	\$30,249.28	\$22,686.96	\$15,124.64
Auto Parts Store	843	1000 s.f.	55.34	0.6	6.32	176.27	\$48,786.75	\$36,590.06	\$24,393.37
Tire & Auto Repair	942	1000 s.f.	23.72	0.6	6.32	75.55	\$20,911.12	\$15,683.34	\$10,455.56
Non-Residential									
Hotel per room	310	Room	8.36	0.75	6.94	36.55	\$10,116.29	\$7,587.22	\$5,058.15
Resort Hotel per Room	330	Occupied Room	17.06	0.75	6.94	74.59	\$20,644.01	\$15,483.01	\$10,322.01
Bank/Savings w/ Drive-thru per Drive-thru lane	912	Drive in Lanes	124.76	0.4	3.94	165.16	\$45,711.55	\$34,283.66	\$22,855.78
Convenience Market & Gas Fuel per Fuel Position	853, 945	Vehicle Fueling Position	263.93	0.25	3.94	218.38	\$60,439.29	\$45,329.47	\$30,219.65
Quick Lube Vehicle Service per Bay	941	Service Bay	40	0.4	6.32	84.94	\$23,508.85	\$17,631.64	\$11,754.43
Self-Service Car Wash	947	Wash Stall	108	0.25	6.32	143.34	\$39,671.19	\$29,753.39	\$19,835.59
Automated Car Wash	948	Wash Tunnel	375	0.25	6.32	497.70	\$137,747.18	\$103,310.39	\$68,873.59

*- Adjusted ITE value based on local research

Note-These are the maximum allowable fees that Osceola County can charge and do not represent the values that will be charged to developers.

7. Mobility Fee Districts

Mobility Fee Districts are strategically created to ensure that mobility fees collected within each District are expended on multimodal corridor projects within the District to the benefit of development which pays the fee. Mobility fee service area would currently only be charged in the unincorporated area of Osceola County. The City of Kissimmee and City of St. Cloud are currently excluded from the County’s Mobility Fee. The implementation of the Mobility Fee Benefit Districts ensures the second requirement of the dual rational nexus test is met by clearly defining where funds are collected and where they are expended. The Districts also ensures that the land uses within the Districts that pay the fee are provided the benefit of mobility from the multimodal corridor projects to be funded within the District.



The 2020 supplemental mobility fee study confirmed the Florida’s Turnpike as a clearly defined physical feature that impacts travel patterns within the county. Based on traffic projections and the increase of development activity in the northeast quadrant of the District Conceptual Master Plan boundaries, the 2020 study recommended for the county to restructure the mobility fee districts as follows:

Western Mobility District

- The “West” Mobility District (Area “1”) is the sector located west of the Florida’s Turnpike (SR 91)

Northeastern Mobility District

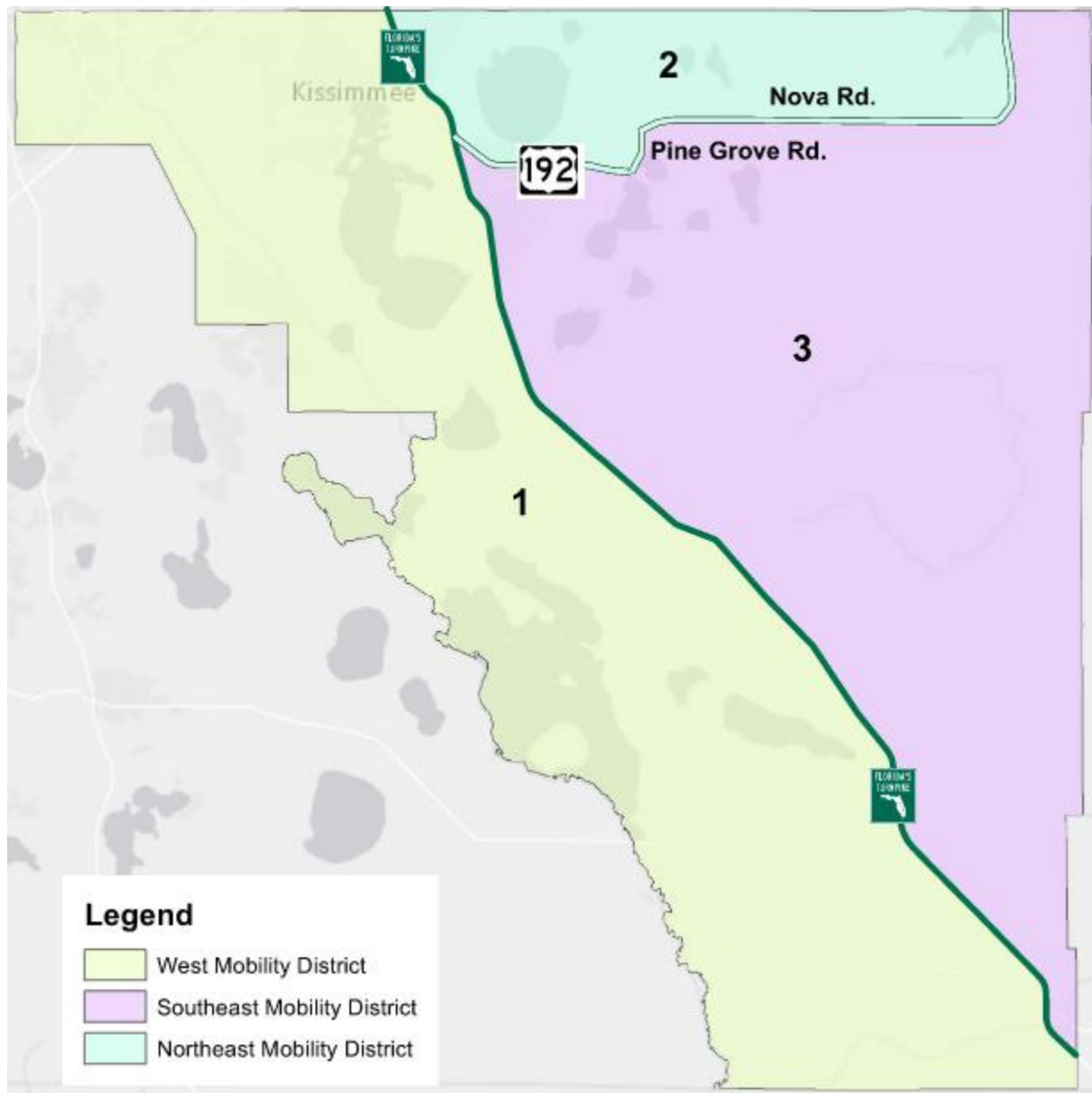
- The “Northeast” Mobility District (Area “2”) is the sector located east of the Florida’s Turnpike and north of the US 192 to Pine Grove to Nova Road.

Southeastern Mobility District

- The “Southeast” Mobility District (Area “3”) is the sector located east of the Florida’s Turnpike and south of US 192 to Pine Grove Road to Nova Road.

This study recommends that the three mobility districts recommended in 2020 and approved in Ordinance No. 2020-63 shall remain unchanged. Figure 8 shows these mobility districts graphically.

Figure 8: Mobility Fee Districts





8 Mobility Fee Example Calculation

An example fee calculation is provided in this section for the Warehousing/Manufacturing/Industrial land use category (ITE 140, 150) and Single-Family Residential land use category (ITE 210) using information from the proposed Mobility Fee schedule. These examples also include the Mobility Fee calculations for Mixed-Use and Transit Orientated developments. For each land use category of the fee schedules, the same equations are used to calculate the net Mobility Fee:

Warehousing/Manufacturing/Industrial

A 100,000 SF warehouse building (ITE 140, 150)

Total Mobility Fee = Building SF * Cost per zone/1,000 SF.

Total Mobility Fee = 100,000 SF * \$6,429.58/1,000 SF = \$642,958.00

Mixed-Use Mobility Fee = \$642,958 * (100%-25%) = \$482,218.50

Transit Orientated Development Mobility Fee = \$642,958 * (100%-50%) = \$321,479.00

Residential

A 150-dwelling unit (DU) residential development (ITE 210)

