The Economic Impact and Benefits of THEA's Selmon Expressway System

FINAL REPORT

Prepared for

Tampa Hillsborough Expressway Authority

Prepared by

USF Center for Urban Transportation Research

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Disclaimer

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Executive Summary

The Tampa Hillsborough Expressway Authority (THEA) owns and operates the Lee Roy Selmon Expressway. THEA's vision is to provide a transportation system that "ensures a balanced network of transportation choices that support community livability and economic development." Since its establishment, THEA has been responsible for numerous roadway projects that have contributed to increased mobility for its patrons and the Tampa Bay region.

Objective

THEA retained the Center for Urban Transportation Research (CUTR) at the University of South Florida (USF) to estimate the economic impact and benefits of its operations and infrastructure investments.

Key Findings

This study estimates THEA's contribution to local economic growth and the mobility benefits associated with its Selmon Expressway. Through its operations and strategic investments, THEA supports key industries, increases travelers' mobility and improves safety, reduces business costs, and expands local business opportunities, leading to economic growth and improved standards of living.

Cumulative Economic Impact

THEA's capital infrastructure investments and operations contribute substantially to economic growth in Hillsborough County and the state of Florida. Since its inception, THEA's strategic investment planning decisions have generated $2.1 billion[1] in local gross domestic product and over 18,000 jobs. THEA's operations and strategic infrastructure investments continue providing a significant contribution toward adding and retaining jobs in the region.

Impact on Urban Mobility

THEA's Selmon Expressway produces substantial benefits in terms of travel time reductions, increased safety, reduced wasted fuel, and decreased tailpipe emissions. The expressway generates approximately $5.7 billion in user benefits, including $4.8 billion in travel time savings for travelers and $470.8 million for businesses, by reducing daily congestion delay by roughly 500,000 hours, a 27 percent reduction relative to the no-build scenario.

Each commuter saves on average about 29 hours in congested travel time per year. This represents a 34 percent reduction in the 85 hours per year a commuter wastes on average due to congestion. Households save $97 million annually in out-of-pocket transportation costs due to reduced excess fuel consumption and vehicle operating costs. Savings on fuel costs represent money available for other household expenditures. These savings benefit households at the lower ranges of income, representing a consistent gain in purchasing power. Businesses also benefit from improved travel conditions by saving about $144 million annually in fuel and vehicle operating costs.

[1] All monetary amounts are reported in 2025 dollars unless otherwise indicated.

In 2025, about 78,900 motor vehicle crashes occurred in the Tampa-St. Petersburg-Clearwater MSA. This amounts to approximately 11.9 percent of the total crashes in the state. This study finds that THEA's Selmon Expressway contributes to increased safety by preventing the number of crashes and saving about $207 million annually in crash-related costs.

The Selmon Expressway reduces emission-related costs by an estimated $33.7 million annually. Benefits are nearly evenly split between private vehicles ($16.9 million) and commercial vehicles ($16.8 million). $PM_{2.5}$ reductions account for the largest share of benefits, approximately 41 percent, reflecting the pollutant's high unit damage cost.

Impact on Job Accessibility

The Selmon Expressway represents a key piece of regional economic infrastructure. The accessibility gains it delivers are concentrated in the travel-time bands that the agglomeration economics literature identifies as carrying the strongest productivity returns to a metropolitan economy. At the average regional commute time of 30 minutes, the Selmon Expressway brings approximately 64,800 additional jobs within reach for residents of its principal market area, a 15.2 percent expansion of the labor market accessible to those residents.

Impact on Business Activity

The Selmon Expressway ensures accessibility to key productive areas of Hillsborough County. THEA's strategic investments contribute to increased business clustering and specialization, resulting in 7.1 percent more business establishments than in comparable areas within Hillsborough County. The increased specialization results in 6.0 percent higher employment growth rate than comparable locations in the county.

Impact on Urban Development

Urban economic theory shows that highway improvements influence urban growth patterns through land prices. The improved accessibility offered by an efficient transportation network contributes to higher property prices. Over time, THEA's capital infrastructure projects added capacity to the system and made home and work locations more accessible, especially in the western and eastern areas of Hillsborough County.

Through an extensive analysis of the changes in residential and commercial property values, this study found empirical evidence that improved transport accessibility positively affected the property prices of both residential and commercial parcels located in proximity to the Selmon Expressway.

Over the period 2022-2025, on a per-square-foot basis, single-family residential units within one mile of the Selmon Expressway have on average sold at an 11.9 percent premium (or about $35) compared to similar properties located elsewhere in the county. Condominium properties exhibited a 7.4 percent premium (or about $26 per square foot). Commercial properties exhibited a 19.5 percent premium (or about $56 per square foot).

The property value premiums generated by the Selmon Expressway translate directly into higher assessed values and, consequently, increased property tax revenues for local taxing jurisdictions. Accessibility improvements along the Selmon Expressway have generated sustained and substantial fiscal benefits: an estimated $16.9 million per year in additional single-family property tax revenue, $3.8 million from condominiums, and $4.7 million from commercial properties, for a combined annual total of approximately $25.4 million.

Key Findings

Through its operations and strategic capital investments, THEA's Selmon Expressway delivers substantial and measurable benefits to Hillsborough County and the Tampa Bay region across five dimensions:

Cumulative Economic Impact. Since inception, THEA's capital investments and operations have generated approximately $2.1 billion in local GDP and supported more than 18,000 jobs.

Urban Mobility. The Selmon Expressway produces roughly $5.7 billion in annual user benefits by reducing daily congestion delay by about 500,000 hours (27 percent below the no-build scenario), saves the average commuter 29 hours per year, and prevents an estimated $207 million in annual crash-related costs.

Job Accessibility. At the average 30-minute commute, the Selmon Expressway brings approximately 64,800 additional jobs within reach for residents of its principal market area, a 15.2 percent expansion of the accessible labor market.

Business Activity. Areas served by the Selmon Expressway show 7.1 percent more business establishments and 6.0 percent higher employment growth than comparable locations elsewhere in the county.

Urban Development. Single-family homes within one mile of the Selmon Expressway sold at an 11.9 percent premium ($35/sq. ft.) and commercial properties at a 19.5 percent premium ($56/sq. ft.) over comparable parcels during 2022–2025, translating into about $25.4 million per year in additional property tax revenue for local jurisdictions.

Table of Contents

List of Figures

List of Tables

1 Introduction

1.1 Project Background

The Tampa Hillsborough Expressway Authority (THEA) is the owner and operator of the Selmon Expressway. THEA's mission is "to provide safe, reliable and financially sustainable transportation services to the Tampa Bay region while reinvesting customer-based revenues back into the community." Since its establishment, THEA has been responsible for numerous roadway projects in Hillsborough County [*1*].

Investments in highways and other types of transportation improvements are recognized as important means to achieve economic growth and development at the local, state, and national levels. Infrastructure investments increase mobility, reduce business costs, and expand business opportunities, ultimately leading to economic growth and improved standards of living.

1.2 Study Objectives

This study assesses THEA's economic contribution to Hillsborough County and the broader Tampa Bay region, evaluating impacts across five dimensions: cumulative economic impact, urban mobility, job accessibility, business activity, and urban development.

1.3 Study Methodology

The term economic impact is used extensively by public and nonprofit organizations to describe and quantify the economic activities attributable to an organization and its investments. To fully appreciate the term, it is important to differentiate between economic value and economic impact. In simple terms, economic value is created when a product or service is consumed within a specific region's geographic boundary; however, an economic impact occurs when products or services consumed are produced by industries located within this geographic boundary.

Investment in transportation infrastructure can affect a region's economy in two ways: (1) through the spending pattern produced by the purchasing of goods and services, and (2) through cost savings and business productivity changes that might occur as investments improve the current transportation network. These impacts can be estimated using input-output (I-O) accounting tables. These tables produce multipliers that compute the total direct, indirect, and induced effects on jobs, output, and income impacts generated per dollar spent on the transportation infrastructure.

While economic impacts encompass a wide range of effects across many sectors of a region's economy, other factors may significantly contribute to economic growth even though these factors do not directly affect the flow of dollars. These benefits include travel time savings and changes in health and safety costs, such as pollution emission costs and accident costs. While some travel time savings can impact the flow of income generated in the economy depending upon the purpose of travel (business versus personal), the

reduction of pollution emissions and accidents creates a value that does not directly affect the economy. This study estimates the value of these benefits to the users and distinguishes them from the economic impact analysis results. These benefits are usually incorporated directly into other assessments, such as in a benefit-to-cost ratio project prioritization or evaluation.

The following chapters detail the study's approach to estimate each of the five dimensions. For those readers interested in the overall results within a specific area of the analysis, each chapter includes an executive summary of findings.

2 Economic Impact of Capital Infrastructure Investments and Operations

2.1 Summary

Since its inception, THEA has invested approximately $2.04 billion (in 2025 dollars) in the Lee Roy Selmon Expressway system, transforming a single five-mile section completed in 1975 into a 14.2-mile limited-access tollway, a 9.1-mile reversible express lane (REL) facility, the I-4/Selmon Connector, the Selmon West Extension, the Selmon Slip Ramps, and a network of feeder roads, parkways, and urban gateway improvements. These investments have been accompanied by recurring operating and maintenance expenditures that now exceed $30 million annually.

This chapter quantifies the cumulative economic contribution of these investments and operations to the Tampa–St. Petersburg–Clearwater metropolitan statistical area (Tampa MSA). The analysis applies the U.S. Bureau of Economic Analysis Regional Input–Output Modeling System (RIMS II) to trace how dollars spent on construction, engineering, professional services, and ongoing operations move through the regional economy.

Key Findings

- Total economic output of $3.7 billion supported by THEA's combined capital and operating activities.
- Gross Domestic Product (value added) contribution of $2.1 billion to the regional economy.
- Labor income of $1.1 billion generated across direct, indirect, and induced effects.
- Employment impact of approximately 18,056 jobs, including 361 jobs supported annually by ongoing operations and maintenance.
- State and local tax revenue of $119.6 million attributable to THEA-related economic activity.

The employment benefits extend well beyond construction. Jobs created or sustained by THEA spending reach into architectural and engineering services, wholesale and retail trade, leisure and hospitality, and other sectors that benefit from induced household spending. Recurring O&M expenditures, while smaller in dollar terms than capital outlays, provide a sustained annual stream of regional economic activity that capital projects alone cannot.

The remainder of this chapter describes THEA's capital assets, presents the analytical framework, and details the impact results. Readers interested in the underlying

methodology, including the adopted input-output model, the treatment of local versus non-local expenditures, and the assumptions applied to right-of-way costs, are referred to Appendix A.

2.2 Introduction and Study Area

This chapter describes the analytical approach to estimating the economic impact of THEA's capital asset and infrastructure investments and ongoing operations along the Selmon Expressway since the system's inception. The sections that follow first provide a historical perspective on THEA's infrastructure investments, then quantify their contribution to the local economy.

The Selmon Expressway system consists of three main components:

- A 14.2-mile, four-lane, limited-access toll road connecting Gandy Boulevard in southwest Tampa to I-75 in east Hillsborough County.
- A 9.1-mile, three-lane (six-lane equivalent) reversible express lane facility extending from the Tampa Central Business District (CBD) to the Brandon area east of I-75.
- 3.2 miles of parkway and feeder roads extending from the Selmon Expressway east, north, and south into the Brandon community.

The study area for this analysis follows the system corridor with a one-mile buffer, as shown in Figure 2-1.

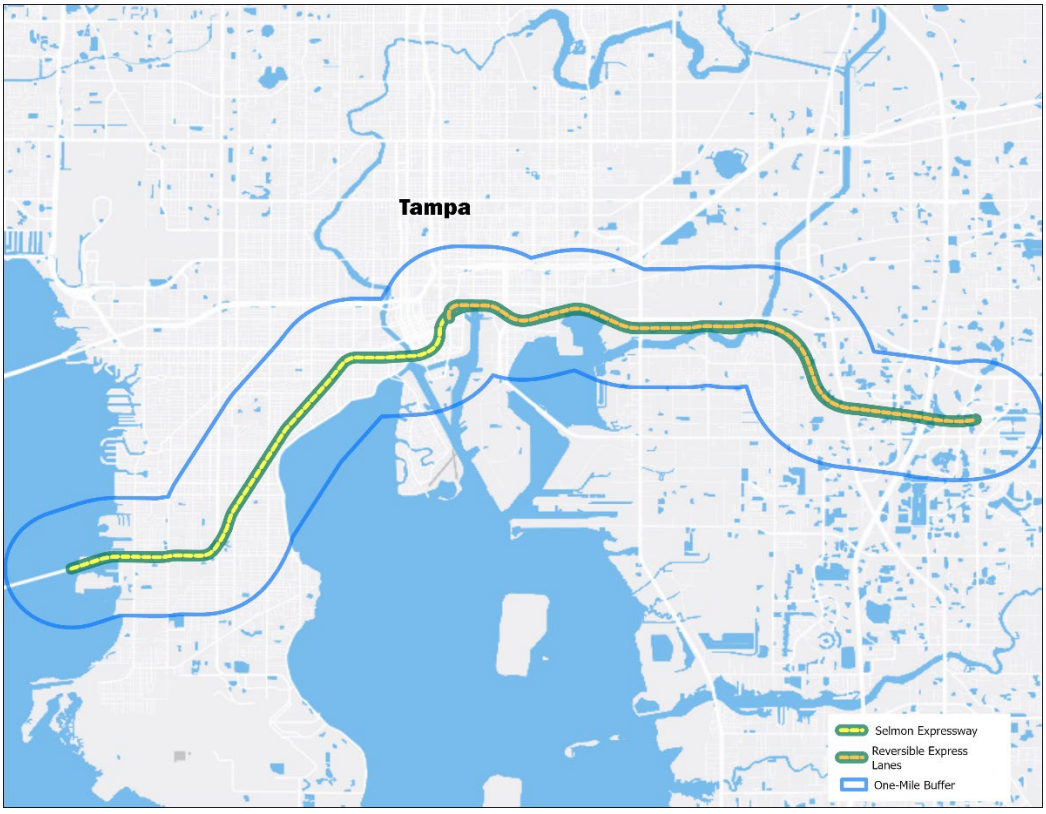

FIGURE 2-1 LEE ROY SELMON EXPRESSWAY SYSTEM

2.3 Capital Assets and Infrastructure Investments

THEA's current system reflects nearly five decades of phased investment. The descriptions below summarize each major component in roughly chronological order.

Selmon Expressway

The Selmon Expressway was initially conceived as part of a system of expressways in the Tampa Bay region. The network was built in stages, beginning with the first five-mile western section completed in 1975 and concluding with the final section in the 1980s connecting to I-75 in the Brandon area.

Reversible Express Lanes (REL)

In the early 1990s, THEA and the Florida Department of Transportation (FDOT) entered into agreements to jointly plan and finance the eastern expansion of the Selmon Expressway and the construction of a 1.1-mile limited-access connector between the Selmon Expressway and Interstate 4. Initial planning was based on the Tampa Interstate Study, which called for adding one lane in each direction on the Selmon Expressway to accommodate both future traffic growth and additional traffic generated by the I-4 Connector.

Recognizing the highly directional nature of traffic on the Selmon Expressway, THEA's transportation planners developed the Reversible Express Lane (REL) concept: a three-lane (or multi-lane) elevated expressway constructed in the median of the existing facility to carry peak-hour traffic into and out of downtown Tampa. This design freed capacity on the at-grade expressway for the additional traffic generated by the I-4 Connector, rendered the Connector project feasible, and preserved the option to construct an at-grade lane in each direction in the future if needed. The REL system opened to traffic in 2006.

Brandon Parkway

In the 1980s, THEA studied an extension of the Selmon Expressway into the Brandon community. In 1996, the Authority adopted an alternative approach: extending the Crosstown Expressway over I-75 into Brandon through a series of feeder roads, combined with realigning and widening existing roadways. The project was designed in coordination with Hillsborough County transportation and economic development officials to support a future "Brandon Downtown," envisioned to include a satellite office complex consolidating government operations. Construction began in 2002 and was completed in 2003, including the 3.5-mile Brandon Parkway. In addition to providing needed local roadway capacity and direct access to the Selmon Expressway, the Brandon Parkway features a heavily landscaped, park-like setting with urban architectural amenities and a recreational trail.