Total Mobility Fee = Residential DU * Cost per zone

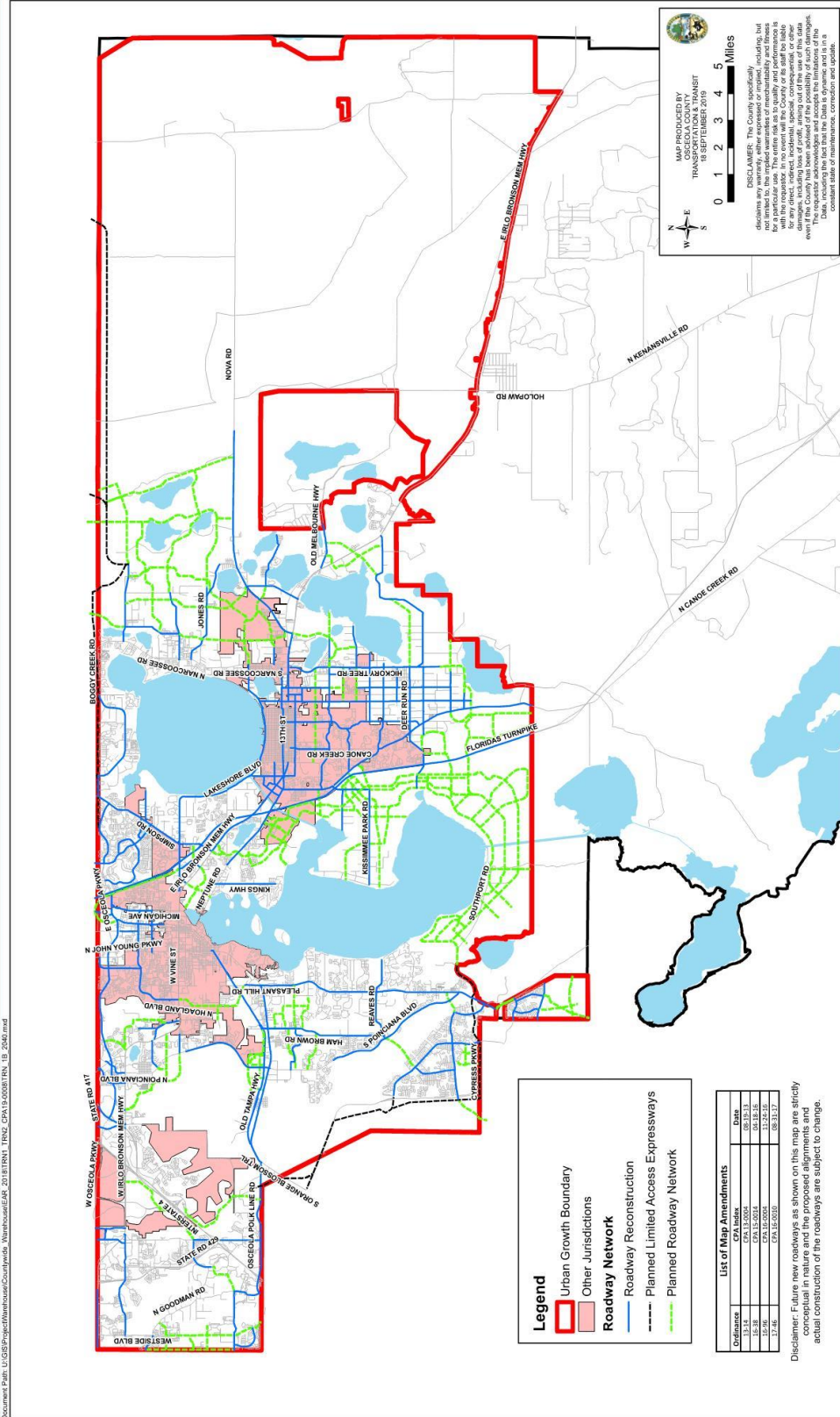
Total Mobility Fee = 150 DU * \$16,474.55 = \$2,471,182.50

Mixed-Use Mobility Fee = \$2,471,182.50 * (100%-25%) = \$1,853,386.88

Transit Orientated Development Mobility Fee = \$2,471,182.50 * (100%-50%) = \$1,235,591.25

Map A

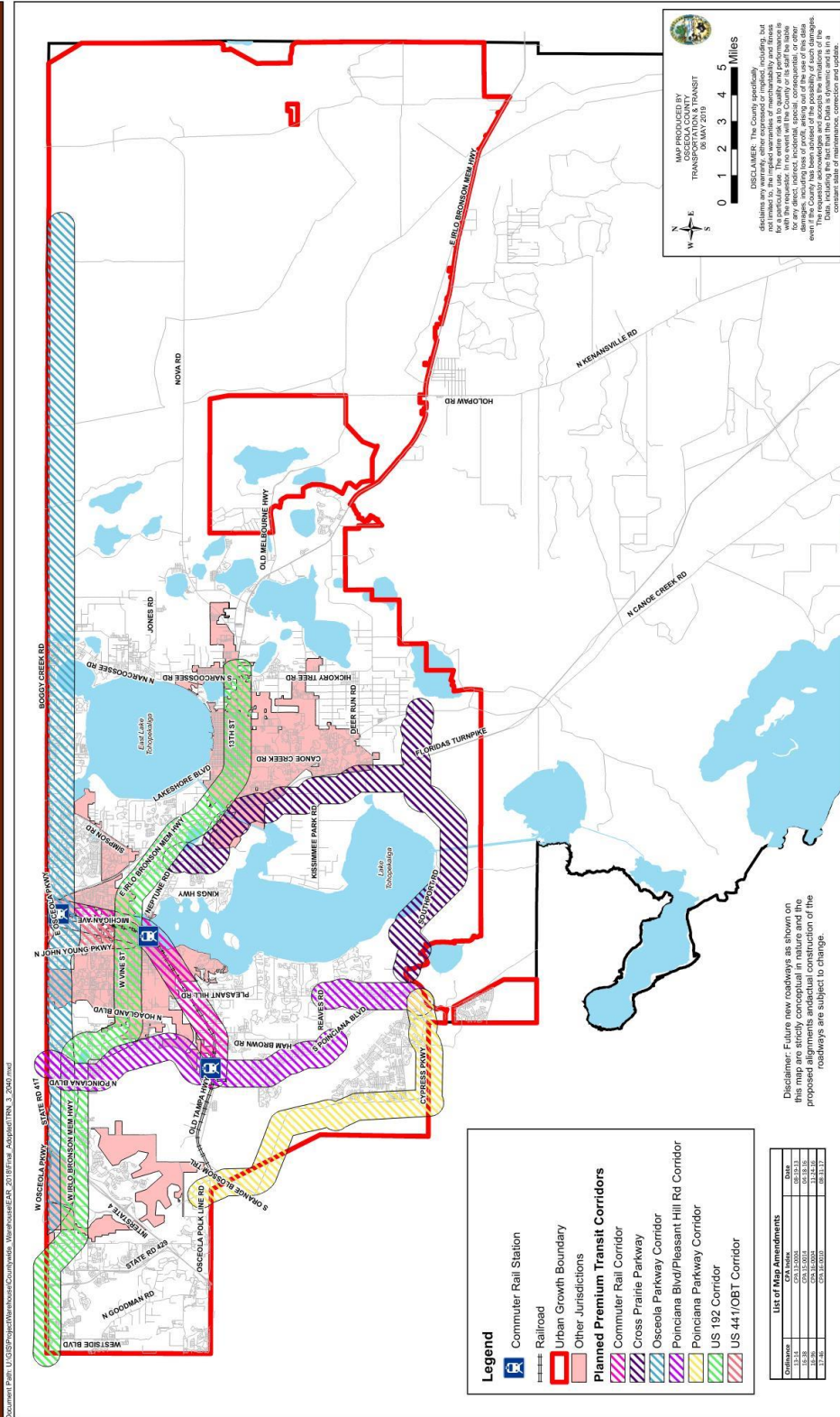
TRN 1B: Roadway Network UGB - 2040



Document Path: U:\GIS\Projects\MapHouse\Countywide_MapHouse\ESRI_2018\TRN1B_TRN1B_CPA15-0005B1.RAW_15_2040.mxd

Map B

TRN 3: Premium Transit Corridors - 2040



Legend

- Commuter Rail Station
- Railroad
- Urban Growth Boundary
- Other Jurisdictions

Planned Premium Transit Corridors

- Commuter Rail Corridor
- Cross Prairie Parkway
- Osceola Parkway Corridor
- Poinciana Parkway Corridor
- US 192 Corridor
- US 441/OBT Corridor

List of Map Amendments

Date/Issue	Drawn
12-14-11	08-23-11
03-13-12	03-13-12
12-28-12	03-13-12
02-16-2024	03-13-12
02-14-2025	08-23-11

MAP PRODUCED BY
TRANSPORTATION & TRANSIT
08 MAY 2019

DISCLAIMER: The County specifically disclaims any liability for the use of this map for any purpose other than that for which it was prepared. The user assumes all responsibility for any direct, indirect, incidental, special, consequential, or other damages, including the loss of profits, arising from the use of this map. The County has been advised of the possibility of such damages. This disclaimer shall be deemed to be a constant state of maintenance, correction and update.

Miles
0 1 2 3 4 5

North Arrow

Disclaimer: Future new roadways as shown on this map are strictly conceptual in nature and the proposed alignments and actual construction of the roadways are subject to change.



Appendix A



F L O R I D A H O U S E O F R E P R E S E N T A T I V E S

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2021 Legislature

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An act relating to impact fees; amending s. 163.31801, F.S.; defining the terms "infrastructure" and "public facilities"; requiring local governments and special districts to credit against the collection of impact fees any contribution related to public facilities or infrastructure; providing conditions under which credits may not be applied; providing limitations on impact fee increases; providing for retroactive operation; requiring specified entities to submit an affidavit attesting that impact fees were appropriately collected and expended; providing that impact fee credits are assignable and transferable regardless of when they the credits were established; requiring school districts to report specified information regarding impact fees; providing a directive to the Division of Law Revision; providing an effective date.

Be It Enacted by the Legislature of the State of Florida:

Section 1. Section 163.31801, Florida Statutes, is amended to read:
163.31801 Impact fees; short title; intent; minimum requirements; audits; challenges.-



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26 (1) This section may be cited as the "Florida Impact Fee
27 Act."

28 (2) The Legislature finds that impact fees are an
29 important source of revenue for a local government to use in
30 funding the infrastructure necessitated by new growth. The
31 Legislature further finds that impact fees are an outgrowth of
32 the home rule power of a local government to provide certain
33 services within its jurisdiction. Due to the growth of impact
34 fee collections and local governments' reliance on impact fees,
35 it is the intent of the Legislature to ensure that, when a
36 county or municipality adopts an impact fee by ordinance or a
37 special district adopts an impact fee by resolution, the
38 governing authority complies with this section.