Meridian Avenue Gateway

Improvement of Meridian Avenue was conceived as part of the REL project to merge traffic into the existing facility and to bring traffic to the Tampa CBD. THEA's planners developed a concept to use Meridian Avenue, a little-traveled road in the Channelside warehouse and industrial district just east of the CBD, as an entrance and exit point. At the time, the

Channelside district was effectively cut off from the CBD by an active set of railroad tracks running beneath the Kennedy Boulevard overpass.

THEA and the City of Tampa recognized that adding access points between Channelside and the CBD would likely shift the area's character from warehouse to urban residential. With the Channelside Bay Plaza emerging as a cultural, entertainment, and cruise ship destination at the southern end of Meridian Avenue, the project was designed with significant urban features, wide sidewalks, pavers, and upgraded landscape and lighting fixtures, and the street was widened from two to six lanes to accommodate both Crosstown and urban traffic.

The Meridian Avenue Gateway project was completed in 2006 and has served as a catalyst for extensive urban residential investment within the Channelside district. As detailed in Chapter 3, this residential development has, in turn, enhanced the economic viability of commercial and entertainment venues within the CBD, Channelside, and the adjacent Ybor City district.

All-Electronic Tolling

In 2010, THEA implemented an All-Electronic Tolling (AET) revenue collection system, which delivers reduced travel times, lower fuel consumption, reduced emissions, and improved customer satisfaction. The Selmon Expressway was the first toll facility in Florida to adopt AET, an approach subsequently implemented by FTE in Miami-Dade County and on three of the five expressways operated by the Miami-Dade Expressway Authority (MDX).

I-4/Selmon Expressway Connector

The I-4/Selmon Expressway Connector was conceived to divert commercial traffic from historic Ybor City and represents a major addition to THEA's network. The Connector improves the movement of people and goods, offers exclusive truck access to the Port of Tampa, and serves as an additional hurricane evacuation route, all with the convenience of all-electronic tolling. Developed in partnership with FDOT and FTE, planning was completed in 2008 and construction concluded at the end of 2013.

Selmon Downtown Viaduct Widening

In conjunction with the I-4/Selmon Connector project, THEA widened the section of the downtown viaduct from Florida Avenue to South 22nd Street from four lanes (two in each direction) to six lanes (three in each direction). The improvements were intended to sustain the increased traffic volumes generated by the opening of the I-4/Selmon Connector.

Selmon Greenway

The Selmon Greenway is a 1.7-mile urban trail built in the core of downtown Tampa to facilitate and encourage walking, biking, and other healthy outdoor activities. The project opened to the public in 2015.

Selmon West Extension

The Selmon West Extension is a 1.9-mile elevated structure in the median of Gandy Boulevard that gives regional travelers a choice between using Gandy Boulevard for local

destinations or using the Extension for a direct connection to the Selmon Expressway, Dale Mabry, or the Gandy Bridge. The Extension helps relieve rush-hour congestion on Gandy Boulevard by moving commuters to the elevated tollway.

Selmon Slip Ramps

The Selmon Slip Ramps Project was a targeted infrastructure improvement designed to enhance operational efficiency and reduce congestion. The project constructed new "slip ramps" that provide direct connections between the expressway's lower local lanes and the REL, allowing westbound motorists to enter the REL near I-75 and exit near the I-4 Connector area. This design redistributes traffic between the upper and lower roadway levels, alleviating congestion at critical bottlenecks and improving travel times for commuters traveling toward downtown Tampa. Construction commenced in January 2022 and was completed in fall 2023, ahead of schedule, with both the westbound on-ramp and off-ramp fully operational at opening. The Slip Ramps represent a cost-effective mobility enhancement that optimizes existing expressway infrastructure, improves regional connectivity, and supports continued growth in the Tampa Bay region.

2.4 Capital Infrastructure Expenditures

Table 2-1 reports the value of these infrastructure investments, expressed in 2025 dollars. The cumulative investment totals approximately $2.04 billion, with the original South Crosstown Expressway (21.2%), the East Crosstown Extension (20.5%), and the Reversible Express Lanes (20.1%) representing the three largest individual components. More recent projects, the Selmon West Extension (15.5%) and the Selmon Slip Ramps (1.5%), extend the system's reach and operational capacity into the present decade.

TABLE 2-1 CAPITAL ASSETS AND INFRASTRUCTURE INVESTMENTS

Project Description	Year Completed	Capital Asset Value	% Total
South Crosstown Expressway	1975	433.9	21.2%
East Crosstown Extension	1980	417.9	20.5%
EAST Toll Plaza Improvements	2000	7.9	0.4%
Brandon Parkway	2003	119.2	5.8%
Tampa Downtown Gateway	2005	96.0	4.7%
THEA / City of Tampa TMC / ITS	2005	32.2	1.6%
WEST Toll Plaza Improvements	2005	4.6	0.2%

Project Description	Year Completed	Capital Asset Value	% Total
I-75 Operational Improvements	2005	1.6	0.1%
Reversible Express Lanes*	2006	411.1	20.1%
AET Conversion	2011	28.1	1.4%
Selmon Viaduct Widening and Rehabilitation	2013	106.2	5.2%
Selmon I-4 Connector	2014	37.5	1.8%
Selmon West Extension	2021	316.2	15.5%
Selmon Slip Ramps	2023	30.2	1.5%
Totals		**2,042.6**	**100.0%**

**includes covered repairs.*
Source: THEA | CUTR aggregation and conversion to 2025 dollars.

2.5 Analytical Approach

THEA's capital investments are treated as expenditures in the local economy that generate ripple effects across multiple industries. To quantify these effects, the analysis uses the U.S. Bureau of Economic Analysis's Regional Input–Output Modeling System (RIMS II), a widely applied tool that estimates how changes in spending or production affect a regional economy [2]. RIMS II provides industry- and region-specific multipliers that translate a unit of spending into impacts on output, earnings, employment, and value added. Appendix A provides a detailed description of the RIMS II model and the input–output analysis used here.

The impact area for this study is defined as the counties comprising the Tampa MSA: Pasco, Pinellas, Hernando and Hillsborough. Two important adjustments are made to the raw capital expenditure totals before they are used as inputs to the model:

1. Local versus non-local spending. Not every dollar spent on a THEA project remains in the regional economy. Some construction inputs, equipment purchases (e.g., new toll equipment), and specialized labor are sourced from outside the impact area. Treating all expenditures as local would overstate the economic impact. The model addresses this through default regional purchase coefficients (RPCs), which differentiate local from non-local goods and services on a sector-by-sector basis.
2. Right-of-way (ROW) acquisition. Expenditures for land acquired under right-of-way are treated as a transfer of resources between parties within the impact area, rather than as new economic activity that creates jobs. Only the portion of ROW spending

that pays for real estate appraisal services (10%) and legal services (10%) is included as impact-generating expenditure.

Table 2-2 reports the resulting expenditures considered for impact analysis. After the adjustments described above, approximately $1.78 billion of the $1.81 billion in gross capital expenditures is treated as direct local impact.

TABLE 2-2 CAPITAL EXPENDITURES CONSIDERED FOR IMPACT ANALYSIS ($, MILLION)

Expenditure Type	NAICS	RIMS II	Gross Total	% Local Purchase	Net Total	Share of Net Total
Engineering, Administration, and Legal (EAL)	541330	541300	282.04	91.2%	257.3	14.4%
Construction	2373	2332TH	1,470.50	99.9%	1,469.6	82.4%
Right of Way — Real Estate Services (10%)	541110	541100	29.01	99.1%	28.7	1.6%
Right of Way — Legal Services (10%)	531110	531000	29.01	99.1%	28.7	1.6%
Total			**1,810.56**		**1,784.4**	**100.0%**

Source: THEA | CUTR Aggregation.

The capital expenditures directly support jobs in heavy construction, specialized planning services (architectural and engineering), and non-residential landscaping. They also stimulate the purchase of products and services that generate further ripple effects, measured along four standard dimensions of economic impact:

Total Output — the value of goods produced and business services rendered in the local economy. Generally equivalent to total business sales plus inventory changes, total output captures how the direct impacts of capital spending propagate through the regional economy.

Value Added — equivalent to Gross Domestic Product as defined by the Bureau of Economic Analysis. Value added is a subset of total output that measures only the value of final goods and services (i.e., total output minus the cost of intermediate labor and materials). In economic analysis, value added is the preferred measure of an investment's contribution to economic growth.

Labor Income — total payroll, including wages, salaries, and benefits (health and life insurance, retirement contributions, and non-cash compensation), plus income generated by self-employed individuals, corporate profits, and payments for rents, royalties, and dividends.

Employment — the creation or support of jobs in the impact area, expressed as annual-average full-time and part-time employees within each sector of the local economy.

2.6 Economic Impact of Capital Infrastructure Spending

Table 2-3 summarizes the cumulative direct, indirect, and induced impacts of THEA's capital infrastructure expenditures. The total value-added (GDP) impact is approximately $2.06 billion, supporting 17,695 jobs and generating $1.08 billion in labor income across the regional economy.

TABLE 2-3 CUMULATIVE CAPITAL INFRASTRUCTURE EXPENDITURE IMPACTS

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	7,836	551.6	1,008.5	1,784.4
Indirect Effect	3,332	221.0	415.9	815.1
Induced Effect	6,527	305.6	632.0	1,040.2
Total Effect	**17,695**	**1,078.2**	**2,056.4**	**3,639.8**

Source: CUTR Estimation.

2.7 Economic Impact of Facility Operations and Maintenance

Beyond one-time capital outlays, THEA's ongoing operations and maintenance (O&M) expenditures generate a continuing stream of regional economic activity. Operating costs include toll operations, roadway and facility maintenance, communications, administration, professional services, and information technology.

Table 2-4 reports historical operating and routine maintenance expenses for the most recent three fiscal years. Total annual O&M expenditures have grown from approximately $27.6 million in FY 2024 to $32.4 million in FY 2026, averaging $30.5 million per year.

TABLE 2-4 RECURRING OPERATING AND MAINTENANCE EXPENDITURES

Expenditure ($, current)	FY 2024	FY 2025	FY 2026	Average
Toll Operations	11,086,372	11,816,158	10,902,751	11,268,427
Maintenance	6,376,250	8,002,800	8,608,659	7,662,570
Communications	620,000	640,950	691,500	650,817
General Counsel/HR/Procurement*	—	220,000	220,000	146,667
Planning and Innovation*	—	855,000	1,060,509	638,503
Administration — Personnel	5,432,824	6,296,414	6,751,203	6,160,147
Administration — Professional Services	1,861,500	1,884,940	2,034,550	1,926,997
Administration — General	1,307,094	529,400	577,463	804,652
Information Technology	889,812	1,139,955	1,593,423	1,207,730

Expenditure ($, current)	FY 2024	FY 2025	FY 2026	Average
Total	27,573,852	31,385,617	32,440,058	30,466,509

Source: THEA Annual Budget.
**In FY 2024, the expenditures associated with General Counsel/HR/Procurement and Planning and Innovation were budgeted within Professional Services. In FY 2025, both functions became new budgeted business units.*

In THEA's annual budget reports, each of these categories is broken down at a finer level of detail; this disaggregation was used to assign expenditures to the appropriate industry sectors for input to the RIMS II model. Unlike one-time capital outlays, recurring O&M expenditures have continuing effects on the local economy because they represent a sustained stream of spending year after year.

As reported in Table 2-5, THEA's recurring O&M expenditures support an additional 361 jobs and generate an additional $35.2 million in regional GDP annually.

TABLE 2-5 ECONOMIC IMPACT OF RECURRING OPERATING AND MAINTENANCE EXPENDITURES

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	153	15.2	16.5	24.4
Indirect Effect	78	4.5	6.8	14.1
Induced Effect	131	5.8	12.0	19.7
Total Effect	361	25.5	35.2	58.2

Source: CUTR Estimation.

2.8 Summary of Combined Capital and Operations Impacts

Combining the cumulative impact of THEA's capital infrastructure investments with the annual impact of operations and maintenance yields the overall contribution summarized in Table 2-6. THEA's activities, expanding and sustaining the Selmon Expressway system, have produced a cumulative impact of $3.7 billion in total output and $2.1 billion in regional GDP.

TABLE 2-6 TOTAL CAPITAL INFRASTRUCTURE AND OPERATIONS IMPACTS

Impact Type	Employment	Labor Income ($M)	Value Added ($M)	Output ($M)
Direct Effect	7,989	566.8	1,025.0	1,808.9
Indirect Effect	3,410	225.5	422.7	829.2
Induced Effect	6,658	311.4	644.0	1,060.0
Total Effect	**18,056**	**1,103.7**	**2,091.6**	**3,698.0**

Source: CUTR Estimation.

2.9 Job Impact by Industry Sector

THEA's capital outlays have contributed to more than 18,000 jobs across multiple industries, including the 361 jobs supported annually by operations and maintenance activities. Figure 2-2 shows a breakdown of the top ten industries affected by employment.

The employment impact extends well beyond direct construction work. Significant numbers of jobs are supported in architectural, planning, and engineering services; wholesale and retail trade; and leisure and hospitality services, sectors that benefit from both the procurement patterns of THEA projects and the induced household spending of workers whose jobs depend on THEA-related activity.

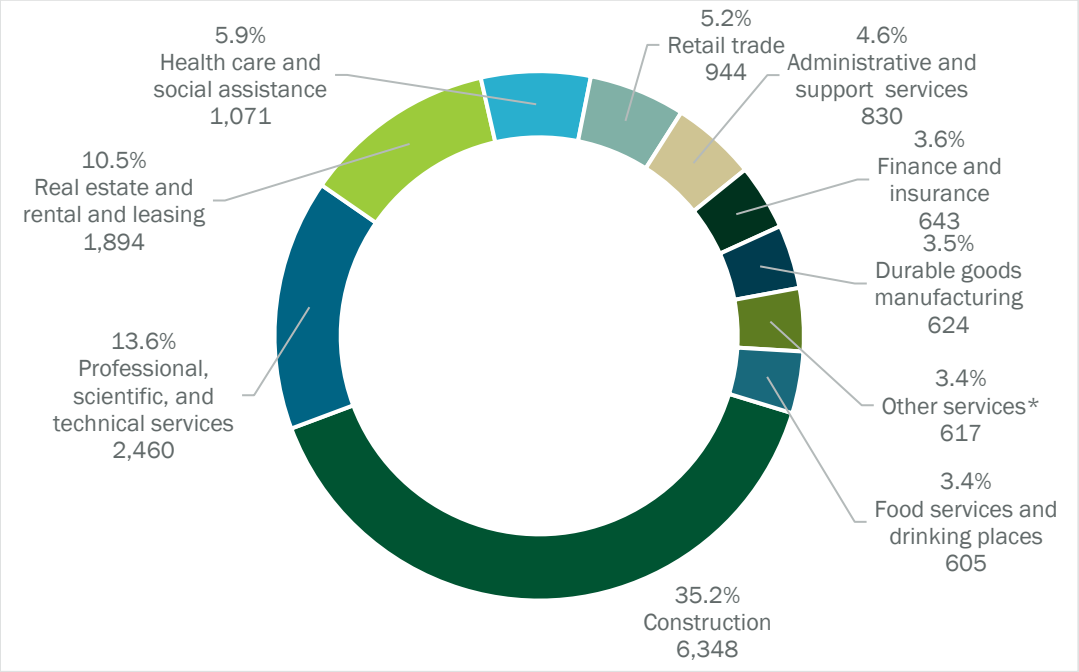

FIGURE 2-2 EMPLOYMENT IMPACT BY INDUSTRY SECTOR

2.10 Impact on State and Local Taxes

The business activity generated by THEA's capital infrastructure and O&M expenditures contributes to increased state and local tax revenues. Table 2-7 summarizes the cumulative tax impact, which totals $119.6 million.

TABLE 2-7 CUMULATIVE IMPACT ON STATE AND LOCAL TAXES

Tax Component	Total Impact ($, million)
State & Local Sales/Use Tax	$27.8
Property Tax (Ad Valorem)	$52.1
Corporate Income Tax (state)	$8.3
Other State & Local Taxes	$31.4
Total	**$119.6**

Source: CUTR Estimation.

Property tax (ad valorem) is the largest single component at $52.1 million, followed by other state and local taxes ($31.4 million), state and local sales/use tax ($27.8 million), and state corporate income tax ($8.3 million).

3 Impact on Urban Mobility

3.1 Summary

This chapter quantifies the mobility, safety, and economic benefits attributable to the Selmon Expressway for households, businesses, and the broader Tampa Bay region community. Using a counterfactual modeling framework, comparing observed network performance against a simulated scenario in which the expressway does not exist, the analysis translates differences in travel behavior into monetized estimates of user benefits across five categories: travel time savings, crash cost reductions, emissions reductions, fuel savings, and vehicle operating cost savings.

The Tampa MSA is one of Florida's fastest-growing regions, with a population of 3.4 million and a workforce of approximately 1.7 million as of 2024. The region also ranks among the nation's most congested, with each peak-period commuter losing an estimated 85 hours and $1,440 annually to traffic delays. Against this backdrop, the Selmon Expressway plays an essential role in providing reliable, time-efficient connectivity for both passengers and freight.

Key Findings

- **Travel time savings:** The expressway generates approximately $5.3 billion in annual travel time savings, including $1.6 billion for commuters and $470.8 million for businesses. Average reduction of 29 hours of congested travel per worker annually.
- **Safety benefits:** By retaining traffic on higher-quality limited-access facilities rather than diverting it onto arterials and local roads, the expressway prevents an estimated 1,567 crashes annually, including 9 fatal crashes, generating $207 million in annual crash cost savings.
- **Emissions reductions:** Reduced vehicle miles of travel and improved traffic flow yield $33.7 million in annual emission-related benefits, with particulate matter ($PM_{2.5}$) reductions accounting for the largest share.
- **Fuel savings:** The elimination of congestion-induced stop-and-go travel reduces excess fuel consumption, generating $77.0 million in annual fuel cost savings across private and commercial vehicles.
- **Vehicle operating cost savings:** Lower mileage and reduced congestion exposure reduce maintenance, repair, and operating costs by $163.8 million annually, including $124.6 million for commercial operators.

3.2 Introduction

The Tampa MSA is home to 3.4 million residents as of 2024, representing 14.7 percent of Florida's total population. The region's workforce has expanded at an annual rate of 2.6 percent since 2021, reaching approximately 1.7 million workers, or 15.1 percent of the state's labor force [*3*].

This sustained growth is placing increasing strain on the regional transportation network. According to the Texas Transportation Institute's 2025 Urban Mobility Report, the Tampa–St. Petersburg area ranks among the nation's most congested metropolitan areas. Each peak-period traveler loses roughly 85 hours and 18 gallons of fuel annually to traffic congestion, translating to an estimated direct cost of $1,440 per commuter[*4*].

Within this context, the Selmon Expressway serves as a critical component of the regional roadway network, providing efficient and reliable movement of passengers and freight across Hillsborough County. This chapter quantifies the mobility and accessibility benefits the facility delivers to households and businesses, organized across five categories: travel time savings, safety improvements, emissions reductions, fuel savings, and vehicle operating cost savings.

The analysis employs a counterfactual modeling framework, evaluating network performance under two scenarios: existing conditions with the Selmon Expressway in place, and a hypothetical scenario in which the facility does not exist. Travel demand under both conditions is simulated using the Tampa Bay Regional Planning Model (TBRPM), with differences between scenarios reflecting the expressway's marginal contribution to vehicle miles traveled (VMT), vehicle hours traveled (VHT), and delay under congested conditions. The calculations are reported in detail in each table presented in the next sections, with additional information reported in Appendix B.

3.3 Travel Demand Modeling: Counterfactual Analysis

To estimate the user benefits attributable to the Selmon Expressway, THEA's traffic engineers applied the TBRPM to simulate travel conditions at the traffic analysis zone (TAZ) level under two scenarios: the base case (with the expressway) and a counterfactual (without the expressway) [*5*]. Differences between the two scenarios isolate the facility's contribution to network performance.

Table 3-1 summarizes the modeled annual travel outcomes for TAZs within the primary market area. Without the Selmon Expressway, overall vehicle miles of travel increase modestly (+1.0 percent) as some trips shift to longer alternative routes, while vehicle hours of travel rise more sharply (+12.4 percent) as those rerouted trips encounter greater congestion. The most consequential change is in delay: congestion-related delay increases by 27 percent in the no-build scenario, adding approximately 500,000 hours of daily delay to the network. This additional lost time increases crash exposure, raises fuel consumption, and imposes greater operating costs on private and commercial vehicles, the costs quantified in the sections that follow.

TABLE 3-1 MODELED DAILY TRAVEL CONDITIONS, WITH AND WITHOUT THE SELMON EXPRESSWAY

Performance Measure	With Selmon	Without Selmon	Change (%)
Vehicle miles of travel (million)	107.5	108.7	1.0%
Vehicle hours of travel (million)	4.61	5.19	12.4%
Delay due to congestion (million hours)	1.95	2.48	27.0%

Source: THEA traffic engineer forecasts, 2050 conditions.

3.4 Travel Time Savings

Travel time is an opportunity cost: every hour spent in traffic is an hour unavailable for productive work, family, or leisure. The analysis monetizes the value of travel time savings for three user groups, personal travelers, commuters, and commercial vehicle operators, using value-of-time rates consistent with USDOT Benefit-Cost Analysis guidance [6].

As shown in Table 3-2, the Selmon Expressway generates approximately $5.3 billion in annual travel time savings in total, including $1.6 billion attributable to commuters and $470.8 million to businesses. These figures do not capture secondary productivity gains such as increased output or sales that may result from more reliable travel times.

TABLE 3-2 ANNUAL TRAVEL TIME SAVINGS BY USER CATEGORY

Category	Reduced Delay (Veh. Hrs/Day)	Reduced Delay (Veh. Hrs/Year)	Time Savings (Person Hrs/Day)	Time Savings (Person Hrs/Year)	Value of Time ($/hr)	Daily Savings ($M)	Annual Savings ($M)
Personal travel	360,886	131,362,465	556,176	202,447,998	16	9	3,213.2
Commuting	123,519	32,114,942	190,360	49,493,634	32	6	1,571.1
Total Private (A)	**484,405**	**163,477,407**	**746,536**	**251,941,631**	**0**	**15**	**4,784.4**
Commercial (B)	42,695	11,100,726	48,672	12,654,828	37	2	470.8
Total (A + B)	**527,100**	**174,578,133**	**795,208**	**264,596,459**	**0**	**17**	**5,255.1**

Personal/commuting split based on 2022 National Household Travel Survey (25.5% commuting, 74.5% leisure); private/commercial split based on 2024 Florida Traffic Information database (91.9% private, 8.1% commercial). Occupancy factors from 2022 NHTS and TTI Urban Mobility Report. Value of time set at 50% of prevailing wage for personal travel, 100% for commuting, and per USDOT BCA guidance for commercial travel.

Figure 3-1 maps the geographic distribution of per-trip travel time savings at the TAZ level, combining origin and destination trips. The greatest savings, between 16 and 40 minutes per trip, are concentrated in the eastern and southern portions of Hillsborough County, where the majority of expressway users reside.

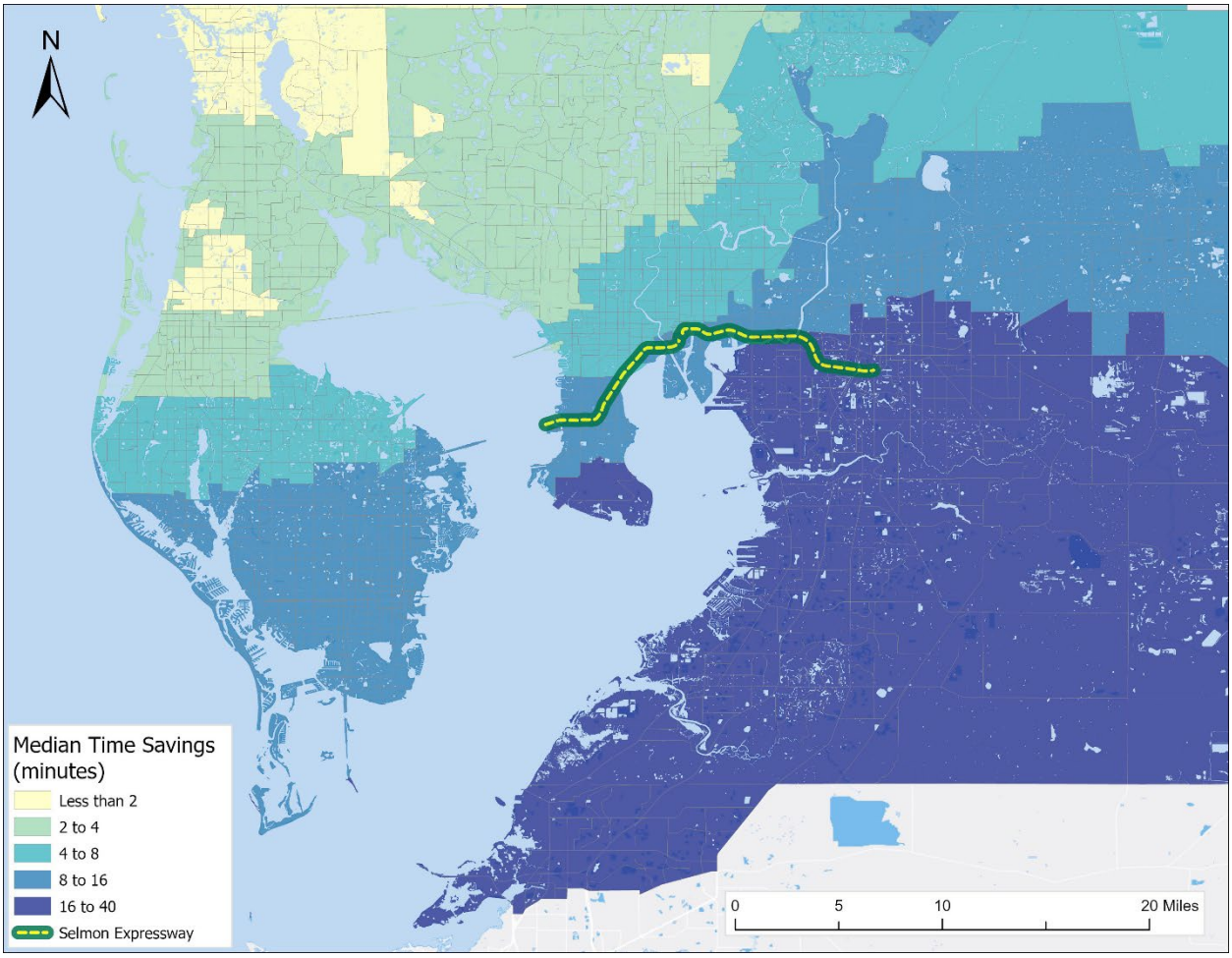

FIGURE 3-1 AVERAGE PER-TRIP TRAVEL TIME SAVINGS (MINUTES) BY TRAFFIC ANALYSIS ZONE, COMBINING ORIGIN AND DESTINATION TRIPS

3.5 Safety Benefits

The Tampa MSA accounted for 11.9 percent of all motor vehicle crashes statewide in 2025, including 14.3 percent of fatal crashes and 13.8 percent of injury crashes (Table 3-3). Crash-related costs encompass both direct monetary losses, property damage, medical expenses, emergency response, and non-monetary impacts including pain, suffering, and lost productivity, valued using USDOT unit cost estimates [6].

TABLE 3-3 MOTOR VEHICLE CRASHES BY SEVERITY, TAMPA MSA AND FLORIDA, 2025

Crash Category	Tampa–St. Petersburg MSA	Florida Statewide	MSA Share (%)
Fatal	370	2,591	14.3
Injury	21,009	152,013	13.8
Property Damage Only	57,519	506,930	11.3
Total	**78,898**	**661,534**	**11.9**

Source: Signal Four Analytics. Injury total includes all possible, incapacitating, and non-incapacitating injury categories.

Without the Selmon Expressway, the travel demand model projects that traffic would be redistributed onto lower-order roadways, divided and undivided arterials and local streets, which carry higher per-mile crash rates than the limited-access expressway. This shift in facility type increases exposure to crashes across all severity categories.

Table 3-4 presents the crash analysis results. The Selmon Expressway prevents an estimated 1,567 crashes annually, including 9 fatal crashes and 113 injury crashes, generating $207 million in annual crash cost savings.

TABLE 3-4 ANNUAL CRASH REDUCTION BENEFITS ATTRIBUTABLE TO THE SELMON EXPRESSWAY

Crash Category	Without Selmon	With Selmon	Reduction	Unit Cost ($)	Cost Savings ($M/year)
No Injury Crashes	139,460	138,015	1,445	5,500	7.9
Injury Crashes	10,864	10,752	113	673,267	75.8
Fatal Crashes	931	922	9	13,700,000	123.3
Total	**151,255**	**149,688**	**1,567**		**207.0**

Unit crash costs from USDOT Benefit-Cost Analysis Guidance for Discretionary Grant Programs. Crash counts estimated by applying crash rates by roadway functional classification to modeled VMT changes. See Appendix B for full methodology.

3.6 Emissions Reductions

Motor vehicle emissions impose measurable costs on public health, environmental quality, and visibility. Key pollutants quantified in this analysis include carbon dioxide (CO_2), nitrogen oxides (NO_x), sulfur oxides (SO_x), and fine particulate matter ($PM_{2.5}$). $PM_{2.5}$ is of particular concern because its small particle size allows it to penetrate deep into lung tissue, contributing to chronic inflammation, respiratory disease, and elevated morbidity [7].

Emission-related benefits are estimated by applying pollutant-specific emission factors to the change in VMT from the traffic model, then monetizing the resulting reductions using USDOT damage cost estimates [6]. The analysis covers both private and commercial vehicles using mode-share data from the 2024 Florida Traffic Information database [8].

As shown in Table 3-5, the Selmon Expressway reduces emission-related costs by an estimated $33.7 million annually. Benefits are nearly evenly split between private vehicles ($16.9 million) and commercial vehicles ($16.8 million). $PM_{2.5}$ reductions account for the largest share of benefits, approximately 41 percent, reflecting the pollutant's high unit damage cost.

TABLE 3-5 ANNUAL EMISSION REDUCTION BENEFITS BY POLLUTANT AND VEHICLE TYPE

Category	Reduced VMT (million/year)	Reduced Emissions (metric tons/year)	Emission Cost ($/metric ton)	Cost Savings ($M/year)
Commercial Vehicles	**33.2**			
Carbon Dioxide (CO_2)		33,228	66	2.2
Nitrogen Oxides (NO_x)		198	26,869	5.3
Particulate Matter ($PM_{2.5}$)		7	1,311,103	9.3
Total Commercial		**33,433**		**16.8**
Private Vehicles	**376.6**			
Carbon Dioxide (CO_2)		130,527	66	8.6
Nitrogen Oxides (NO_x)		144	26,869	3.9
Particulate Matter ($PM_{2.5}$)		3	1,311,103	4.4
Total Private		**130,675**		**16.9**
Total	**409.8**	**164,108**		**33.7**

Vehicle-type split from 2024 Florida Traffic Information database (91.9% private, 8.1% commercial). Emission unit costs from USDOT Benefit-Cost Analysis Guidance, Table A-6.

3.7 Excess Fuel Consumption Savings

Congested conditions force travelers into less efficient driving patterns that significantly reduce fuel efficiency relative to free-flow travel. Absent the Selmon Expressway, longer travel distances and slower speeds would increase fuel consumption for both private and commercial vehicles. The analysis estimates excess fuel costs by applying average fuel efficiency rates by vehicle class to the modeled increase in VMT, then multiplying by per-mile fuel costs.

As summarized in Table 3-6, the expressway generates $77.0 million in annual fuel savings, with 74.8 percent accruing to private vehicles ($57.6 million) and 25.2 percent to commercial vehicles ($19.4 million). Because the analysis captures only VMT-related changes in fuel use and does not model the additional efficiency gains from eliminating excess stop-and-go driving time, these estimates are likely conservative.

TABLE 3-6 ANNUAL EXCESS FUEL CONSUMPTION SAVINGS BY VEHICLE TYPE

Category	Reduced VMT (VMT/year)	Avg. Fuel Efficiency (miles/gallon)	Reduced Fuel Use (gallons/year)	Fuel Cost ($/mile)	Savings ($M/year)
Commercial Vehicles	33,193,087	7.8	4,255,524	0.58	19.4
Private Vehicles	376,598,113	22.6	16,663,633	0.15	57.6
Total	**409,791,200**		**20,919,157**		**77.0**

Fuel efficiency from Bureau of Transportation Statistics National Transportation Statistics, Tables 4-23 (passenger) and 4-13 (commercial). Fuel costs from AAA Your Driving Costs 2024 (passenger) and TTI 2025 Urban Mobility Report, Appendix C, Table C-3 (commercial) [9].