39 (3) For purposes of this section, the term:

40 (a) "Infrastructure" means a fixed capital expenditure or
41 fixed capital outlay, excluding the cost of repairs or
42 maintenance, associated with the construction, reconstruction,
43 or improvement of public facilities that have a life expectancy
44 of at least 5 years; related land acquisition, land improvement,
45 design, engineering, and permitting costs; and other related
46 construction costs required to bring the public facility into
47 service. The term also includes a fire department vehicle, an
48 emergency medical service vehicle, a sheriff's office vehicle, a
49 police department vehicle, a school bus as defined in s.
50 1006.25, and the equipment necessary to outfit the vehicle or



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51 bus for its official use. For independent special fire control
52 districts, the term includes new facilities as defined in s.
53 191.009(4).

54 (b) "Public facilities" has the same meaning as in s.
55 163.3164 and includes emergency medical, fire, and law
56 enforcement facilities.

57 (4)(3) At a minimum, each local government that adopts and
58 collects an impact fee by ordinance and each special district
59 that adopts, collects, and administers an impact fee by
60 resolution must ~~an impact fee adopted by ordinance of a county~~
61 ~~or municipality or by resolution of a special district must~~
62 ~~satisfy all of the following conditions:~~

63 (a) Ensure that the calculation of the impact fee ~~is~~ must
64 ~~be~~ based on the most recent and localized data.

65 (b) ~~The local government must~~ Provide for accounting and
66 reporting of impact fee collections and expenditures and. ~~If a~~
67 ~~local governmental entity imposes an impact fee to address its~~
68 ~~infrastructure needs, the entity must~~ account for the revenues
69 and expenditures of such impact fee in a separate accounting
70 fund.

71 (c) Limit administrative charges for the collection of
72 impact fees ~~must be limited~~ to actual costs.

73 (d) ~~The local government must~~ Provide notice at least ~~not~~
74 ~~less than~~ 90 days before the effective date of an ordinance or
75 resolution imposing a new or increased impact fee. A local



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76 ~~government county or municipality~~ is not required to wait 90
77 days to decrease, suspend, or eliminate an impact fee. Unless
78 the result is to reduce the total mitigation costs or impact
79 fees imposed on an applicant, new or increased impact fees may
80 not apply to current or pending permit applications submitted
81 before the effective date of ~~an ordinance or resolution imposing~~
82 a new or increased impact fee.

83 (e) Ensure that collection of the impact fee may not be
84 required to occur earlier than the date of issuance of the
85 building permit for the property that is subject to the fee.

86 (f) Ensure that the impact fee ~~is must be~~ proportional and
87 reasonably connected to, or has ~~have~~ a rational nexus with, the
88 need for additional capital facilities and the increased impact
89 generated by the new residential or commercial construction.

90 (g) Ensure that the impact fee ~~is must be~~ proportional and
91 reasonably connected to, or has ~~have~~ a rational nexus with, the
92 expenditures of the funds collected and the benefits accruing to
93 the new residential or nonresidential construction.

94 (h) ~~The local government must~~ Specifically earmark funds
95 collected under the impact fee for use in acquiring,
96 constructing, or improving capital facilities to benefit new
97 users.

98 (i) Ensure that revenues generated by the impact fee are
99 ~~may not be~~ used, in whole or in part, to pay existing debt or
100 for previously approved projects unless the expenditure is



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101 | reasonably connected to, or has a rational nexus with, the
102 | increased impact generated by the new residential or
103 | nonresidential construction.

104 | (5) (a) ~~(4)~~ Notwithstanding any charter provision,
105 | comprehensive plan policy, ordinance, development order,
106 | development permit, or resolution, the local government or
107 | special district must credit against the collection of the
108 | impact fee any contribution, whether identified in a
109 | proportionate share agreement or other form of exaction, related
110 | to public ~~education~~ facilities or infrastructure, including land
111 | dedication, site planning and design, or construction. Any
112 | contribution must be applied on a dollar-for-dollar basis at
113 | fair market value to reduce any ~~education based~~ impact fee
114 | collected for the general category or class of public facilities
115 | or infrastructure for which the contribution was made ~~fees on a~~
116 | ~~dollar for dollar basis at fair market value.~~

117 | (b) If a local government or special district does not
118 | charge and collect an impact fee for the general category or
119 | class of public facilities or infrastructure contributed, a
120 | credit may not be applied under paragraph (a).

121 | (6) ~~(5)~~ A local government, school district, or special
122 | district may increase an impact fee only as provided in this
123 | subsection.

124 | (a) An impact fee may be increased only pursuant to a plan
125 | for the imposition, collection, and use of the increased impact



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126 fees which complies with this section.

127 (b) An increase to a current impact fee rate of not more
128 than 25 percent of the current rate must be implemented in two
129 equal annual increments beginning with the date on which the
130 increased fee is adopted.

131 (c) An increase to a current impact fee rate which exceeds
132 25 percent but is not more than 50 percent of the current rate
133 must be implemented in four equal installments beginning with
134 the date the increased fee is adopted.

135 (d) An impact fee increase may not exceed 50 percent of
136 the current impact fee rate.

137 (e) An impact fee may not be increased more than once
138 every 4 years.

139 (f) An impact fee may not be increased retroactively for a
140 previous or current fiscal or calendar year.

141 (g) A local government, school district, or special
142 district may increase an impact fee rate beyond the phase-in
143 limitations established under paragraph (b), paragraph (c),
144 paragraph (d), or paragraph (e) by establishing the need for
145 such increase in full compliance with the requirements of
146 subsection (4), provided the following criteria are met:

147 1. A demonstrated need study justifying any increase in
148 excess of those authorized in paragraph (b), paragraph (c),
149 paragraph (d), or paragraph (e) has been completed within the 12
150 months before the adoption of the impact fee increase and



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151 expressly demonstrates the extraordinary circumstances
152 necessitating the need to exceed the phase-in limitations.

153 2. The local government jurisdiction has held not less
154 than two publicly noticed workshops dedicated to the
155 extraordinary circumstances necessitating the need to exceed the
156 phase-in limitations set forth in paragraph (b), paragraph (c),
157 paragraph (d), or paragraph (e).

158 3. The impact fee increase ordinance is approved by at
159 least a two-thirds vote of the governing body.

160 (h) This subsection operates retroactively to January 1,
161 2021.

162 (7) If an impact fee is increased a local government
163 increases its impact fee rates, the holder of any impact fee
164 credits, whether such credits are granted under s. 163.3180, s.
165 380.06, or otherwise, which were in existence before the
166 increase, is entitled to the full benefit of the intensity or
167 density prepaid by the credit balance as of the date it was
168 first established. This subsection shall operate prospectively
169 and not retrospectively.

170 (8)(6) A local government, school district, or special
171 district must submit with its annual financial report required
172 under s. 218.32 or its financial audit report required under s.
173 218.39 a separate affidavit signed by its chief financial
174 officer or, if there is no chief financial officer, its
175 executive officer attesting, to the best of his or her



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176 knowledge, that all impact fees were collected and expended by
 177 the local government, school district, or special district, or
 178 were collected and expended on its behalf, in full compliance
 179 with the spending period provision in the local ordinance or
 180 resolution, and that funds expended from each impact fee account
 181 were used only to acquire, construct, or improve specific
 182 infrastructure needs ~~Audits of financial statements of local~~
 183 ~~governmental entities and district school boards which are~~
 184 ~~performed by a certified public accountant pursuant to s. 218.39~~
 185 ~~and submitted to the Auditor General must include an affidavit~~
 186 ~~signed by the chief financial officer of the local governmental~~
 187 ~~entity or district school board stating that the local~~
 188 ~~governmental entity or district school board has complied with~~
 189 ~~this section.~~

190 (9)~~(7)~~ In any action challenging an impact fee or the
 191 government's failure to provide required dollar-for-dollar
 192 credits for the payment of impact fees as provided in s.
 193 163.3180(6)(h)2.b., the government has the burden of proving by
 194 a preponderance of the evidence that the imposition or amount of
 195 the fee or credit meets the requirements of state legal
 196 precedent and this section. The court may not use a deferential
 197 standard for the benefit of the government.

198 (10)~~(8)~~ Impact fee credits are assignable and transferable
 199 at any time after establishment from one development or parcel
 200 to any other that is within the same impact fee zone or impact



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201 fee district or that is within an adjoining impact fee zone or
 202 impact fee district within the same local government
 203 jurisdiction and which receives benefits from the improvement or
 204 contribution that generated the credits. This subsection applies
 205 to all impact fee credits regardless of whether the credits were
 206 established before or after the effective date of this act.

207 ~~(11)(9)~~ A county, municipality, or special district may
 208 provide an exception or waiver for an impact fee for the
 209 development or construction of housing that is affordable, as
 210 defined in s. 420.9071. If a county, municipality, or special
 211 district provides such an exception or waiver, it is not
 212 required to use any revenues to offset the impact.

213 ~~(12)(10)~~ This section does not apply to water and sewer
 214 connection fees.

215 ~~(13)(11)~~ In addition to the items that must be reported in
 216 the annual financial reports under s. 218.32, a local
 217 government, school district ~~county, municipality,~~ or special
 218 district must report all of the following information ~~data~~ on
 219 all impact fees charged:

220 (a) The specific purpose of the impact fee, including the
 221 specific infrastructure needs to be met, including, but not
 222 limited to, transportation, parks, water, sewer, and schools.

223 (b) The impact fee schedule policy describing the method
 224 of calculating impact fees, such as flat fees, tiered scales
 225 based on number of bedrooms, or tiered scales based on square



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226 footage.

227 (c) The amount assessed for each purpose and for each type
228 of dwelling.

229 (d) The total amount of impact fees charged by type of
230 dwelling.

231 (e) Each exception and waiver provided for construction or
232 development of housing that is affordable.

233 Section 2. The Division of Law Revision is directed to
234 replace the phrase "the effective date of this act" wherever it
235 occurs in this act with the date the act becomes a law.