3.8 Vehicle Operating Cost Savings

Longer travel distances and exposure to congested conditions increase vehicle wear, maintenance requirements, and non-fuel operating expenses. The analysis estimates operating cost savings separately for commercial and private vehicles to avoid double-counting with the travel time savings presented in Section 3.4.

For commercial vehicles, the analysis incorporates both distance-related costs (tires, maintenance, repairs) and time-related costs arising from congestion exposure. Driver wages are excluded, as these are already captured in the travel time savings estimate. For private vehicles, only distance-related out-of-pocket costs are included, as the time component is likewise accounted for in Section 3.4.

As shown in Table 3-7, total vehicle operating cost savings amount to $163.8 million annually. Commercial operators realize the largest share of these savings, $124.6 million, primarily from reduced congestion exposure, while households benefit from approximately $39.1 million in lower out-of-pocket maintenance and repair expenses.

TABLE 3-7 ANNUAL VEHICLE OPERATING COST SAVINGS BY VEHICLE TYPE

Category	Reduced Delay (VHT, million/year)	Reduced Distance (VMT, million/year)	Congestion Cost ($/hour)	Distance Cost—Commercial ($/mile)	Distance Cost—Private ($/mile)	Delay Savings ($M/year)	VMT Savings ($M/year)
Commercial Vehicles	11.1	33.2	10.43	0.27	—	115.7	8.9
Private Vehicles	163.5	376.6	—	—	0.10	—	39.1
Total	**174.6**	**409.8**				**115.7**	**48.0**

Commercial unit costs from TTI 2025 Urban Mobility Report, Appendix C, Tables C-4 ($/mile) and C-5 ($/hour) [4]. Private vehicle costs from AAA Your Driving Costs, 2024 (repairs, maintenance, and tires) [9].

3.9 Summary of User Benefits and Household Savings

Aggregate User Benefits

Table 3-8 consolidates the results of all five benefit categories. In aggregate, the Selmon Expressway generates more than $5 billion in direct annual user benefits. Travel time savings constitute the dominant share of total benefits, reflecting the high economic value placed on congestion relief by both commuters and commercial operators. Crash cost reductions and vehicle operating savings represent the next largest categories, underscoring the facility's role not only in saving time but in reducing the financial and human toll of traffic incidents and excessive vehicle wear.

To contextualize the travel time results, dividing total commuter time savings by the Tampa MSA's 1.7 million workers yields an average reduction of 29 hours of congested travel per worker annually, a 34 percent decrease relative to the 85 hours of delay per commuter reported in the TTI Urban Mobility Report [*4*].

TABLE 3-8 SUMMARY OF ANNUAL DIRECT USER BENEFITS

Benefit Category	Annual Value ($M)
Travel Time Savings	
To travelers (personal and commuting)	4,784.4
To businesses (commercial vehicles)	470.8
Reduced Crash Costs	**207.0**
Fuel Cost Savings	
To travelers	57.6
To businesses	19.4
Vehicle Operating Cost Savings	
To travelers	39.1
To businesses	124.6
Emissions Reductions	**33.7**
Total Annual Benefits	**5,736.6**

Source: CUTR calculations.

4 Impact on Job Accessibility

4.1 Summary

This chapter quantifies the contribution of the Selmon Expressway to job accessibility for residents of the Tampa MSA. The analysis answers a question central to THEA's mission: how many additional jobs does the Selmon Expressway place within reach of the region's workers during a typical commute?

To answer this question, the analysis constructs travel-time isochrones from the geographic centers of the twenty zip codes that account for the largest share of Selmon Expressway toll transactions. Isochrones are polygons that delimit all locations reachable from a specified origin within a given travel time. For each origin, isochrones are generated under real-time weekday AM-peak traffic conditions at four contours — 20, 30, 40, and 50 minutes — first using the full road network and then with all toll facilities excluded. The number of jobs falling within each isochrone is then counted using U.S. Census LEHD workplace data via a Stata implementation of the OnTheMap workflow [*10*]. The difference between the two scenarios is attributable directly and exclusively to the existence of the Selmon Expressway.

Findings show that across all four travel-time contours and across all twenty top-origin zip codes by toll transactions, the Selmon Expressway materially expands the geographic scope of the labor market and the number of jobs that Tampa-area workers can realistically reach.

Key Findings

- **At the 20-minute contour, the Selmon Expressway provides access to approximately 32,600 additional jobs, an 18.5 percent gain.** This is the largest proportional gain across all contours and falls within the travel-time band the academic literature identifies as most consequential for regional productivity.
- **At the 30-minute contour**—the average commute time for the Tampa MSA reported by the U.S. Census American Community Survey—**the Selmon Expressway provides access to approximately 64,800 additional jobs, a 15.2 percent gain.** This is the most policy-relevant single figure produced by the analysis, since the average commute time in the Tampa Bay region is about 29 minutes.
- **At the 40-minute contour, the gain reaches approximately 84,200 additional jobs** (11.4 percent).
- **At the 50-minute contour, the gain reaches approximately 139,900 additional jobs** (13.3 percent), accompanied by the largest geographic expansion of the reachable area (340.8 additional square miles, or 23.8 percent), reflecting the role of the Selmon Expressway in integrating eastern Hillsborough County with the southern Pinellas County peninsula via the Selmon West Extension.

These findings confirm the role of the Selmon Expressway as a key piece of regional economic infrastructure. The accessibility gains it delivers are concentrated in the travel-time bands that the agglomeration economics literature identifies as carrying the strongest productivity returns to a metropolitan economy. The methodological framework employed, a Hansen-style [*11*] cumulative-opportunities measure operationalized through traffic-aware isochrones in a with-and-without comparative design, is the current standard in the accessibility literature and provides a defensible, replicable analytical foundation that THEA can apply prospectively to future capital and operational decisions.

4.2 Introduction

This chapter analyzes THEA's contribution to job accessibility in the Tampa MSA. The central question is: does the Selmon Expressway provide increased accessibility to jobs and opportunities, and if so, how much? Equivalently, how many additional jobs can a worker reach within average commute times when traveling on the Selmon Expressway compared with traveling on the non-tolled road network alone?

Transportation infrastructure is widely recognized as a primary determinant of how workers, firms, and households interact across urban space. The Selmon Expressway was conceived and has been incrementally expanded with the explicit objective of providing a high-speed, congestion-relieving corridor connecting eastern Hillsborough County to downtown Tampa, the Port of Tampa, the Westshore Business District, MacDill Air Force Base, and the southern Pinellas County peninsula. From a policy perspective, the value of such a facility is most meaningfully expressed not only in vehicle-miles of capacity or in raw travel-time savings, but in the additional economic opportunities it makes reachable to the region's workers. Travel-time savings alone are silent on whether the time savings translate into expanded labor-market choice; volume-based measures speak only to how heavily the facility is used. Accessibility metrics, by contrast, directly answer the question that matters for the regional economy: how many more places of employment can a Tampa-area worker realistically reach because the Selmon Expressway exists?

The conceptual foundation of accessibility analysis was established by Hansen [*11*], who defined accessibility as the "potential of opportunities for interaction," a measure of "the spatial distribution of activities about a point, adjusted for the ability and desire of people or firms to overcome spatial separation." In Hansen's formulation, accessibility at a given point to a particular activity (such as employment) is directly proportional to the size of that activity at each surrounding location and inversely proportional to the travel impedance separating the point from those locations. This definition has remained the conceptual anchor of the field for more than six decades and is reaffirmed in modern reviews [*12; 13*]. Subsequent work has refined Hansen's framework into widely accepted axioms: accessibility varies across space, is activity-specific, combines travel impedance with the magnitude of opportunities, and is computed by summing over the space of opportunities weighted by impedance [*13; 14*]. These axioms are explicitly embedded in the empirical design adopted here: jobs are the activity of interest, travel time is the impedance, and accessibility is

computed as the cumulative count of jobs reachable within successive travel-time bands from each origin.

Beyond its conceptual clarity, accessibility has been shown to be a meaningful predictor of regional economic performance. Melo, Graham, Levinson, and Aarabi [*15*] estimated productivity-agglomeration elasticities in the range of 0.07 to 0.10 for large U.S. metropolitan areas using employment-accessibility measures derived from actual road-network travel times and found that the large majority of these productivity gains occur within the first 20 minutes of travel time. This has a direct implication for THEA: improvements in the 20- to 40-minute travel-time band, precisely the range in which the Selmon Expressway delivers its largest accessibility gains, are the range in which the literature predicts the strongest productivity returns to the regional economy.

Operationally, accessibility is measured in this chapter using the cumulative-opportunities approach based on isochrones. An isochrone is a polygon that delimits all locations reachable from a specified origin within a given travel time, for a particular mode of transportation. Cumulative-opportunity counts—the number of jobs lying inside each isochrone, computed at several travel-time cutoffs—then characterize how accessibility decays with travel time. Three properties make this measure the appropriate choice for the present analysis. It has a direct and transparent interpretation ("how many jobs can be reached within X minutes?") that communicates readily to non-technical audiences. It has been shown to be robust across a wide range of isochrone-generation methodologies and network resolutions [*16*]. And it has been applied successfully to study employment accessibility in metropolitan regions across the United States and internationally, including Columbus, Ohio [*17*] and the Greater Toronto–Hamilton Area [*18*], where the spatial pattern of car-based accessibility was shown to be dominated by proximity to the regional expressway network, a finding directly analogous to the role the Selmon Expressway plays in the Tampa MSA.

Two further methodological choices align this analysis with current best practice in the literature. First, isochrones are generated under real, time-of-day traffic conditions rather than free-flow assumptions. As Boisjoly and El-Geneidy [*19*] and Ma, Xu, Qin, and Zeng [*20*] have shown, isochrone area and shape vary substantially with congestion; analyses based on free-flow assumptions systematically understate the value of congestion-relieving infrastructure. Second, the analysis uses a with-and-without comparative design, generating one isochrone using the entire road network and a second isochrone in which all toll facilities are removed from the routable network. This is the standard quasi-experimental approach for isolating the contribution of a specific facility to accessibility [*21*]. It holds the spatial distribution of jobs and the underlying demand-side variables constant; the only variable that changes between the two scenarios is whether the Selmon Expressway is available as a routing option. The difference in accessible jobs is therefore attributable cleanly to the presence of the facility.

Travel-time and isochrone data for the analysis are obtained via the Mapbox Isochrone API services [*22*]. Employment counts within each isochrone are derived from the U.S. Census

Longitudinal Employer–Household Dynamics (LEHD) data, the same data source that underlies the U.S. Census OnTheMap application [*10*]. The U.S. Census OnTheMap is the most comprehensive source of workplace-level employment counts available at fine geographic resolution in the United States.

4.3 Estimating THEA's Impact on Job Accessibility

THEA's impact on job accessibility is estimated by comparing isochrones constructed under real-time, weekday AM-peak traffic conditions, with contour bands set at 20, 30, 40, and 50 minutes of travel time. For each origin, the Mapbox Isochrone API is executed twice: once permitting routing over the entire traffic network (including the Selmon Expressway), and once with the explicit restriction that the route must avoid all toll facilities. The result is a pair of isochrones that, all else equal, differ only in their geographic scope and the size of the area they enclose. The Mapbox output is provided as GeoJSON, which is converted to ArcGIS shapefiles and fed into a custom Stata program [*23*]. The script replicates the U.S. Census OnTheMap workflow, using the isochrone polygon as a custom geographic boundary and returning the number of jobs (workers' workplace locations) contained within it, drawing on the LEHD data. The flowchart in Figure 4-1 summarizes the analytical workflow.

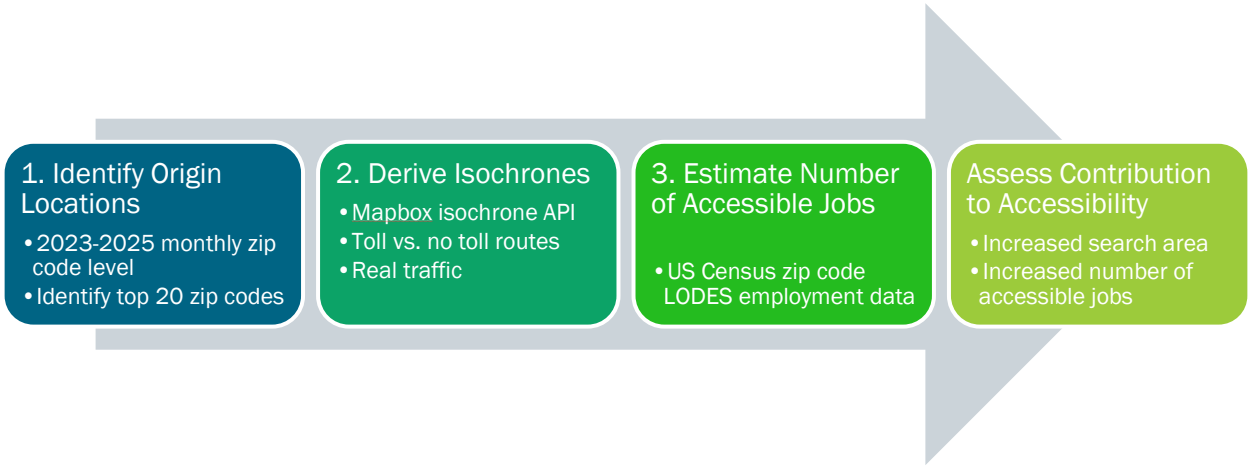

FIGURE 4-1 JOB ACCESSIBILITY ESTIMATION WORKFLOW

Empirical Approach

Step 1: Obtain THEA toll-transaction counts by zip code

Data source: THEA monthly toll-transaction records for January 2023 through September 2025, aggregated to the originating zip code of the account holder.

Purpose: Identify the THEA Top 20 zip codes ranked by average monthly toll transactions. These zip codes represent the geographic origins whose residents derive the largest aggregate benefit from the existence of the Selmon Expressway, and they are accordingly the units of analysis for the accessibility comparison.

Step 2: Derive Isochrones

Obtain the centroid coordinates of each of the THEA Top 20 zip codes identified in Step 1 and pass them into the Mapbox Isochrone API to generate a series of isochrones for each origin, with contours set at 20, 30, 40, and 50 minutes of travel time. For each origin, estimate two isochrones under weekday AM-peak traffic conditions:

- I_all – Isochrone, real-time traffic, all roads including toll facilities
- I_notoll – Isochrone, real-time traffic, toll facilities excluded

Step 3: Estimate the Number of Accessible Jobs

Transform the Isochrone API output from GeoJSON to ArcGIS shapefile and feed the resulting polygons into a Stata script that mimics the U.S. Census OnTheMap capability for estimating the number of workers employed within a custom geographic area. A Stata do-file was developed to run this estimation in a loop, returning the count of jobs accessible within each contour band of each isochrone.

Step 4: Compare Isochrones (all roads vs. no toll roads)

Using the job counts generated in Step 3, statistically compare the geographic extent of the two isochrones (all roads vs. no toll roads) and the number of jobs accessible within each contour band. The difference between the two, isolated to the inclusion or exclusion of the Selmon Expressway in the routable network, provides a direct measure of the facility's contribution to job accessibility.

THEA Top 20 Zip Codes

Figure 4-2 plots the zip code rankings by share of total toll transactions over the period January 2023 to September 2025. Figure 4-3 maps their location. These twenty zip codes account for 53.6 percent of total toll transactions on the Selmon Expressway over the study period, indicating a strong geographic concentration of demand.

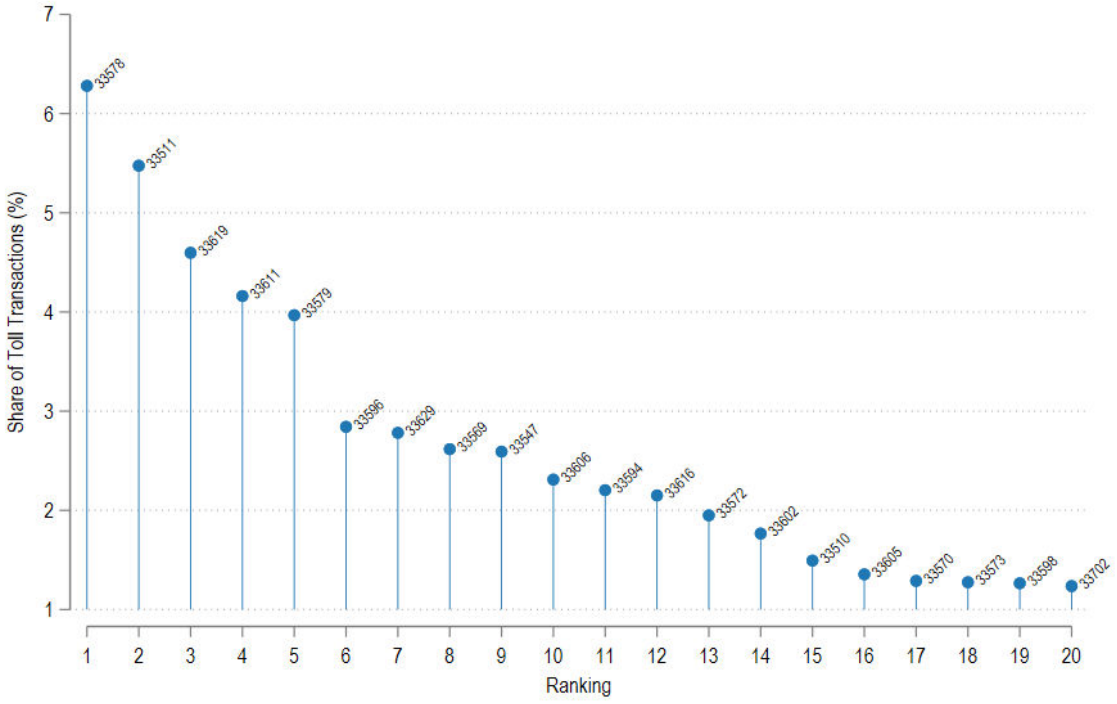

FIGURE 4-2 THEA TOP 20 ZIP CODES BY SHARE OF TOTAL TRANSACTIONS

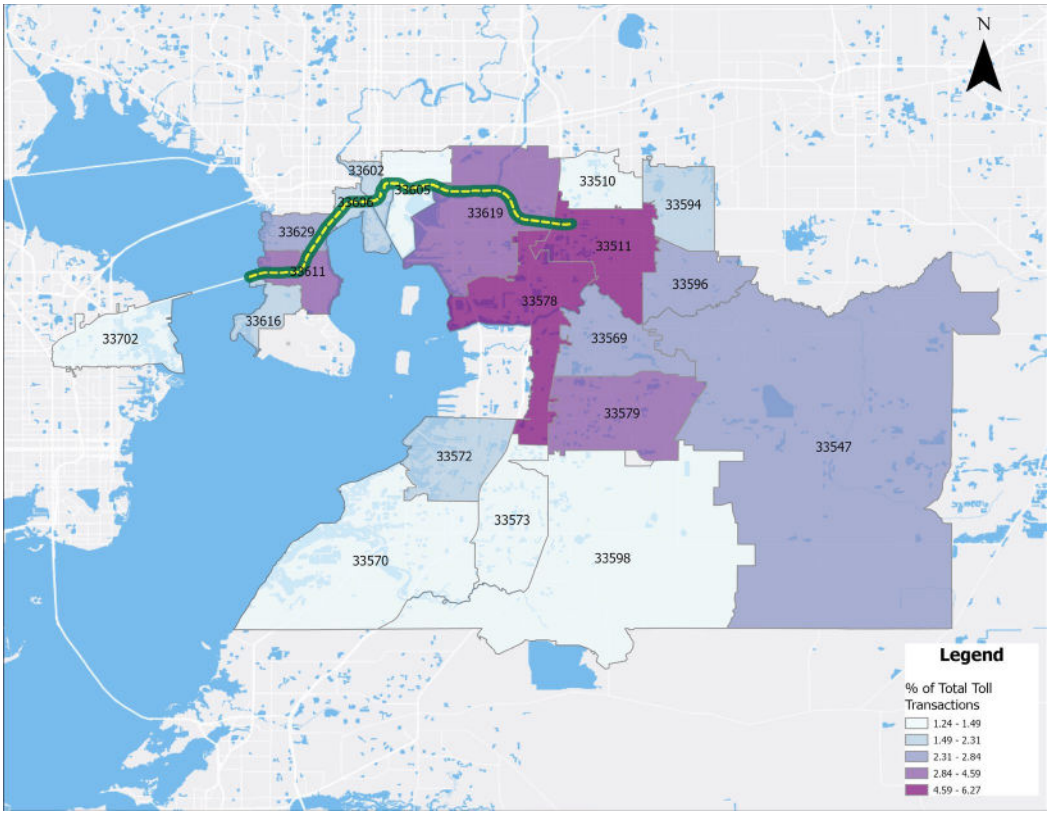

FIGURE 4-3 MAP OF THEA TOP 20 ZIP CODES

4.4 Job Accessibility Impact

Using the centroid coordinates of the THEA Top 20 zip codes as origins of travel, the Mapbox API generates a set of isochrones reflecting real-time traffic conditions during weekday AM peak hours. Each origin yields one isochrone for the full road network and a second for the no-toll routing restriction, with contours at 20, 30, 40, and 50 minutes.

Figure 4-4 and Figure 4-5 provide an illustrative example of the analytical output, mapping the two isochrones (no toll versus all roads) for zip code 33578, THEA's top zip code in terms of toll transactions. Contrasting Figure 4-5 with Figure 4-4, the geographic expansion of the reachable area is visually evident along the Gandy Boulevard corridor (40-minute contour) and toward Pinellas County (50-minute contour).

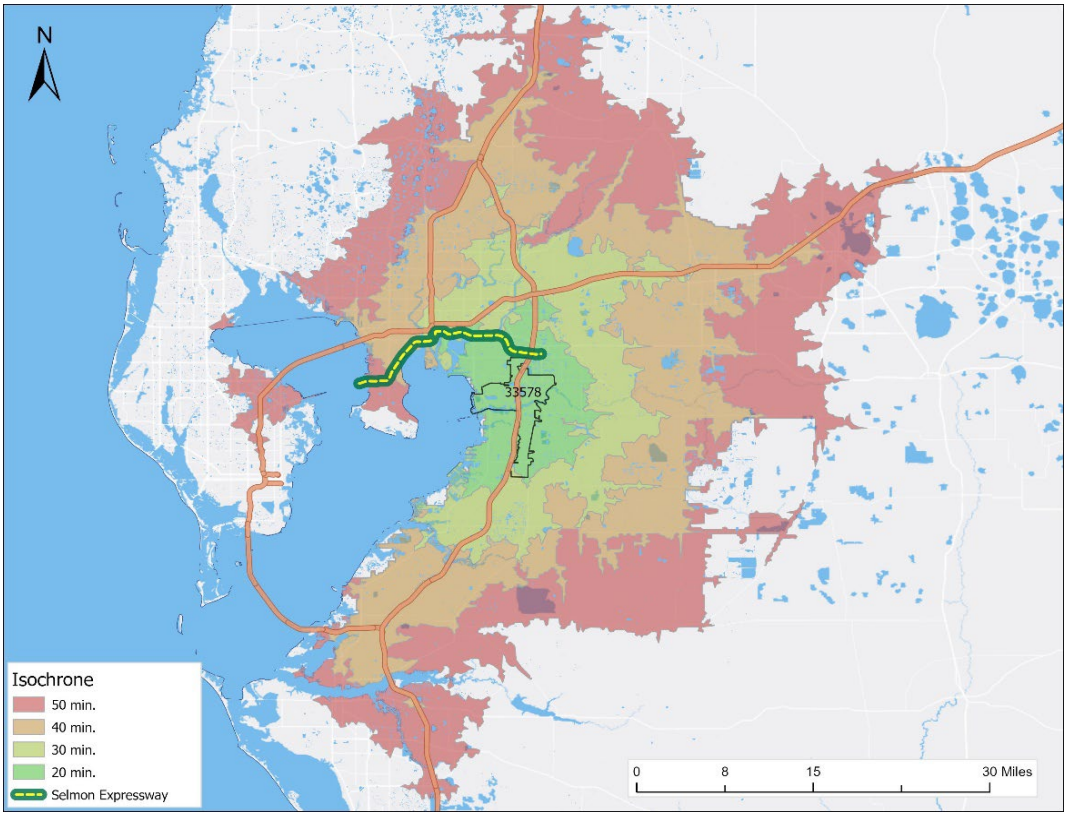

FIGURE 4-4 JOB ACCESSIBILITY ISOCHRONE — NO TOLL ROUTING

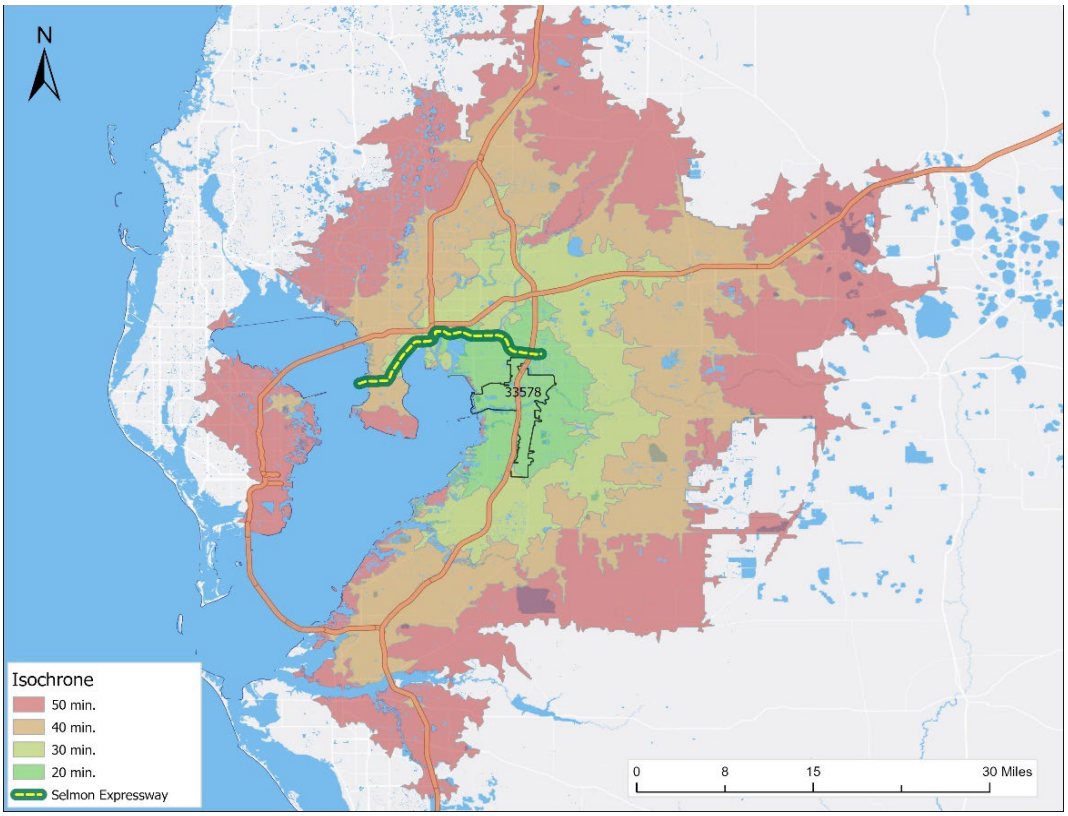

FIGURE 4-5 JOB ACCESSIBILITY ISOCHRONE — TOLL ROUTING (SELMON EXPRESSWAY INCLUDED)

Table 4-1 reports the summary statistics, contrasting the no-toll and the toll scenarios in terms of the size of the isochrone (square miles) and the number of jobs accessible within each contour. On average, using the Selmon Expressway allows a THEA Top 20 traveler to reach an area of employment and services that is between 12 and 341 square miles larger than under the no-toll scenario, depending on the travel-time threshold. The corresponding job-accessibility gains range from 11.4 percent for travel within 40 minutes to 18.5 percent for travel within 20 minutes.

According to the U.S. Census American Community Survey, the average commute time for the Tampa MSA is approximately 30 minutes [3]. At this policy-relevant threshold, travelers from the THEA Top 20 zip codes experience a job-accessibility increase of approximately 15.2 percent when routing via the Selmon Expressway. In absolute terms, this corresponds to approximately 64,800 additional jobs reachable within the average regional commute time.

TABLE 4-1 JOB ACCESSIBILITY IMPACT BY ISOCHRONE

Isochrone	No Toll		With Toll (Selmon)		Change Attributable to Selmon			
	Area (sq.mi.)	Jobs	Area (sq.mi.)	Jobs	Area (sq.mi.)	Jobs	Area (%)	Jobs (%)
20 minutes	113	176,454	125	209,042	12.3	32,588	10.9	18.5
30 minutes	**372**	**426,488**	**415**	**491,322**	**43.4**	**64,835**	**11.7**	**15.2**
40 minutes	800	736,394	901	820,584	101.5	84,190	12.7	11.4
50 minutes	1,432	1,050,025	1,773	1,189,950	340.8	139,925	23.8	13.3

Note: Shaded row at 30 minutes corresponds to the average commute time for the Tampa MSA reported by the U.S. Census American Community Survey. Job counts are derived from U.S. Census LEHD/LODES via a Stata implementation of the OnTheMap workflow. Source: CUTR analysis based on Mapbox Isochrone API outputs and LEHD/LODES data.

Two further observations from Table 4-1 are worth highlighting for interpretive purposes. First, the percentage gain in accessible jobs is highest at the shortest contour (20 minutes, 18.5 percent) and tapers modestly as the contour expands. This is consistent with the broader empirical literature on agglomeration and accessibility, which finds that the marginal value of additional accessibility is highest within the first 20 minutes of travel and attenuates with distance [*15*]. The Selmon Expressway is therefore delivering its largest accessibility gains in the travel-time band where the literature predicts the strongest economic returns to the metropolitan area. Second, the geographic expansion of the reachable area (in square miles) is most pronounced at the 50-minute contour, growing by nearly 24 percent. This reflects the role of the Selmon Expressway in connecting the Tampa core to the Pinellas County peninsula via the Selmon West Extension, a connection whose marginal value, in geographic terms, is realized over longer travel-time horizons even though the proportional job-accessibility gain in that band is more modest (compared to the 30-minute travel time threshold).

4.5 Conclusions

This chapter has presented a quantitative, accessibility-based assessment of the Selmon Expressway's contribution to job accessibility in the Tampa MSA. Using the well-established Hansen [*11*] framework for accessibility, operationalized through traffic-aware cumulative-opportunity isochrones generated under real-time weekday AM-peak conditions, the analysis compares the number of jobs reachable from each of the THEA Top 20 zip codes under two scenarios: with the Selmon Expressway available as a routing option, and with all toll facilities excluded from the routable network. The difference between the two scenarios is attributable directly and exclusively to the existence of the Selmon facility.

The Selmon Expressway materially expands both the geographic scope of the labor market accessible to Tampa-area workers and the number of employment opportunities they can realistically reach within standard commuting times. Specifically:

- At the 20-minute contour, the Selmon Expressway provides access to approximately 32,600 additional jobs, an 18.5 percent gain in accessible employment. This is the largest proportional gain observed across all contours, and, because the agglomeration literature shows that the bulk of productivity benefits from urban accessibility are realized within the first 20 minutes of travel, it is also the gain most likely to translate into measurable economic productivity benefits for the regional economy.
- At the 30-minute contour, which corresponds to the average commute time for the Tampa MSA as reported by the U.S. Census American Community Survey, the Selmon Expressway provides access to approximately 64,800 additional jobs, a 15.2 percent gain. This is the most policy-relevant single figure produced by the analysis: it represents the additional employment opportunity made available by the Selmon Expressway to a typical Tampa-area worker on a typical workday.
- At the 40-minute contour, the gain reaches approximately 84,200 additional jobs (11.4 percent), and at the 50-minute contour the gain reaches approximately 139,900 additional jobs (13.3 percent), with the largest geographic expansion of the reachable area (340.8 additional square miles, or 23.8 percent). At this outer contour, the Selmon Expressway is effectively integrating eastern Hillsborough County, downtown Tampa, the Westshore Business District, and the southern Pinellas County peninsula into a single cohesive regional labor market.