236 Section 3. This act shall take effect upon becoming a law.

Appendix B

#	Field Name	Format	Description
1	A	Integer	Begin node of roadway link
2	B	Integer	End node of roadway link
3	LINK_ID	String	Unique roadway link identifier; concatenation of A and B nodes
4	ROAD_NAME	String	Roadway name
5	TWOWAY	Integer	Indicates if roadway link is one-way or two-way
6	DIR	String	Direction of roadway link
7	NUM_LANES	Integer	Number of lanes on roadway link
8	POST_SPEED	Integer	Posted speed limit of roadway link
9	AREA_TYPE	Integer	Area type of roadway link
10	FAC_TYPE	Integer	Facility type of roadway link
11	UA_TYPE	Integer	Indicates if roadway link is in an urban, rural, or transitioning area
12	UA_NAME	Integer	Urban area name of roadway link
13	FUNCLASS	Integer	Functional classification of roadway link
14	SIS	Integer	Indicates if roadway link is part of the FDOT Strategic Intermodal System (SIS)
15	NHS	Integer	Indicates if roadway link is part of the National Highway System (NHS)
16	PAVED	Integer	Indicates if roadway link is paved or unpaved
17	TRFC_CALM	Integer	Indicates if traffic calming is implemented on roadway link
18	COUNTY	Integer	County where roadway link is located
19	MPO	Integer	Metropolitan Planning Organization (MPO) area where roadway link is located
20	MPO	Integer	FDOT managing district where roadway link is located
21	TOLL	Integer	Indicates if roadway link has toll plaza or gantry
22	RAMP	Integer	Indicates if roadway link is a ramp
23	JURIS	String	Jurisdiction of roadway link
24	CENTROID	Integer	Indicates if roadway link is a centroid connector
25	DISTANCE	Double	Length of roadway link in miles
26	FFTIME	Double	Observed free-flow time to travel roadway link
27	AM_SPD	Double	AM peak-period travel speed
28	MD_SPD	Double	Mid-day period travel speed
29	PM_SPD	Double	PM peak-period travel speed
30	NT_SPD	Double	Night period travel speed
31	FF_SPD	Double	Observed free-flow speed on roadway link
32	COUNT_2015	Integer	Daily raw count from 2015
33	COUNT_SITE	String	Count site ID number

34	COUNT_LOC	String	Description of count site location
35	COUNT_DATE	Date	Date of count
36	COUNT_SOURCE S	String	Source of count
37	COUNT_AM	Integer	AM peak-period raw count
38	COUNT_MD	Integer	Mid-day period raw count
39	COUNT_PM	Integer	PM peak-period raw count
40	COUNT_NT	Integer	Night period raw count
41	COUNT_DAILY	Integer	Daily raw count
42	COUNT_DAILY_ADJ	Integer	Seasonally adjusted daily count
43	COUNT_AMBAL_ADJ	Integer	Seasonally adjusted and balanced AM peak-period count
44	COUNT_MDBAL_ADJ	Integer	Seasonally adjusted and balanced mid-day peak-period count
45	COUNT_PMBAL_ADJ	Integer	Seasonally adjusted and balanced PM peak-period count
46	COUNT_NTBAL_ADJ	Integer	Seasonally adjusted and balanced night period count
47	COUNT_DAILYBAL_ADJ	Integer	Seasonally adjusted and balanced daily count
48	COUNT_TRK	Integer	Number of trucks
49	PCT_TRK	Double	Percentage of trucks
50	FAC_CATEGORY	String	FDOT factor category for traffic count
51	SEASON_FAC	Double	FDOT seasonal factor for traffic count
52	MOCF	Double	FDOT model output conversion factor
53	CTOLL	Double	Toll coefficient for passenger vehicles
54	CTOLL_TRK	Double	Toll coefficient for trucks
55	CARTOLL	Double	Passenger vehicle toll amount
56	TRUCKTOLL	Double	Truck toll amount (maximum based on number of axles)
57	CAPACITY	Integer	Capacity of roadway
58	SR_NUM1	String	State Road (SR) number
59	SR_NUM2	String	State Road (SR) number
60	SR_NUM3	String	State Road (SR) number
61	US_NUM1	String	US route number
62	US_NUM2	String	US route number
63	US_NUM3	String	US route number
64	INT_NUM	String	Interstate route number
65	PROJECT_ID	String	Description of roadway project
66	SCREENLINE	Integer	Screenline associated with roadway link
67	CORRIDOR	Integer	Defined corridor to test and evaluate validation metrics
68	LABEL	Integer	Field for users to define labeling styles
69	SYMBOL	Integer	Field for users to define symbol styles

70	OFFSET	Integer	Field for users to define directional offset symbology
71	FLAG	Integer	Field for users to populate if certain roadway links need to be flagged during editing
72	X_BEG	Double	X-coordinate of roadway link begin point
73	Y_BEG	Double	Y-coordinate of roadway link begin point
74	XY_BEG	Double	Sum of begin point X + Y coordinates
75	X_END	Double	X-coordinate of roadway link end point
76	Y_END	Double	Y-coordinate of roadway link end point
77	XY_END	Double	Sum of end point X + Y coordinates
78	Y15	Integer	Indicates if roadway link is in 2015 network
79	Y20	Integer	Indicates if roadway link is in 2020 network
80	Y25	Integer	Indicates if roadway link is in 2025 network
81	Y30	Integer	Indicates if roadway link is in 2030 network
82	Y35	Integer	Indicates if roadway link is in 2035 network
83	Y40	Integer	Indicates if roadway link is in 2040 network
84	Y45	Integer	Indicates if roadway link is in 2045 network
85	created_user	String	Automatically populated by ESRI when user edits feature class
86	created_date	Date	Automatically populated by ESRI when user edits feature class
87	last_edited_user	String	Automatically populated by ESRI when user edits feature class
88	last_edited_date	Date	Automatically populated by ESRI when user edits feature class
89	Shape_Length	Double	Length of link polyline, in feet (US)
90	OBJECTID	Integer	Automatically generated by ESRI
91	Shape	Geometry	Geometry type of feature class

Appendix C

LINK_ID	ROAD_NAME	FAC_TYPE	SIS	NHS	COUNTY	NUM_LANES	DISTANCE	AM		PM	
								2020 Vol.	2045 Vol.	2020 Vol.	2045 Vol.
60772_74558	Boggy Creek Rd	41	0	0	7	2	0.966	824	2444	1417	2718

Additional Lanes

$$AM\ Volume = \frac{V_{2045} - V_{2020}}{1950} = \frac{2444 - 824}{1950} = 0.831$$

$$1 > \frac{V_{2045} - V_{2020}}{1950} > 0 \therefore 1\ lane$$

$$PM\ Volume = \frac{V_{2045} - V_{2020}}{1950} = \frac{2718 - 1417}{1950} = 0.667$$

$$1 > \frac{V_{2045} - V_{2020}}{1950} > 0 \therefore 1\ lane$$

Note

Due to the percentage difference calculation, the AM value represents the worst congestion and will be used throughout the rest of this example.

Percentage Difference

AM Peak

$$\% = \frac{(V)_{2045} - (V)_{2020}}{N_{AL} * 1950} = \frac{2444 - 824}{1 * 1950} = 0.831 = 83.1\%$$

FDOT Historical Project Costs

This segment was coded as “Facility Type 41” which represents a Major Local Divided Roadway. Using the Osceola County Land Development Code this cross section falls under the Boulevard classification which had a cost of \$9,852,620 per lane mile. FDOT Historical Project Cost values were selected for each segment based on facility type (Avenue, Boulevard, and Premium Transit Corridor).

$$MF_{segment} = S_L * N_{AL} * EC * \% = 0.966 * 1 * \$9,852,620 * 83.1\% = \$7,909,151.29$$



Appendix D

**Projections of Florida Population by County,
2025–2045, with Estimates for 2020**

County and State	Estimates April 1, 2020					
		2025	2030	2035	2040	2045
ALACHUA	271,588					
Low		264,000	265,800	265,800	264,200	261,200
Medium		283,000	292,700	300,300	306,300	311,300
High		301,300	319,900	335,100	348,500	360,000
BAKER	28,532					
Low		27,500	27,700	27,700	27,600	27,300
Medium		29,900	31,000	32,000	32,700	33,400
High		32,400	34,900	37,400	39,600	41,900
BAY	174,410					
Low		173,000	176,300	177,700	177,800	177,000
Medium		185,000	193,100	199,000	203,700	207,600
High		198,200	213,600	227,100	238,900	250,000
BRADFORD	28,725					
Low		26,900	26,400	25,700	25,100	24,500
Medium		29,300	29,700	29,900	30,200	30,400
High		31,800	33,300	34,700	36,100	37,600
BREVARD	606,671					
Low		599,900	610,300	616,400	621,200	623,800
Medium		643,100	671,300	694,300	714,900	733,600
High		684,900	734,500	777,200	819,400	859,600
BROWARD	1,932,212					
Low		1,878,000	1,892,200	1,897,800	1,896,000	1,888,800
Medium		2,013,800	2,083,800	2,142,300	2,192,700	2,237,800
High		2,144,000	2,277,300	2,392,800	2,500,800	2,602,800
CALHOUN	14,489					
Low		13,900	13,900	13,800	13,600	13,400
Medium		15,100	15,600	16,000	16,200	16,500
High		16,400	17,500	18,600	19,600	20,500
CHARLOTTE	187,904					
Low		183,100	187,200	189,100	189,700	189,400
Medium		203,000	215,500	225,600	234,400	242,500
High		221,500	243,200	263,600	283,100	303,100
CITRUS	149,383					
Low		146,300	148,100	148,800	149,000	149,000
Medium		156,600	162,400	166,900	170,800	174,300
High		167,600	179,500	190,200	200,200	210,500
CLAY	219,575					
Low		217,700	224,400	228,600	230,800	231,700
Medium		237,300	252,400	264,600	274,800	283,900
High		255,000	278,900	299,600	318,900	337,100
COLLIER	387,450					
Low		388,500	402,800	413,900	422,100	426,600
Medium		423,600	452,800	477,800	499,700	519,000
High		455,100	500,600	542,500	583,100	620,700
COLUMBIA	70,617					
Low		68,700	69,200	69,200	68,900	68,300
Medium		73,500	75,900	77,700	79,200	80,500
High		78,700	83,800	88,400	92,500	96,500
DESOTO	37,082					
Low		36,200	36,400	36,500	36,300	36,100
Medium		38,700	40,000	40,900	41,800	42,500
High		41,500	44,100	46,600	48,800	51,000
DIXIE	16,663					
Low		15,600	15,300	14,900	14,500	14,100
Medium		17,000	17,200	17,300	17,400	17,500
High		18,400	19,300	20,100	20,800	21,600