The robustness of these findings rests on three methodological pillars that align with current best practice in the accessibility literature. First, the analysis uses real-time, time-of-day-specific traffic conditions to generate isochrones, rather than free-flow assumptions. As Ma et al. [*20*] and Boisjoly and El-Geneidy [*19*] have demonstrated, the area and shape of an isochrone vary substantially with congestion, and analyses based on free-flow assumptions systematically understate the value of congestion-relieving infrastructure. Second, the analysis uses a with-and-without comparative design that holds the spatial distribution of jobs constant and varies only the availability of the Selmon Expressway in the routable network. This is the standard quasi-experimental approach for isolating the contribution of a specific facility and is the same approach used by Karou and Hull [*21*] in their evaluation of planned transport infrastructure. Third, the analysis uses LEHD/LODES workplace data, the most comprehensive workplace-level employment dataset available in the United States, applied at fine geographic resolution to ensure that job counts within each isochrone are estimated with high spatial fidelity. The robustness analyses of Brainard et al. [*16*] provide further assurance that cumulative-opportunity counts derived from this type of isochrone-based design are stable across a range of methodological choices.

Several broader policy implications follow from the findings. The first is that the Selmon Expressway represents a key piece of regional economic infrastructure. The 64,800

additional jobs reachable within 30 minutes from the THEA Top 20 zip codes represent expanded household labor-market choice, increased employer labor-pool access, and, on the evidence of the agglomeration literature, measurably higher regional productivity. Melo et al. [*15*], in their analysis of the largest U.S. metropolitan areas, estimated agglomeration elasticities in the range of 0.07 to 0.10, with the bulk of these effects concentrated within the first 20 minutes of travel time. The accessibility gains documented here for the Selmon Expressway fall within that high-return travel-time band.

The second implication concerns equity and inclusion in the regional labor market. The accessibility literature [*17; 21*] emphasizes that improvements in employment accessibility, particularly when they reach into peripheral or otherwise less-connected residential areas, can play an important role in addressing transportation equity. The geographic pattern of the Selmon's accessibility contribution, pronounced expansions toward eastern Hillsborough County, the Gandy Boulevard area, and southern Pinellas County, suggests that the facility is meaningfully extending the labor market reachable to residents of these communities.

The third implication is operational. Because the accessibility gains documented here are largest at the shortest travel-time contours, the marginal value of any operational or capital action that further protects or extends fast travel on the Selmon Expressway during peak hours is likely to be high. Investments that address congested travel conditions in the AM and PM peaks, that improve interchange operations with the broader network, or that extend the corridor into currently underserved portions of the metropolitan footprint can each be expected to deliver outsized accessibility returns relative to investments that affect only off-peak or lower-demand conditions.

In summary, the Selmon Expressway is delivering material, measurable, and policy-relevant gains in job accessibility to the Tampa–St. Petersburg–Clearwater MSA. At the average regional commute time of 30 minutes, the facility brings approximately 64,800 additional jobs within reach for residents of its principal market area, a 15.2 percent expansion of the labor market accessible to those residents. These gains are concentrated in the travel-time bands that the academic literature identifies as most consequential for regional productivity and economic opportunity.

5 Impact on Business Activity

5.1 Summary

This chapter examines the economic impact of the Selmon Expressway on business activity within Hillsborough County, focusing on how improvements to regional accessibility, particularly the opening of the Reversible Express Lanes (REL) and Brandon Parkway in 2006, have shaped business location decisions, industry clustering, and employment growth over the 2006–2025 period.

As of 2025, approximately 16,740 businesses operate within one mile of the Selmon Expressway, representing 19.4 percent of all establishments in Hillsborough County. These businesses collectively employ roughly 169,700 workers. The study area exhibits a higher concentration of professional and technical services compared to the county as a whole, reflecting the expressway's role in attracting knowledge-intensive industries.

Spatial analysis of business clustering patterns reveals that key industry sectors, including beverage and tobacco product manufacturing, wood product manufacturing, nonstore retail, and support activities for transportation, have grown and consolidated their presence near the expressway's access points over the study period. This geographic concentration is consistent with agglomeration theory, whereby firms benefit from co-locating near efficient transportation infrastructure.

Econometric analysis using a difference-in-difference (DiD) estimation framework confirms these patterns statistically. The findings presented in this chapter demonstrate that strategic investments in transportation infrastructure yield measurable and sustained economic returns for the corridor and the county. The detailed methodology and full regression results supporting these findings are provided in Appendix C accompanying this report.

Key Findings

Compared to comparable areas within the county, the Selmon Expressway corridor has generated:

- **A 7.1 percent higher growth in the number of business** establishments through 2025.
- **A 6.0 percent higher growth in employment** at the establishment level in 2025.
- **A combined 7.3 percent establishment growth and 5.7 percent employment growth premium over the 2023–2025** post-construction period following the Selmon West Extension.

5.2 Introduction

Business location decisions are rarely random. Firms seek out places where clustering with other businesses amplifies their access to customers, reduces input costs, and deepens the available labor pool. Transportation networks are central to this calculus: a well-connected location lowers the friction of moving goods, workers, and information, making it more attractive for a wide range of industries.

This analysis examines how the Selmon Expressway, and specifically the 2006 opening of the Reversible Express Lanes (REL) and Brandon Parkway, and subsequently the Selmon West Extension, has influenced business activity within a one-mile corridor along the facility in Hillsborough County. The hypothesis is straightforward: improved accessibility reduces commute times, expands commuter sheds, and increases the density of potential customers and employees, all of which should translate into measurable increases in business establishments and employment.

To test this, the analysis draws on longitudinal business microdata from Infogroup, a national provider of verified business and consumer records [*24*]. The database covers more than 24 million business establishments, each geocoded and assigned a six-digit North American Industry Classification System (NAICS) code, along with firm-level attributes including employee count and annual sales. Unique firm identifiers allow year-over-year tracking of individual establishments, supporting panel-data methods that can isolate the expressway's effect from broader economic trends. Technical details on the data and estimation methodology are provided in Appendix C.

The remainder of this chapter is organized as follows. Section 2 describes the current state of business activity in the study area. Section 3 presents historical trend analysis, including industry specialization and market concentration metrics. Section 4 examines spatial clustering patterns using kernel density estimation. Section 5 reports the econometric results estimating the expressway's causal impact on establishment and employment growth. Section 6 summarizes the key findings.

5.3 Current Level of Business Activity

As of 2025, approximately 16,740 businesses operate within one mile of the Selmon Expressway, the study area for this analysis, representing 19.4 percent of all establishments in Hillsborough County. This concentration reflects the corridor's role as an economic spine for the Tampa metropolitan area.

Industry Composition

Figure 5-1 and Figure 5-2 compare the industry composition of the study area against the county, using the two-digit NAICS sector classification. The two profiles are broadly similar, with one notable exception: the study area contains a meaningfully higher share of professional and technical services firms (14.6 percent) compared to the county-wide share (10.2 percent). This overrepresentation suggests that knowledge-intensive businesses place

particular value on the accessibility advantages the corridor provides. Section 3 disaggregates these patterns further at the three-digit NAICS level.

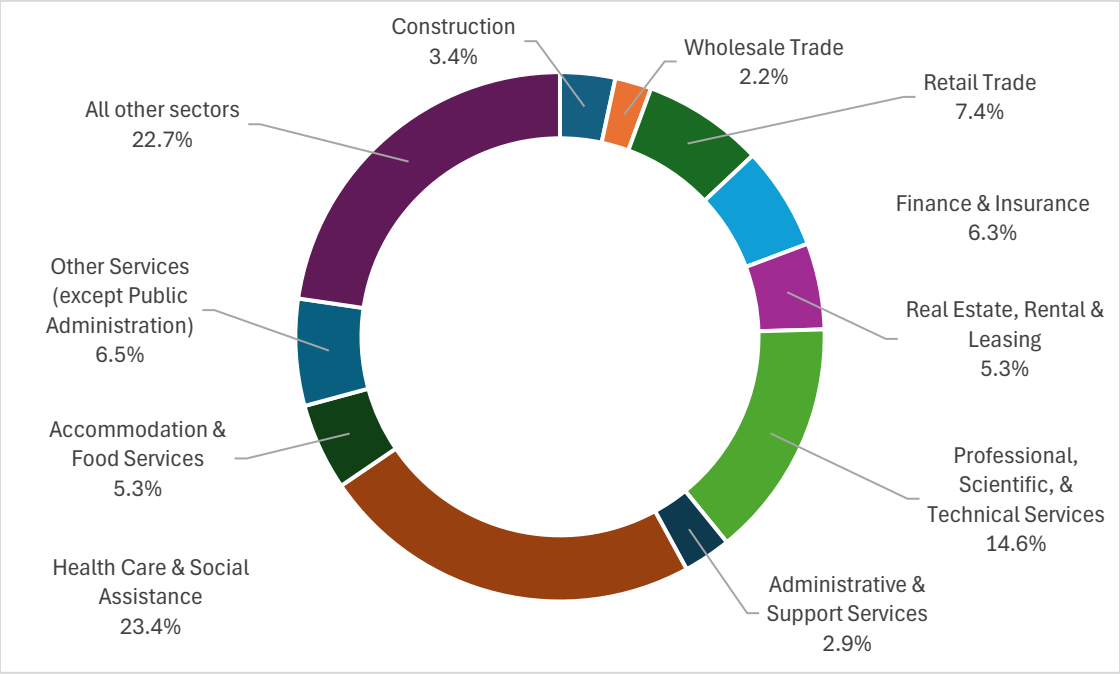

FIGURE 5-1 DISTRIBUTION OF BUSINESSES BY NAICS 2-DIGIT SECTOR WITHIN ONE MILE OF THE SELMON EXPRESSWAY, 2025

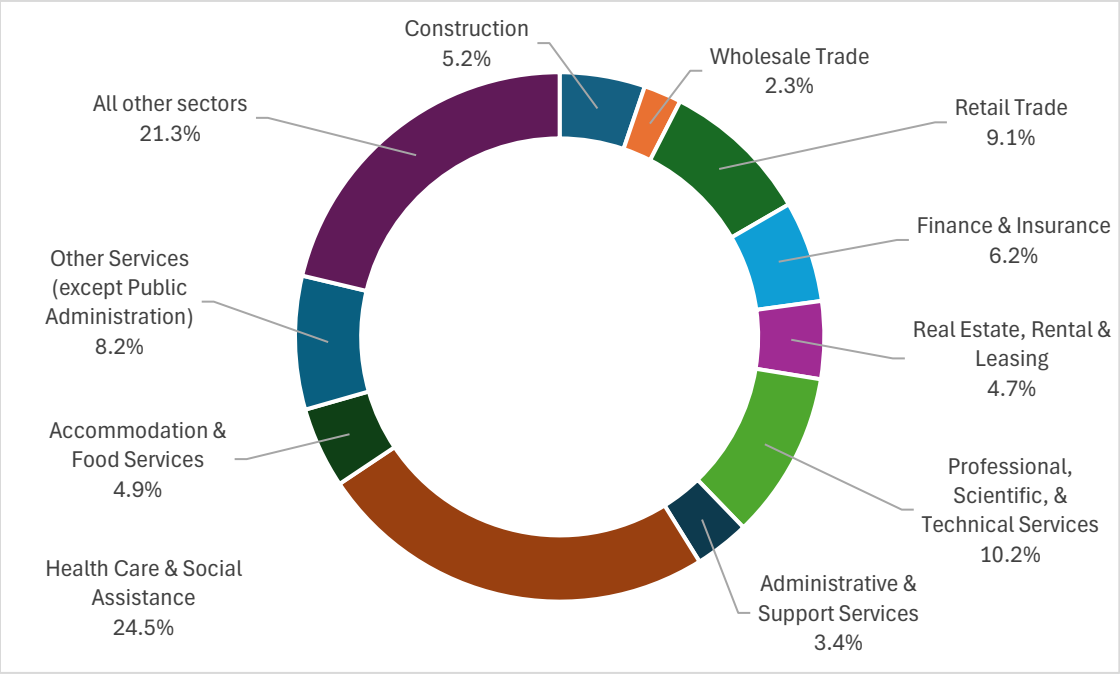

FIGURE 5-2 DISTRIBUTION OF BUSINESSES BY NAICS 2-DIGIT SECTOR, HILLSBOROUGH COUNTY, 2025

Employment Profile

Businesses in the study area employed approximately 169,700 workers in 2025. Consistent with the broader small-business character of the local economy, roughly 90 percent of establishments employed fewer than 20 workers. The top employing sectors were health care and social assistance (28,417 jobs, or 16.7 percent of study area employment), professional and technical services (24,527 jobs, or 14.5 percent), and retail trade (15,891 jobs, or 9.4 percent). Figure 5-3 and Figure 5-4 compare the employment distribution in the study area with the county overall.

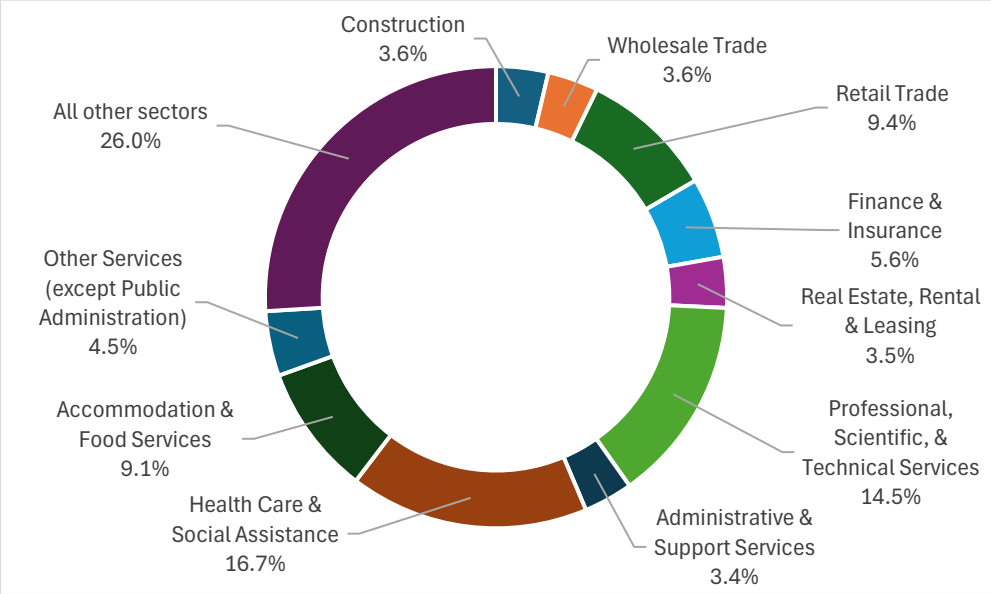

FIGURE 5-3 TOTAL EMPLOYMENT BY NAICS 2-DIGIT SECTOR WITHIN ONE MILE OF THE SELMON EXPRESSWAY, 2025

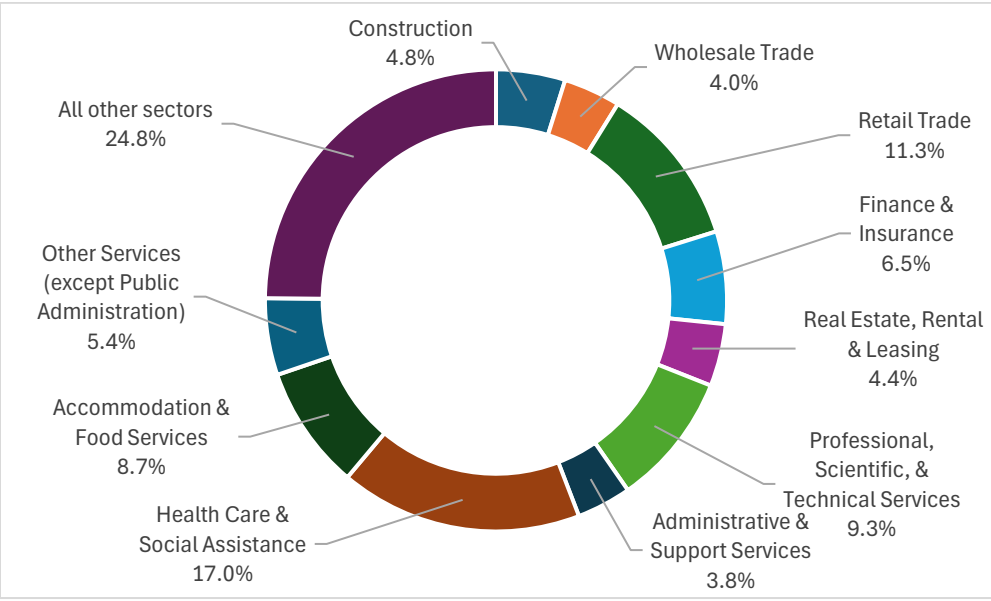

FIGURE 5-4 TOTAL EMPLOYMENT BY NAICS 2-DIGIT SECTOR, HILLSBOROUGH COUNTY, 2025

5.4 Industry Concentration: Location Quotient Analysis

To benchmark the study area's employment mix against the county, the analysis employs the location quotient (LQ), a standard measure of regional industry specialization. The LQ for sector i in area j is defined as:

$$LQ_{ij} = (E_{ij} / E_j) \div (E_i,c / Ec)$$

where E_{ij} is employment in sector i in the study area, E_j is total study-area employment, E_i,c is county employment in sector i, and Ec is total county employment. An LQ above 1.0 indicates that the sector accounts for a disproportionately large share of employment in the study area relative to the county.