**Projections of Florida Population by County,
2025–2045, with Estimates for 2020 (continued)**

County and State	Estimates April 1, 2020					
		2025	2030	2035	2040	2045
DUVAL	982,080					
Low		973,100	993,300	1,005,400	1,010,900	1,011,700
Medium		1,043,200	1,092,200	1,131,500	1,164,100	1,192,500
High		1,110,900	1,195,500	1,267,600	1,333,400	1,394,100
ESCAMBIA	323,714					
Low		312,500	312,100	310,300	308,000	305,000
Medium		335,100	344,000	351,200	357,700	363,500
High		356,700	375,600	391,200	406,200	420,300
FLAGLER	114,173					
Low		115,800	122,800	127,700	130,700	132,400
Medium		128,300	140,800	150,900	159,400	166,900
High		140,100	159,500	178,000	195,000	212,000
FRANKLIN	11,864					
Low		11,200	11,100	10,900	10,600	10,300
Medium		12,400	12,800	13,100	13,300	13,500
High		13,600	14,500	15,400	16,200	17,000
GADSDEN	46,226					
Low		43,700	42,900	41,900	40,800	39,700
Medium		46,800	47,200	47,400	47,600	47,600
High		50,100	52,000	53,600	54,800	56,000
GILCHRIST	18,269					
Low		17,500	17,500	17,500	17,300	17,000
Medium		19,300	20,200	20,800	21,400	21,900
High		21,200	23,000	24,700	26,300	28,000
GLADES	13,609					
Low		13,100	13,200	13,200	13,100	12,900
Medium		14,300	14,800	15,200	15,600	15,900
High		15,500	16,700	17,800	18,800	19,900
GULF	14,724					
Low		14,200	14,200	14,100	13,900	13,700
Medium		15,400	15,900	16,300	16,600	16,800
High		16,700	17,900	19,000	20,000	21,000
HAMILTON	14,570					
Low		13,600	13,400	13,000	12,600	12,200
Medium		14,800	15,000	15,100	15,200	15,300
High		16,100	16,800	17,500	18,200	18,800
HARDEE	27,443					
Low		25,200	24,400	23,600	22,700	21,900
Medium		27,500	27,500	27,500	27,500	27,500
High		29,800	30,800	31,800	32,700	33,600
HENDRY	40,953					
Low		39,400	39,400	39,200	38,800	38,300
Medium		42,900	44,400	45,600	46,600	47,500
High		46,400	49,500	52,400	55,000	57,700
HERNANDO	192,186					
Low		189,400	194,300	196,800	197,500	197,000
Medium		206,400	218,200	227,500	235,000	241,500
High		223,100	244,000	263,100	280,100	296,800
HIGHLANDS	104,834					
Low		101,900	102,500	102,600	102,500	102,200
Medium		109,000	112,400	115,200	117,700	119,900
High		116,700	124,100	131,200	137,700	144,300
HILLSBOROUGH	1,478,759					
Low		1,480,500	1,533,000	1,567,300	1,591,700	1,605,800
Medium		1,614,200	1,723,500	1,811,800	1,889,200	1,958,300
High		1,734,300	1,905,000	2,054,300	2,198,900	2,336,700



**Projections of Florida Population by County,
2025–2045, with Estimates for 2020 (continued)**

County and State	Estimates April 1, 2020					
		2025	2030	2035	2040	2045
HOLMES	20,001					
Low		18,400	17,900	17,300	16,700	16,200
Medium		20,100	20,100	20,200	20,200	20,300
High		21,800	22,600	23,300	24,100	24,800
INDIAN RIVER	158,834					
Low		154,500	157,800	159,100	159,100	158,000
Medium		171,300	181,700	189,900	196,900	203,100
High		187,000	205,000	221,800	237,400	253,000
JACKSON	46,587					
Low		44,000	43,200	42,200	41,000	39,800
Medium		47,100	47,500	47,700	47,800	47,900
High		50,400	52,300	53,900	55,100	56,200
JEFFERSON	14,394					
Low		13,400	13,100	12,800	12,400	12,100
Medium		14,600	14,700	14,800	15,000	15,100
High		15,800	16,500	17,200	17,900	18,600
LAFAYETTE	8,690					
Low		8,300	8,300	8,300	8,200	8,100
Medium		9,000	9,300	9,600	9,800	9,900
High		9,800	10,500	11,200	11,800	12,400
LAKE	366,742					
Low		375,400	397,100	414,100	426,400	436,300
Medium		409,200	445,400	475,800	501,700	525,200
High		439,800	493,500	542,700	589,100	634,900
LEE	750,493					
Low		760,700	796,700	823,500	843,800	858,100
Medium		829,300	894,600	948,800	996,100	1,038,500
High		891,100	990,000	1,079,400	1,165,600	1,248,600
LEON	299,484					
Low		291,300	293,300	293,400	292,200	289,800
Medium		312,300	323,000	331,400	338,500	344,600
High		332,500	353,000	369,900	385,400	399,300
LEVY	41,699					
Low		40,300	40,300	40,200	39,900	39,600
Medium		43,100	44,300	45,200	45,900	46,700
High		46,200	48,900	51,400	53,600	55,900
LIBERTY	8,575					
Low		8,100	8,100	8,000	7,800	7,600
Medium		8,800	9,100	9,200	9,400	9,500
High		9,600	10,200	10,700	11,200	11,700
MADISON	18,954					
Low		17,500	17,000	16,500	15,900	15,400
Medium		19,000	19,100	19,200	19,200	19,300
High		20,700	21,400	22,200	22,900	23,600
MANATEE	398,503					
Low		401,400	419,000	431,900	442,600	449,200
Medium		437,600	470,600	498,000	522,600	544,400
High		470,200	520,600	566,100	611,400	653,700
MARION	368,135					
Low		368,400	379,800	386,600	390,100	391,300
Medium		394,900	417,100	434,200	448,100	460,000
High		420,600	457,100	487,400	514,500	539,300
MARTIN	161,301					
Low		156,500	157,800	158,200	158,000	157,000
Medium		170,500	177,600	183,500	188,700	193,300
High		184,300	198,200	211,400	224,000	236,600



**Projections of Florida Population by County,
2025–2045, with Estimates for 2020 (continued)**

County and State	Estimates April 1, 2020					
		2025	2030	2035	2040	2045
MIAMI-DADE	2,832,794					
Low		2,791,500	2,844,300	2,871,900	2,880,900	2,876,900
Medium		2,992,700	3,128,300	3,234,600	3,322,200	3,398,200
High		3,186,900	3,423,300	3,621,000	3,799,900	3,964,600
MONROE	77,823					
Low		73,600	72,200	70,500	68,700	66,700
Medium		78,800	79,400	79,800	80,000	80,200
High		84,300	87,500	90,100	92,200	94,200
NASSAU	89,258					
Low		89,500	93,600	96,800	99,300	100,800
Medium		99,200	107,500	114,600	121,100	126,900
High		108,200	121,600	134,900	148,200	161,400
OKALOOSA	203,951					
Low		200,200	202,800	204,000	204,500	203,800
Medium		214,600	223,200	230,000	236,000	241,100
High		228,500	244,000	257,200	269,700	280,900
OKEECHOBEE	42,112					
Low		40,600	40,500	40,300	39,900	39,500
Medium		43,400	44,500	45,300	46,000	46,700
High		46,500	49,100	51,500	53,700	55,900
ORANGE	1,415,260					
Low		1,429,800	1,494,500	1,542,300	1,577,800	1,602,500
Medium		1,558,700	1,678,400	1,777,900	1,864,300	1,941,800
High		1,674,800	1,857,100	2,021,600	2,179,700	2,331,800
OSCEOLA	387,055					
Low		409,200	447,500	476,000	499,500	518,300
Medium		453,600	512,500	560,700	603,600	643,100
High		491,900	574,500	649,300	723,900	798,500
PALM BEACH	1,466,494					
Low		1,440,900	1,465,500	1,482,000	1,491,200	1,491,500
Medium		1,544,900	1,612,200	1,668,600	1,717,000	1,758,500
High		1,645,000	1,763,800	1,868,600	1,966,800	2,055,400
PASCO	542,638					
Low		543,900	565,700	578,700	586,200	589,400
Medium		593,000	635,700	668,800	696,400	720,500
High		637,100	703,000	758,500	809,700	857,600
PINELLAS	984,054					
Low		960,600	959,500	953,100	943,000	930,500
Medium		1,011,800	1,031,400	1,045,200	1,055,500	1,063,800
High		1,067,900	1,116,700	1,153,300	1,184,100	1,210,200
POLK	715,090					
Low		718,300	747,800	770,200	785,000	794,600
Medium		783,100	840,200	888,400	929,300	965,800
High		841,400	929,200	1,009,500	1,084,500	1,156,200
PUTNAM	73,723					
Low		69,300	67,900	66,400	64,800	63,300
Medium		74,200	74,700	75,100	75,500	75,800
High		79,400	82,200	84,900	87,100	89,400
ST. JOHNS	261,900					
Low		274,700	297,000	314,400	328,600	339,400
Medium		304,600	340,500	370,900	398,000	422,800
High		330,200	381,300	428,800	476,200	522,900
ST. LUCIE	322,265					
Low		326,300	342,800	353,400	360,300	364,400
Medium		355,800	384,800	407,500	426,400	443,100
High		382,300	426,000	463,200	497,800	530,300