As an illustration, professional and technical services account for 14.5 percent of study-area employment but only 9.3 percent of county employment, yielding an LQ of approximately 1.55. In practical terms, this means that businesses in this sector near the expressway employ 55 percent more workers relative to their county-level presence than one would expect if employment were distributed uniformly.

Figure 5-5 presents LQs for all two-digit NAICS sectors. Sectors with an LQ above 1.0 are more concentrated in the study area than in the county at large. The analysis identifies notable over-representation in manufacturing, management, professional services, information, and utilities, sectors that benefit significantly from accessible transportation links.

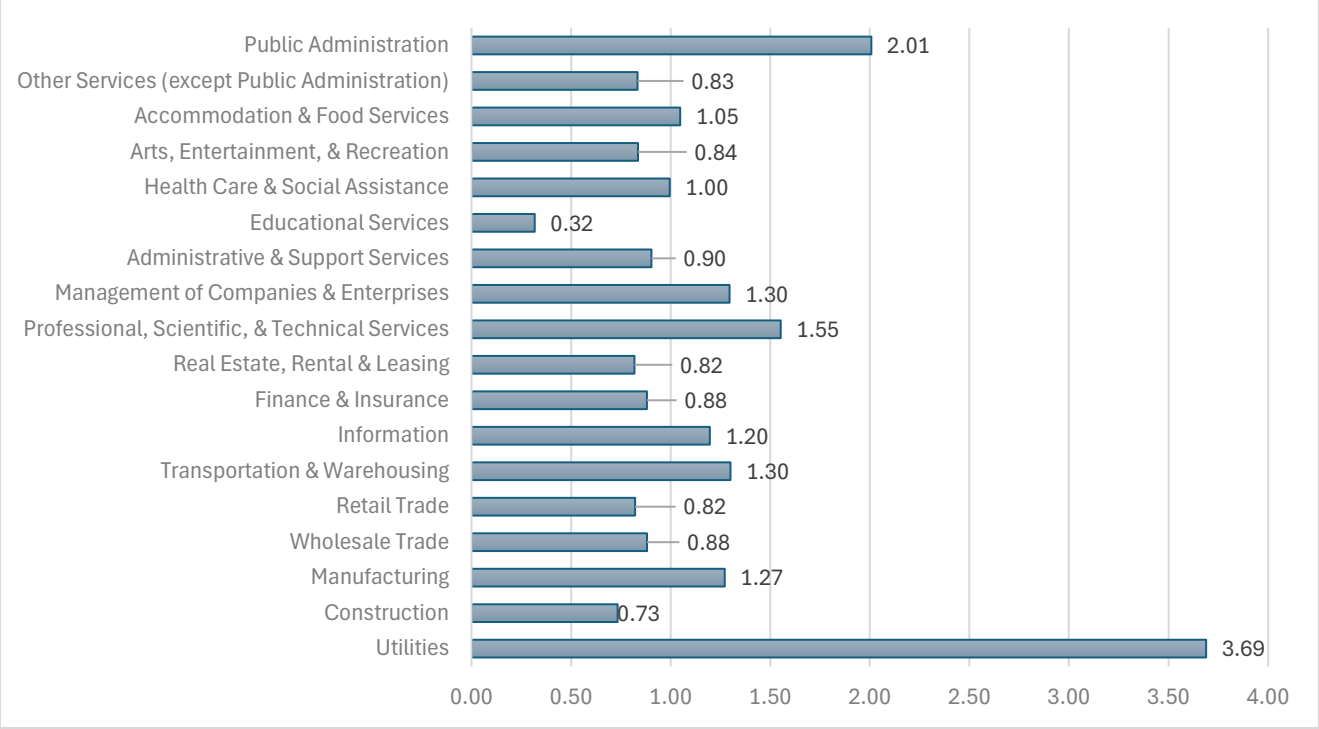

FIGURE 5-5 LOCATION QUOTIENTS BY NAICS 2-DIGIT SECTOR, SELMON STUDY AREA RELATIVE TO HILLSBOROUGH COUNTY, 2025

5.5 Historical Trends in Industry Specialization

Understanding how business composition has evolved over time requires moving beyond the current snapshot. This section disaggregates industry activity to the three-digit NAICS level, a finer lens that reveals sector-specific patterns of growth, contraction, and clustering that are obscured at the broader two-digit level.

Two complementary metrics frame the historical analysis:

- The location quotient (LQ), introduced in Section 2, measures the geographic specialization of each sector relative to the county.
- The Herfindahl-Hirschman Index (HHI) measures market concentration, the degree to which a sector's employment is dominated by a small number of firms. The HHI ranges from 0 (perfectly competitive) to 10,000 (monopoly); markets with an HHI above 2,500 are considered highly concentrated.

Together, these measures help distinguish sectors that are merely large from those that are both geographically specialized and structurally concentrated, the hallmarks of an emerging or anchored industrial cluster. Table 5-1 presents the top ten industry sectors ranked by these criteria.

TABLE 5-1 TOP 10 INDUSTRY SECTORS BY NAICS3-DIGIT SECTOR, SELMON STUDY AREA

Industry	Establishments	Sales ($,000)	Employment	Rank	Market Type*	LQ 2025	HHI 2025	LQ 2006	HHI 2006
Petroleum and Coal Products Manufacturing	6	65,904	312	1	Anchor	4	4,318	0.21	5,000
Wood Product Manufacturing	7	15,018	1,445	2	Anchor	3.34	5,703	0.24	1,750
Hospitals	46	126,618	11,159	3	Cluster	1.35	1,402	0.96	6,618
Nonstore Retailers	49	2,806	138	4	Anchor	2.53	2,276	1.44	2,389
Credit Intermediation and Related Activities	450	619,674	5,480	5	Cluster	1.55	231	0.58	92
Chemical Manufacturing	18	409,466	623	6	Anchor	2.41	1,805	1.15	1,958
Beverage and Tobacco Product Manufacturing	21	294,651	647	7	Cluster	1.04	1,270	1.21	4,293
Electrical Equipment, Appliance, & Component Manufacturing	10	37,222	162	8	Anchor	1.42	2,281	0.59	4,412
Accommodation	83	345,593	3,647	9	Cluster	1.56	986	1.25	1,741
Data Processing, Hosting, and Related Services	26	53,613	541	10	Cluster	1.42	723	0.69	1,001
Support Activities for Transportation	46	111,674	645	11	Diffuse	0.9	1,090	0.22	1,594

Industry	Establishments	Sales ($,000)	Employment	Rank	Market Type*	LQ 2025	HHI 2025	LQ 2006	HHI 2006
Professional, Scientific, and Technical Services	2,442	2,996,657	24,527	12	Cluster	1.6	43	1.57	42
Broadcasting (except Internet)	27	215,876	1,668	13	Cluster	2.18	1,139	2.53	1,109
Printing and Related Support Activities	39	165,291	677	14	Anchor	1.75	1,806	1.69	1,597
Publishing Industries (except Internet)	77	204,625	2,284	15	Cluster	1.17	309	2.86	4,701
Performing Arts, Spectator Sports, and Related Industries	86	177,410	1,393	16	Anchor	1.11	1,665	0.54	1,640
Management of Companies and Enterprises	103	359,922	711	17	Cluster	1.28	111	2.78	6,105
Clothing and Clothing Accessories Stores	166	195,288	1,352	18	Cluster	1.16	198	1.01	206
Ambulatory Health Care Services	3,640	1,792,495	13,808	19	Diffuse	0.89	72	1.08	2,807
Personal and Laundry Services	479	185,890	3,083	20	Cluster	1.04	179	0.77	143

**Diffuse: Fragmented (low LQ/low HHI); Cluster (high LQ/low HHI); Anchor (high LQ/high HHI); Concentrated (low LQ/high HHI). Source: CUTR modeling. See Appendix C.*

5.6 Spatial Clustering by Industry Sector

Aggregate metrics tell part of the story, but they cannot reveal where within the corridor businesses are concentrating, or how those spatial patterns have shifted over time. This section uses kernel density estimation (KDE) to visualize and compare the geographic distribution of the study area's top five industry sectors between 2006 and 2025. KDE generates a smooth density surface from point-level business location data, making it straightforward to identify clusters, track their movement, and detect emerging concentrations near specific infrastructure assets such as expressway access ramps.

The five sectors examined below were selected based on their combined establishment growth, employment growth, and location quotient scores over the study period.

Beverage and Tobacco Product Manufacturing (NAICS 312)

This sector encompasses establishments producing soft drinks, bottled water, beer, wine, distilled spirits, and tobacco products, from large-scale processors to specialty and craft producers. Between 2006 and 2025, the number of establishments in the study area grew from 5 to 21, while employment increased from 271 to 647 workers, reflecting the broader craft beverage boom that reshaped this sector nationally during this period. Figure 5-6

shows how this growth translated spatially, with new clusters emerging near expressway access points.

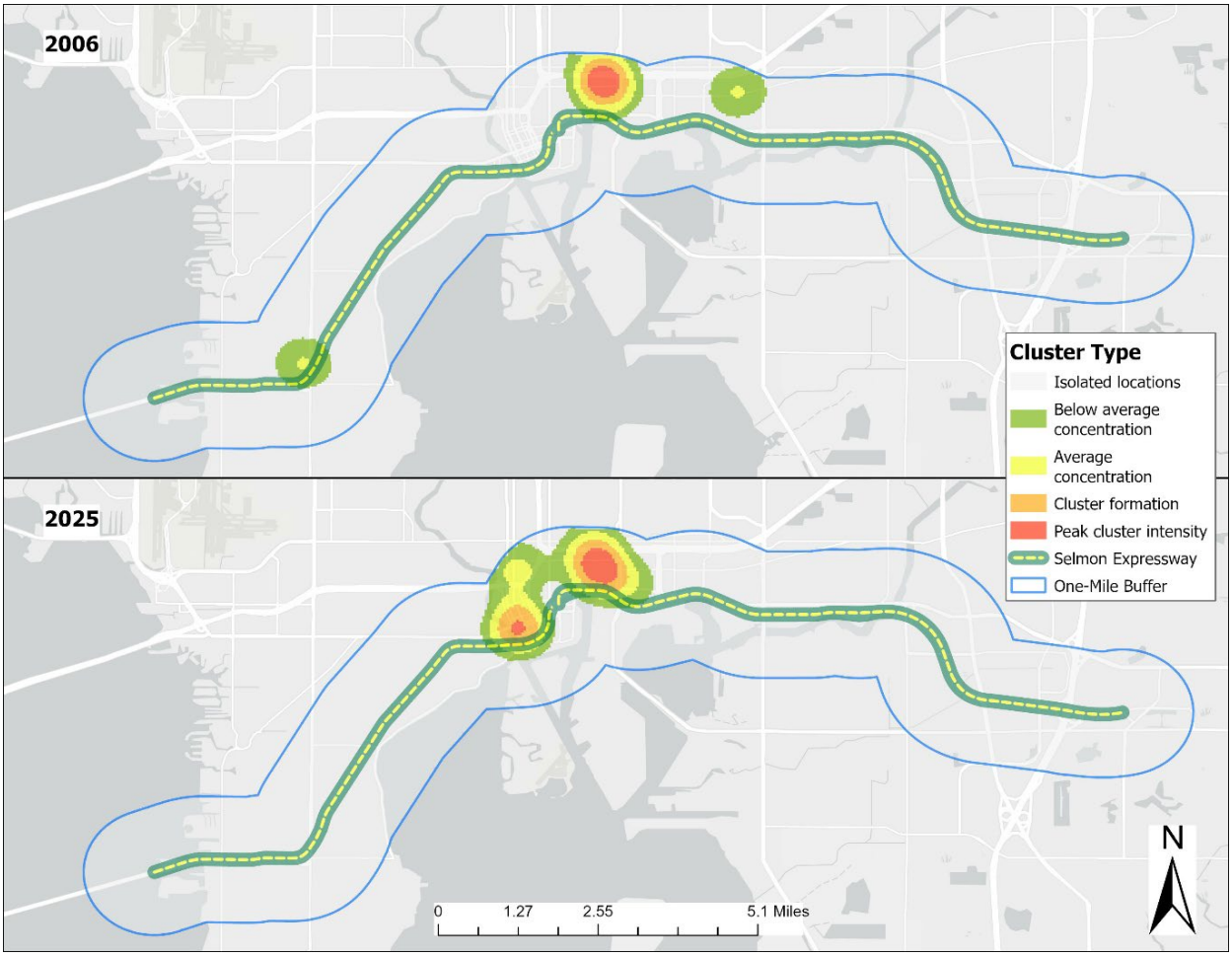

FIGURE 5-6 NORMALIZED KERNEL DENSITY SURFACES FOR NAICS 312 ESTABLISHMENTS WITHIN THE SELMON STUDY AREA, 2006 (TOP) AND 2025 (BOTTOM)

Wood Product Manufacturing (NAICS 321)

This sector covers establishments manufacturing lumber, plywood, veneer, engineered wood, and related structural and non-structural wood materials. The sector began in 2006 as a nascent cluster and had evolved by 2025 into an anchor industry within the corridor. The opening of IKEA in 2008 served as a significant catalyst, triggering agglomeration effects that attracted complementary suppliers and retailers to the area. By 2025, the density map reveals a well-defined cluster of wood-product businesses concentrated near expressway entry and exit ramps in proximity to US 301 (Figure 5-7).

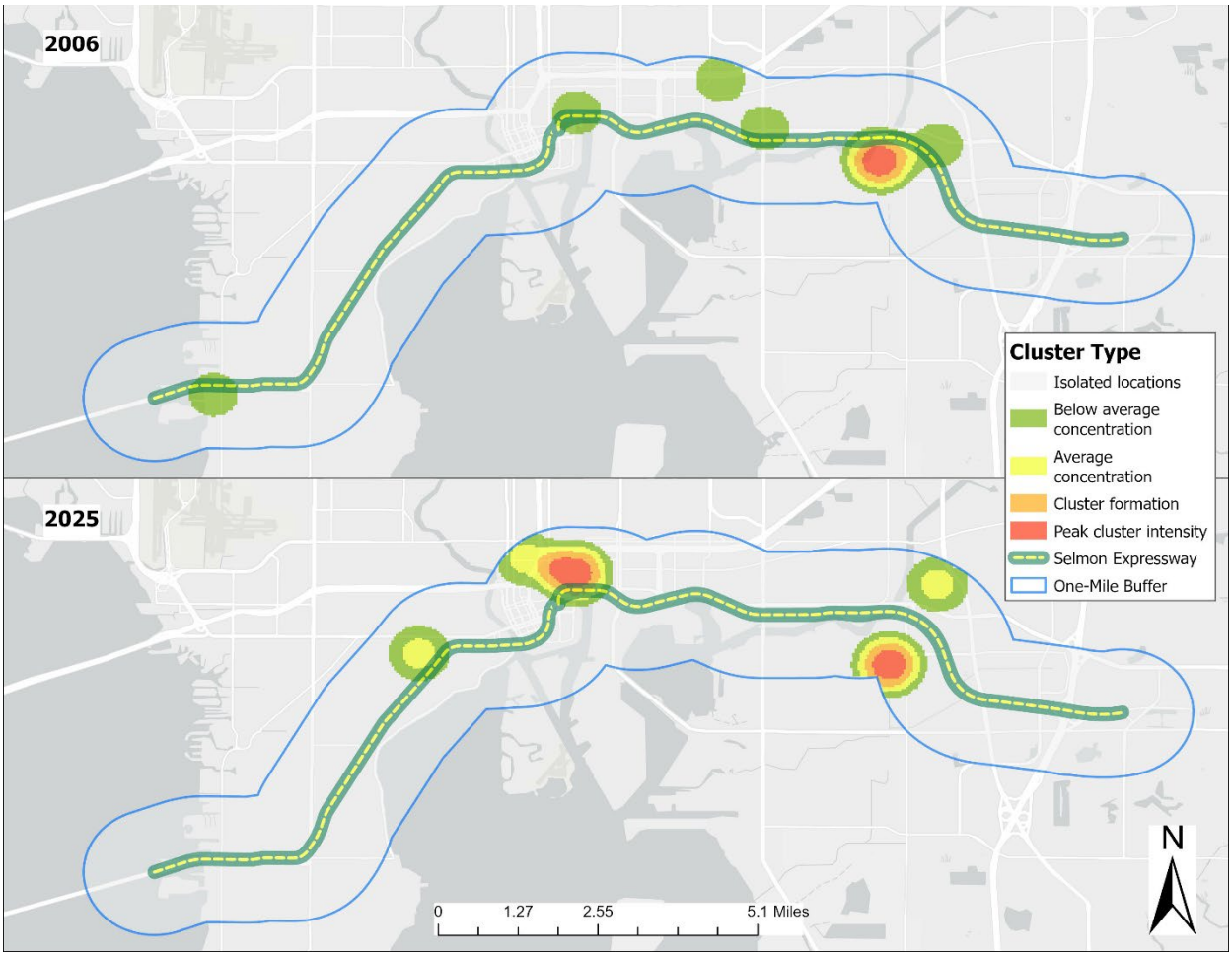

FIGURE 5-7 NORMALIZED KERNEL DENSITY SURFACES FOR NAICS 321 ESTABLISHMENTS WITHIN THE SELMON STUDY AREA, 2006 (TOP) AND 2025 (BOTTOM)

Electrical Equipment, Appliance, and Component Manufacturing (NAICS 335)

This sector includes manufacturers of electric motors, generators, wiring devices, lighting equipment, batteries, and household appliances. Figure 5-8 illustrates how the spatial distribution of this sector evolved across the study period. The map shows how in 2025 peak cluster intensity is reached in locations that are closely located to the Selmon Expressway eastern sections.