**Projections of Florida Population by County,
2025–2045, with Estimates for 2020 (continued)**

County and State	Estimates April 1, 2020					
		2025	2030	2035	2040	2045
SANTA ROSA	184,653					
Low		182,000	187,800	191,600	194,400	195,700
Medium		201,800	215,900	227,800	238,700	248,500
High		220,200	244,000	267,100	290,100	313,300
SARASOTA	438,816					
Low		432,900	442,400	449,000	453,100	454,900
Medium		472,100	498,200	520,400	539,900	557,500
High		507,100	549,800	588,600	625,900	661,900
SEMINOLE	476,727					
Low		471,200	480,600	487,500	491,400	492,200
Medium		505,100	528,500	548,400	565,100	579,400
High		537,900	578,400	614,700	648,100	678,300
SUMTER	141,422					
Low		148,800	162,100	171,400	178,000	182,100
Medium		167,800	190,000	208,200	223,800	237,900
High		185,000	218,000	249,600	280,000	310,600
SUWANNEE	45,463					
Low		44,100	44,400	44,400	44,200	43,900
Medium		47,200	48,700	49,900	50,800	51,700
High		50,600	53,800	56,800	59,400	62,000
TAYLOR	22,436					
Low		20,900	20,400	19,900	19,300	18,600
Medium		22,800	23,000	23,100	23,200	23,300
High		24,700	25,800	26,800	27,700	28,600
UNION	15,410					
Low		14,300	14,000	13,500	13,100	12,600
Medium		15,600	15,700	15,800	15,800	15,800
High		16,900	17,600	18,300	18,800	19,300
VOLUSIA	551,588					
Low		544,700	553,500	558,000	560,500	561,900
Medium		583,900	608,900	628,800	646,100	662,000
High		621,800	666,200	703,500	739,300	774,300
WAKULLA	33,981					
Low		33,400	34,200	34,700	34,800	34,700
Medium		36,400	38,400	40,100	41,400	42,600
High		39,300	42,900	46,400	49,400	52,300
WALTON	74,724					
Low		76,100	81,300	85,000	87,900	90,200
Medium		85,900	95,500	103,600	110,900	117,900
High		94,600	109,300	123,800	138,300	153,900
WASHINGTON	25,334					
Low		24,100	23,900	23,600	23,200	22,700
Medium		26,200	26,800	27,300	27,700	28,100
High		28,400	30,200	31,800	33,300	34,800
FLORIDA	21,596,068					
Low		22,164,100	23,037,100	23,650,600	24,090,900	24,405,600
Medium		23,138,600	24,419,100	25,461,900	26,356,400	27,149,800
High		24,109,200	25,798,900	27,275,900	28,634,200	29,921,300



Bureau of Economic and Business Research
College of Liberal Arts and Sciences
720 SW 2nd Avenue, Suite 150, P.O. Box 117148
Gainesville, Florida 32611-7148

Phone (352) 392-0171
www.bebr.ufl.edu

Appendix E

2017 NHTS
Average Vehicle Trip Length (miles, Travel Day)
2017 National Household Travel Survey
Where (HHS)TRIPS IN(1Z)) and HHS)TRIPS GT -9 and WH)TO GT -9

State FIPS for household address	TD Vehicle Trip Length (Mean)														All						
	Trip Destination Purpose																				
Florida	Regular home activities (chores, sleep)	Work from home (paid)	Work	Work-related meeting / trip	Volunteer activities (not paid)	Drop off /pick up someone	Change type of transportation	Attend school as a student	Attend child care	Attend adult care	Buy goods (groceries, clothes, appliances, gas)	Buy services (dry cleaners, banking, service a car, pet care)	Buy meals (go out for a meal, snack, carry-out)	Other general errands (post office, library)	Recreational activities (visit parks, movies, bars, museums)	Exercise (go for a jog, walk, dog, go to the gym)	Visit friends or relatives	Health care visit (medical, dental, therapy)	Religious or other community activities	Something else	6.94
	9.40	4.81	10.82	15.31	9.06	7.46	9.23	11.61	5.51	12.38	8.70	9.48	7.55	3.94	12.23	5.63	13.48	7.84	7.09	6.94	9.16

Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS)
Tabulation created on the NHTS website at <https://nhts.ornl.gov>

Appendix F

TABLE 1 Generalized **Annual Average Daily** Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	16,800	17,700	**	4	47,600	66,400	83,200	87,300	
4	Divided	*	37,900	39,800	**	6	70,100	97,800	123,600	131,200	
6	Divided	*	58,400	59,900	**	8	92,200	128,900	164,200	174,700	
8	Divided	*	78,800	80,100	**	10	115,300	158,900	203,600	218,600	
						12	136,500	192,400	246,200	272,900	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	7,300	14,800	15,600	4	45,900	62,700	75,600	85,400	
4	Divided	*	14,500	32,400	33,800	6	68,900	93,900	113,600	128,100	
6	Divided	*	23,300	50,000	50,900	8	91,900	125,200	151,300	170,900	
8	Divided	*	32,000	67,300	68,100	10	115,000	156,800	189,300	213,600	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments					
Non-State Signalized Roadways - 10%						Auxiliary Lanes Present in Both Directions + 20,000					
						Ramp Metering + 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	11,700	18,000	24,200	32,600
2	Undivided	No	No	-20%		4	Divided	36,300	52,600	66,200	75,300
Multi	Undivided	Yes	No	-5%		6	Divided	54,600	78,800	99,400	113,100
Multi	Undivided	No	No	-25%		Uninterrupted Flow Highway Adjustments					
-	-	-	Yes	+ 5%		Lanes	Median	Exclusive left lanes		Adjustment factors	
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						2	Divided	Yes		+5%	
						Multi	Undivided	Yes		-5%	
						Multi	Undivided	No		-25%	
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Values shown are presented as two-way annual average daily volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle Lane Coverage						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.					
		B	C	D	E	³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%		*	2,900	7,600	19,700	* Cannot be achieved using table input value defaults.					
50-84%		2,100	6,700	19,700	>19,700	** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%		9,300	19,700	>19,700	**	Source: Florida Department of Transportation Systems Implementation Office https://www.fdot.gov/planning/systems/					
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage											
		B	C	D	E						
0-49%		*	*	2,800	9,500						
50-84%		*	1,600	8,700	15,800						
85-100%		3,800	10,700	17,400	>19,700						
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage											
		B	C	D	E						
0-84%		> 5	≥ 4	≥ 3	≥ 2						
85-100%		> 4	≥ 3	≥ 2	≥ 1						

Appendix G

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Estimation and Prediction of Average Vehicle Occupancies using Traffic Accident Records

Kaiyu Liu

Florida International University

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- Counts of one to two hours should produce data with sufficient accuracy and precision for most purposes.
- Tuesdays and Wednesdays are normally adequate for data collection, and the best days for collecting data are Thursdays.
- Mondays and Fridays should be avoided.
- Time of day chosen for data collection is important.
- As a rule of thumb, mid-morning to mid-afternoon counts are adequate for most purposes. However, if the 5-6 p.m. period were chosen for performance monitoring, adjustments would be necessary to derive the AVO for the day.

2.1.3. Facility Types and Trip Purposes

Different types of roadways typically have different occupancy levels. Roadways of the higher functional hierarchy will typically be expected to have a lower AVO. Vehicles traveling on freeways have lower occupancy rates than vehicles traveling on arterials and collectors (Barton-Aschman Associates, 1989). Kuzmyak (1981), in his nationwide personal transportation study, compared the AVO rates based on different trip purposes. The result indicated that average vehicle occupancy rate was 1.87, ranging from a low of 1.32 persons per vehicle mile for travel related to earning a living to a high of 2.44 persons per vehicle mile for social and recreational travel.

Freeways and major arterials are heavily used for home-based work trips and commercial trips, particularly in the a.m. and p.m. peak periods. These two trip purposes tend to have lower AVO. Conversely, minor arterials, collectors, and local streets are

Appendix H

5/19/2021

NHTS Table

2017 NHTS
Avg. Vehicle Occupancy (Persons)
2017 National Household Travel Survey
Where (HHSTFIPS IN('12')) and HHSTFIPS GT '-9'

State FIPS for household address	TD Vehicle Occupancy	
	Sample Size	Mean
Florida	6,292	1.68
All	6,292	1.68

Source: Federal Highway Administration, 2017 National Household Travel Survey (NHTS)
Tabulation created on the NHTS website at <https://nhts.ornl.gov>

Appendix I

ITE Code	Description
140	A manufacturing facility is an area where the primary activity is the conversion of raw materials or parts into finished products. Size and type of activity may vary substantially from one facility to another. In addition to the actual production of goods, manufacturing facilities generally also have office, warehouse, research, and associated functions. General light industrial (Land Use 110) and industrial park (Land Use 130) are related uses.
150	A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. High-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related uses.
151	A mini-warehouse is a building in which a number of storage units or vaults are rented for the storage of goods. They are typically referred to as “self-storage” facilities. Each unit is physically separated from other units, and access is usually provided through an overhead door or other common access point.
154	A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical HCW has a high level of on-site automation and logistics management. The automation and logistics enable highly efficient processing of goods through the HCW. The HCWs included in this land use include transload and short-term facilities. Transload facilities have a primary function of consolidation and distribution of pallet loads (or larger) for manufacturers, wholesalers, or retailers. They typically have little storage duration, high throughput, and are high-efficiency facilities. Short-term HCWs are high-efficiency distribution facilities often with custom/special features built into structure for movement of large volumes of freight with only short-term storage of products. Warehousing (Land Use 150), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related land uses.
155	A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical HCW has a high level of on-site automation and logistics management. The automation and logistics enable highly efficient processing of goods through the HCW. High-cube fulfillment center warehouses include warehouses characterized by a significant storage function and direct distribution of ecommerce product to end users. These facilities typically handle smaller packages and quantities than other types of HCWs and often contain multiple mezzanine levels. Warehousing (Land Use 150), high-cube transload and short-term storage warehouse (Land Use 154), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related land uses.

ITE Code	Description
156	<p>A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical HCW has a high level of on-site automation and logistics management. The automation and logistics enable highly efficient processing of goods through the HCW. High-cube parcel hub warehouses typically serve as regional and local freight forwarder facilities for time sensitive shipments via airfreight and ground carriers. These sites also often include truck maintenance, wash, or fueling facilities. Warehousing (Land Use 150), high-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), and high-cube cold storage warehouse (Land Use 157) are related land uses.</p>
157	<p>A high-cube warehouse (HCW) is a building that typically has at least 200,000 gross square feet of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. A typical HCW has a high level of on-site automation and logistics management. The automation and logistics enable highly efficient processing of goods through the HCW. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. Warehousing (Land Use 150), high-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), and high-cube parcel hub warehouse (Land Use 156) are related land uses.</p>
210	<p>Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.</p>
220	<p>Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels (floors). Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), and off-campus student apartment (Land Use 225) are related land uses.</p>
240	<p>A mobile home park generally consists of manufactured homes that are sited and installed on permanent foundations. It typically includes community facilities such as recreation rooms, swimming pools, and laundry facilities. Many mobile home parks restrict occupancy to adults.</p>
251	<p>Senior adult housing consists of detached independent living developments, including retirement communities, age-restricted housing, and active adult communities. These developments may include amenities such as golf courses, swimming pools, 24-hour security, transportation, and common recreational facilities. However, they generally lack centralized dining and on-site health facilities. Detached senior adult housing communities may or may not be gated. Residents in these communities are typically active (requiring little to no medical supervision). The percentage of retired residents varies by development. Senior adult housing—attached (Land Use 252), congregate care facility (Land Use 253), assisted living (Land Use 254), and continuing care retirement community (Land Use 255) are related land uses.</p>
252	<p>Senior adult housing consists of attached independent living developments, including retirement communities, age-restricted housing, and active adult communities. These developments may include limited social or recreational services. However, they generally lack centralized dining and onsite medical facilities. Residents in these communities live independently, are typically active (requiring little to no medical supervision) and may or may not be retired. Senior adult housing— detached (Land Use 251), congregate care facility (Land</p>

ITE Code	Description
	Use 253), assisted living (Land Use 254), and continuing care retirement community (Land Use 255) are related uses.
254	An assisted living complex is a residential setting that provides either routine general protective oversight or assistance with activities necessary for independent living to mentally or physically limited persons. It commonly has separate living quarters for residents. Its services typically include dining, housekeeping, social and physical activities, medication administration, and transportation. Alzheimer’s and ALS care are commonly offered by these facilities, though the living quarters for these patients may be located separately from the other residents. Assisted care commonly bridges the gap between independent living and nursing homes. In some areas of the country, assisted living residences may be called personal care, residential care, or domiciliary care. Staff may be available at an assisted care facility 24 hours a day, but skilled medical care—which is limited in nature—is not required. Congregate care facility (Land Use 253), continuing care retirement community (Land Use 255), and nursing home (Land Use 620) are related uses.
310	A hotel is a place of lodging that provides sleeping accommodations and supporting facilities such as restaurants, cocktail lounges, meeting and banquet rooms or convention facilities, limited recreational facilities (pool, fitness room), and/or other retail and service shops. All suites hotel (Land Use 311), business hotel (Land Use 312), motel (Land Use 320), and resort hotel (Land Use 330) are related uses.
330	A resort hotel is similar to a hotel (Land Use 310) in that it provides sleeping accommodations, restaurants, cocktail lounges, retail shops, and guest services. The primary difference is that a resort hotel caters to the tourist and vacation industry, often providing a wide variety of recreational facilities/programs (golf courses, tennis courts, beach access, or other amenities) rather than convention and meeting business. Hotel (Land Use 310), all suites hotel (Land Use 311), business hotel (Land Use 312), and motel (Land Use 320) are related uses.
416	A campground and recreational vehicle park is a recreational site that accommodates campers, trailers, tents, and recreational vehicles on a transient basis. They are found in a variety of locations and provide a variety of facilities, often including restrooms with showers and recreational facilities, such as a swimming pool, convenience store, and laundromat.
420	A marina is a public or private facility that provides docks and berths for boats and may include limited retail and restaurant space.
430	Golf courses include 9-, 18-, 27- and 36-hole municipal courses. Some sites may also have driving ranges and clubhouses with a pro shop, restaurant, lounge, and banquet facilities. Miniature golf course (Land Use 431), golf driving range (Land Use 432), and multipurpose recreational facility (Land Use 435) are related uses.
444	A traditional movie theater consists of audience seating, typically less than 10 screens, a lobby, and a refreshment stand. The sites show movies on weekday afternoons and evenings as well as on weekends. Multiplex movie theater (Land Use 445) is a related use.
480	An amusement park contains rides, entertainment, refreshment stands, and picnic areas.

ITE Code	Description
490	Tennis courts are indoor or outdoor facilities specifically designed for playing tennis. Tennis courts can either be public or private facilities and do not typically include any ancillary facilities other than limited spectator seating. Racquet/tennis club (Land Use 491) is a related use.
491	A racquet/tennis club is a privately-owned facility that primarily caters to racquet sports (tennis, racquetball, or squash—indoor or outdoor). This land use may also provide ancillary facilities, such as swimming pools, whirlpools, saunas, weight rooms, snack bars, and retail stores. These facilities are membership clubs that may allow access to the general public for a fee. Tennis courts (Land Use 490), health/fitness club (Land Use 492), athletic club (Land Use 493), and recreational community center (Land Use 495) are related uses.
492	A health/fitness club is a privately-owned facility that primarily focuses on individual fitness or training. It typically provides exercise classes; weightlifting, fitness and gymnastics equipment; spas; locker rooms; and small restaurants or snack bars. This land use may also include ancillary facilities, such as swimming pools, whirlpools, saunas, tennis, racquetball and handball courts, and limited retail. These facilities are membership clubs that may allow access to the general public for a fee. Racquet/tennis club (Land Use 491), athletic club (Land Use 493), and recreational community center (Land Use 495) are related uses.
493	An athletic club is a privately-owned facility that offers comprehensive athletic facilities. An athletic club typically has one or more of the following: tennis, racquetball, squash, handball, basketball and volleyball courts; swimming pools; whirlpools; saunas; spas; and exercise and weight rooms. They often offer diverse, competitive team sport activities and social facilities. These facilities are membership clubs that may allow access to the general public for a fee. Racquet/tennis club (Land Use 491), health/fitness club (Land Use 492), and recreational community center (Land Use 495) are related uses.
495	A recreational community center is a stand-alone public facility similar to and including YMCAs. These facilities often include classes and clubs for adults and children; a day care or nursery school; meeting rooms; swimming pools and whirlpools; saunas; tennis, racquetball, handball, basketball and volleyball courts; outdoor athletic fields/courts; exercise classes; weightlifting and gymnastics equipment; locker rooms; and a restaurant or snack bar. Public access is typically allowed but a fee may be charged. Racquet/tennis club (Land Use 491), health/fitness club (Land Use 492), and athletic club (Land Use 493) are related land uses.
534	A private school (K-8) primarily serves students attending kindergarten through the eighth grade but may also include students beginning with pre-K classes. These schools may also offer extended care and day care. Students may travel a long distance to get to private schools. Elementary school (Land Use 520), middle school/junior high school (Land Use 522), high school (Land Use 530), private school (K-12) (Land Use 536), and charter elementary school (Land Use 537) are related uses.
560	A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary; it may also house meeting rooms, classrooms, and, occasionally, dining, catering, or party facilities. Synagogue (Land Use 561) and mosque (Land Use 562) are related uses.
565	A day care center is a facility where care for pre-school age children is provided, normally during the daytime hours. Day care facilities generally include classrooms, offices, eating areas and playgrounds. Some centers also provide after-school care for school-age children.

ITE Code	Description
610	A hospital is any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients. However, the term “hospital” does not refer to medical clinics (facilities that provide diagnoses and outpatient care only) or nursing homes (facilities devoted to the care of persons unable to care for themselves), which are covered elsewhere in this report. Clinic (Land Use 630) and free-standing emergency room (Land Use 650) are related uses.
710	A general office building houses multiple tenants. It is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building or buildings may contain a mixture of tenants including professional services, insurance companies, investment brokers, and tenant services, such as a bank or savings and loan institution, a restaurant, or cafeteria and service retail facilities. A general office building with a gross floor area of 5,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.
714	A corporate headquarters building is a single tenant office building that houses the corporate headquarters of a company or organization, which generally consists of offices, meeting rooms, space for file storage and data processing, a restaurant or cafeteria, and other service functions. General office building (Land Use 710), small office building (Land Use 712), single tenant office building (Land Use 715), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are related uses.
715	A single tenant office building generally contains offices, meeting rooms, and space for file storage and data processing of a single business or company and possibly other service functions including a restaurant or cafeteria. General office building (Land Use 710), small office building (Land Use 712), corporate headquarters building (Land Use 714), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are related uses.
720	A medical-dental office building is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Clinic (Land Use 630) is a related use.
770	A business park consists of a group of flex-type or incubator one- or two-story buildings served by a common roadway system. The tenant space is flexible and lends itself to a variety of uses; the rear side of the building is usually served by a garage door. Tenants may be start-up companies or small mature companies that require a variety of space. The space may include offices, retail and wholesale stores, restaurants, recreational areas and warehousing, manufacturing, light industrial, or scientific research functions. The average mix is 20 to 30 percent office/commercial and 70 to 80 percent industrial/warehousing. Industrial park (Land Use 130), warehousing (Land Use 150), general office building (Land Use 710), corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), office park (Land Use 750), and research and development center (Land Use 760) are related uses.
814	A variety store is a retail store that sells a broad range of inexpensive items often at a single price. These stores are typically referred to as “dollar stores.” Items sold at these stores typically include kitchen supplies, cleaning products, home office supplies, food products, household goods, decorations, and toys. These stores are sometimes stand-alone sites, but they may also

ITE Code	Description
	be located in small strip shopping centers. Free-standing discount store (Land Use 815) is a related use.
820	A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands. Factory outlet center (Land Use 823) is a related use.
823	A factory outlet center is a shopping center that primarily houses factory outlet stores, attracting customers from a wide geographic area, very often from a larger area than a regional shopping center. Shopping center (Land Use 820) is a related use.
840	A new automobile sales dealership is typically located along a major arterial street characterized by abundant commercial development. The sale or leasing of new cars is the primary business at these facilities; however, automobile services, parts sales, and used car sales may also be available. Some dealerships also include leasing options, truck sales, and servicing. Automobile sales (used) (Land Use 841) and recreational vehicle sales (Land Use 842) are related uses.
841	A used automobile sales dealership is typically located along a major arterial street characterized by abundant commercial development. The sale or lease of used cars is the primary business at these facilities; however, automobile services and parts sales may also be available. Some dealerships also include leasing options, truck sales, and servicing. Automobile sales (new) (Land Use 840) and recreational vehicle sales (Land Use 842) are related uses.
843	An automobile parts sales facility specializes in the sale of automobile parts for maintenance and repair. Items sold at these facilities include spark plugs, oil, batteries, and a wide range of automobile parts. These facilities are not equipped for on-site vehicle repair. Tire store (Land Use 848), tire superstore (Land Use 849), and automobile parts and service center (Land Use 943) are related uses.
850	A supermarket is a free-standing retail store selling a complete assortment of food, food preparation and wrapping materials, and household cleaning items. Supermarkets may also contain the following products and services: ATMs, automobile supplies, bakeries, books and magazines, dry cleaning, floral arrangements, greeting cards, limited-service banks, photo centers, pharmacies, and video rental areas. Some facilities may be open 24 hours a day. Discount supermarket (Land Use 854) is a related use.
853	<p>This land use includes convenience markets with gasoline pumps where the primary business is the selling of convenience items, not the fueling of motor vehicles. The sites included in this land use category have the following two specific characteristics:</p> <ul style="list-style-type: none"> • The gross floor area of the convenience market is at least 2,000 gross square feet • The number of vehicle fueling positions is less than 10 <p>Convenience market (Land Use 851), gasoline/service station (Land Use 944), gasoline/service station with convenience market (Land Use 945), and super convenience market/gas station (Land Use 960) are related uses.</p>
854	A discount supermarket is a free-standing retail store selling a complete assortment of food (often in bulk), food preparation and wrapping materials, and household cleaning and servicing

ITE Code	Description
	items at discounted prices. Some facilities may be open 24 hours a day. Supermarket (Land Use 850) is a related use.
880	A pharmacy/drugstore is a retail facility that primarily sells prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. The drug stores in this category do not contain drive-through windows. Pharmacy/drugstore with drive-through window (Land Use 881) is a related use.
881	A pharmacy/drugstore is a retail facility that primarily sells prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products, and general merchandise. The drug stores in this category contain drive-through windows. Pharmacy/drugstore without a drive-through window (Land Use 880) is a related use.
912	A drive-in bank provides banking facilities for motorists who conduct financial transactions from their vehicles; many also serve patrons who walk into the building. The drive-in lanes may or may not provide automatic teller machines (ATMs). Walk-in bank (Land Use 911) is a related use.
930	A fast casual restaurant is a sit-down restaurant with no wait staff or table service. Customers typically order off a menu board, pay for food before the food is prepared, and seat themselves. The menu generally contains higher quality made to order food items with fewer frozen or processed ingredients than fast food restaurants. Quality restaurant (Land Use 931), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), fast-food restaurant with drive-through window (Land Use 934), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.
933	This land use includes fast-food restaurants without drive-through windows. This type of restaurant is characterized by a large carry-out clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. Patrons generally order at a cash register and pay before they eat. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant with drive-through window (Land Use 934), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.
934	This category includes fast-food restaurants with drive-through windows. This type of restaurant is characterized by a large drive-through clientele, long hours of service (some are open for breakfast, all are open for lunch and dinner, some are open late at night or 24 hours a day) and high turnover rates for eat-in customers. These limited-service eating establishments do not provide table service. Non-drive-through patrons generally order at a cash register and pay before they eat. Fast casual restaurant (Land Use 930), high-turnover (sit-down) restaurant (Land Use 932), fast-food restaurant without drive-through window (Land Use 933), and fast-food restaurant with drive-through window and no indoor seating (Land Use 935) are related uses.

ITE Code	Description
936	<p>This land use includes single-tenant coffee and donut restaurants without drive-through windows. Freshly brewed coffee and a variety of coffee-related accessories are the primary retail products sold at these sites. They may also sell other refreshment items, such as donuts, bagels, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. Some sites may also sell newspapers, music CDs, and books. The coffee and donut shops contained in this land use typically hold long store hours (more than 15 hours) with an early morning opening. Also, limited indoor seating is generally provided for patrons; however, table service is not provided. Coffee/donut shop with drive-through window (Land Use 937), coffee/donut shop with drive-through window and no indoor seating (Land Use 938), bread/donut/bagel shop without drive-through window (Land Use 939), and bread/donut/bagel shop with drive-through window (Land Use 940) are related uses.</p>
937	<p>This land use includes single-tenant coffee and donut restaurants with drive-through windows. Freshly brewed coffee and a variety of coffee-related accessories are the primary retail products sold at these sites. They may also sell other refreshment items, such as donuts, bagels, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. Some sites may also sell newspapers, music CDs, and books. The coffee and donut shops contained in this land use typically hold long store hours (more than 15 hours) with an early morning opening. Also, limited indoor seating is generally provided for patrons; however, table service is not provided. Coffee/donut shop without drive-through window (Land Use 936), coffee/donut shop with drive-through window and no indoor seating (Land Use 938), bread/donut/bagel shop without drive-through window (Land Use 939), and bread/donut/bagel shop with drive-through window (Land Use 940) are related uses.</p>
938	<p>This land use includes single-tenant coffee and donut restaurants with drive-through windows. Freshly brewed coffee and a variety of coffee-related accessories are the primary retail products sold at these sites. They may also sell other refreshment items, such as donuts, bagels, muffins, cakes, sandwiches, wraps, salads, and other hot and cold beverages. Some sites may also sell newspapers, music CDs, and books. The coffee and donut shops contained in this land use typically hold long store hours (over 15 hours) with an early morning opening. Coffee/donut shop without drive-through window (Land Use 936), coffee/donut shop with drive-through window (Land Use 937), bread/donut/bagel shop without drive-through window (Land Use 939), and bread/donut/bagel shop with drive-through window (Land Use 940) are related uses.</p>
941	<p>A quick lubrication vehicle shop is a business where the primary activity is to perform oil change services for vehicles. Other ancillary services provided may include preventative maintenance, such as fluid and filter changes. Automobile repair service is generally not provided. Automobile care center (Land Use 942) and automobile parts and service center (Land Use 943) are related uses.</p>
942	<p>An automobile care center houses numerous businesses that provide automobile-related services, such as repair and servicing, stereo installation, and seat cover upholstery. Quick lubrication vehicle shop (Land Use 941) and automobile parts and service center (Land Use 943) are related uses.</p>

ITE Code	Description
945	<p>This land use includes gasoline/service stations with convenience markets where the primary business is the fueling of motor vehicles. These service stations may also have ancillary facilities for servicing and repairing motor vehicles and may have a car wash. Some commonly sold convenience items are newspapers, coffee or other beverages, and snack items that are usually consumed in the car. The sites included in this land use category have the following two specific characteristics:</p> <ul style="list-style-type: none"> • The gross floor area of the convenience market is between 2,000 and 3,000 gross square feet • The number of vehicle fueling positions is at least 10 <p>Convenience market (Land Use 851), convenience market with gasoline pumps (Land Use 853), gasoline/service station (Land Use 944), truck stop (Land Use 950), and super convenience market/ gas station (Land Use 960) are related uses.</p>
947	<p>A self-service car wash allows manual cleaning of vehicles by providing stalls to park and wash vehicles. Automated car wash (Land Use 948) and car wash and detail center (Land Use 949) are related uses.</p>
948	<p>An automated car wash is a facility that allows for the mechanical cleaning of the exterior of vehicles. Manual cleaning services may also be available at these facilities. Self-service car wash (Land Use 947) and car wash and detail center (Land Use 949) are related uses.</p>