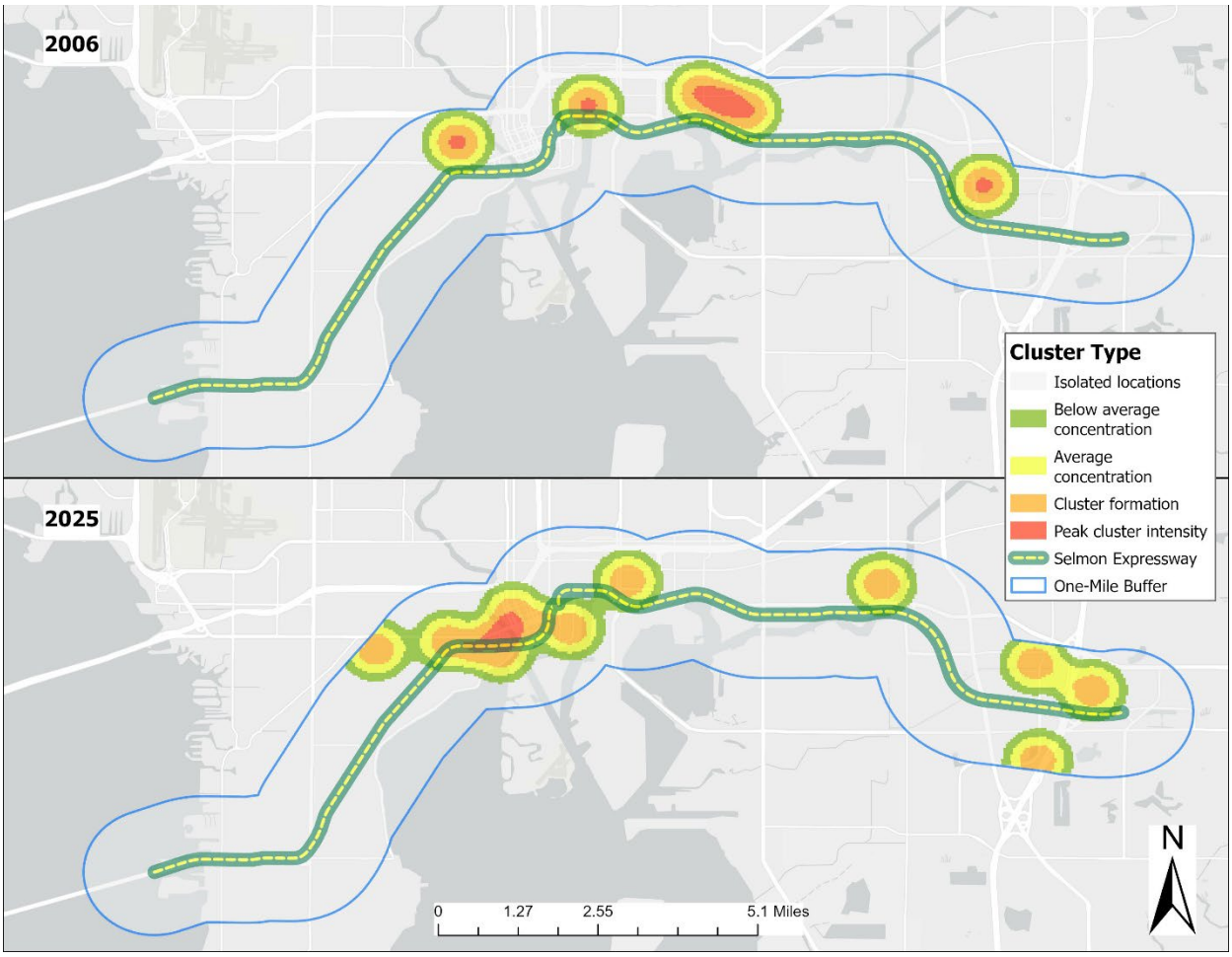

FIGURE 5-8 NORMALIZED KERNEL DENSITY SURFACES FOR NAICS 335 ESTABLISHMENTS WITHIN THE SELMON STUDY AREA, 2006 (TOP) AND 2025 (BOTTOM)

Nonstore Retailers (NAICS 454)

Nonstore retailers sell merchandise through electronic shopping, mail-order catalogs, vending machines, and direct-selling channels rather than from traditional storefronts. While location considerations for this sector may seem less tied to physical transportation access, proximity to a dense residential and commercial catchment area, precisely the kind the expressway has fostered, supports last-mile delivery operations and regional distribution. Figure 5-9 documents the spatial evolution of this sector.

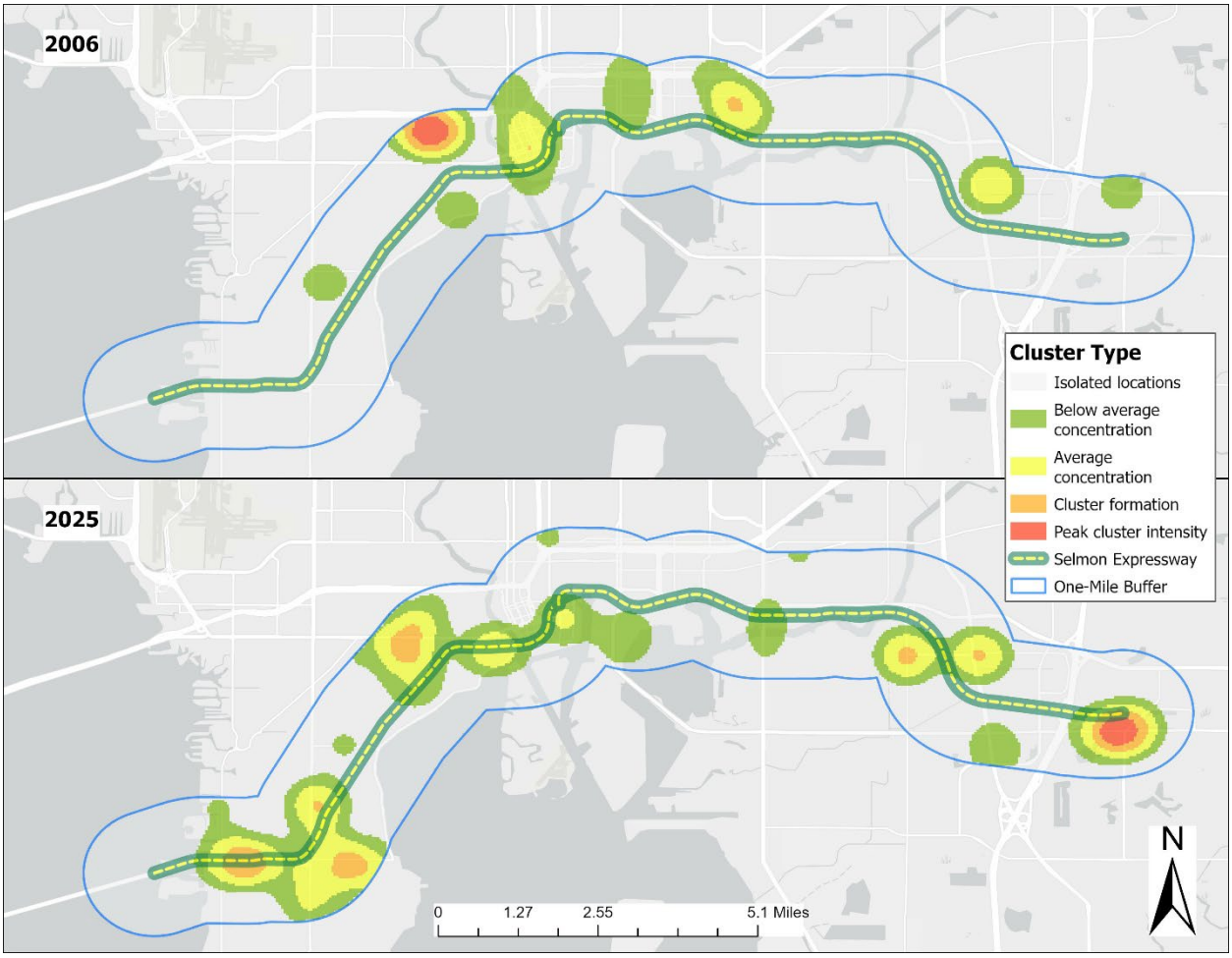

FIGURE 5-9 NORMALIZED KERNEL DENSITY SURFACES FOR NAICS 454 ESTABLISHMENTS WITHIN THE SELMON STUDY AREA, 2006 (TOP) AND 2025 (BOTTOM)

Support Activities for Transportation (NAICS 488)

This sector encompasses establishments providing cargo handling, warehousing, freight arrangement, navigation services, and other logistical support for air, rail, water, and ground transport. As detailed in Chapter 3, THEA's infrastructure investments have meaningfully expanded accessibility for commuters and freight operators alike. That expanded accessibility has made the corridor increasingly attractive to logistics-oriented businesses.

With annualized establishment growth of 3.5 percent between 2006 and 2025, the sector now includes 46 businesses near the Selmon Expressway employing more than 645 workers. As shown in Figure 5-10, clustering reached its highest density around the Tampa CBD and Ybor City, while growing concentrations have also emerged near expressway access ramps and US 301, consistent with businesses seeking locations that optimize freight movement in and out of the urban core.

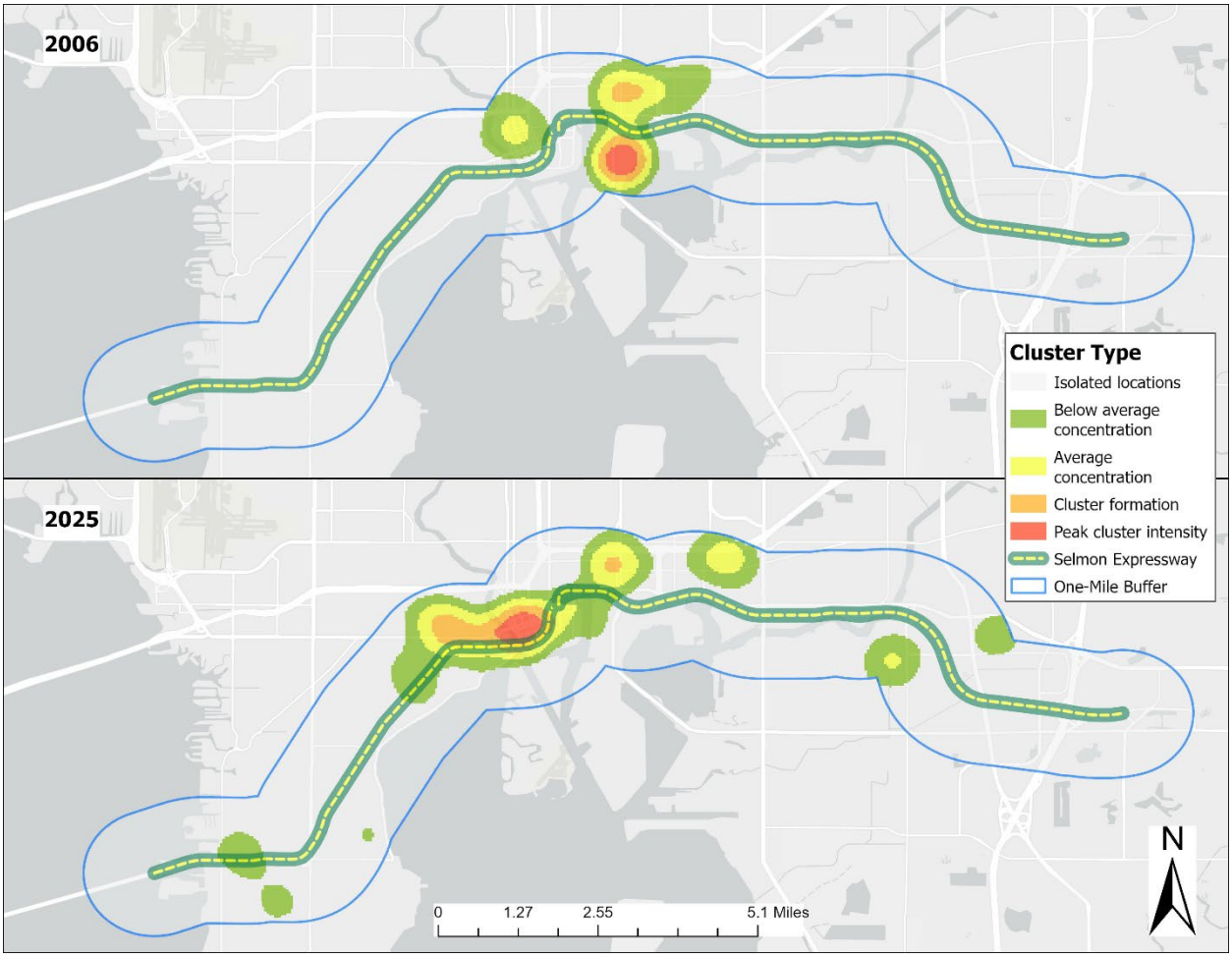

FIGURE 5-10 NORMALIZED KERNEL DENSITY SURFACES FOR NAICS 488 ESTABLISHMENTS WITHIN THE SELMON STUDY AREA, 2006 (TOP) AND 2025 (BOTTOM)

Taken together, the spatial evidence across these five sectors shows a consistent pattern: business activity has not merely grown in the corridor, it has reorganized itself around the expressway's access points. This geographic reorientation is precisely what accessibility-driven agglomeration theory predicts. The next section tests whether this pattern holds up to formal statistical scrutiny.

5.7 Estimating the Selmon Expressway's Impact on Establishment and Employment Growth

Analytical Approach

The visual and descriptive evidence presented thus far is suggestive, but it cannot rule out the possibility that the corridor's business growth simply reflects county-wide trends. To isolate the expressway's causal contribution, the analysis employs a difference-in-differences (DiD) estimation framework. This approach compares changes in business activity within the Selmon corridor to changes in a carefully selected control group of comparable areas, specifically, establishments located within one mile of other toll roads and interstates in Hillsborough County. By observing how the two groups diverged following

the 2006 infrastructure improvements, the DiD estimator identifies the portion of growth attributable to the Selmon Expressway rather than to general economic conditions. The full estimation methodology is described in Appendix C. Figure 5-11 maps the study area and control areas, identifying the business establishments included in the statistical sample

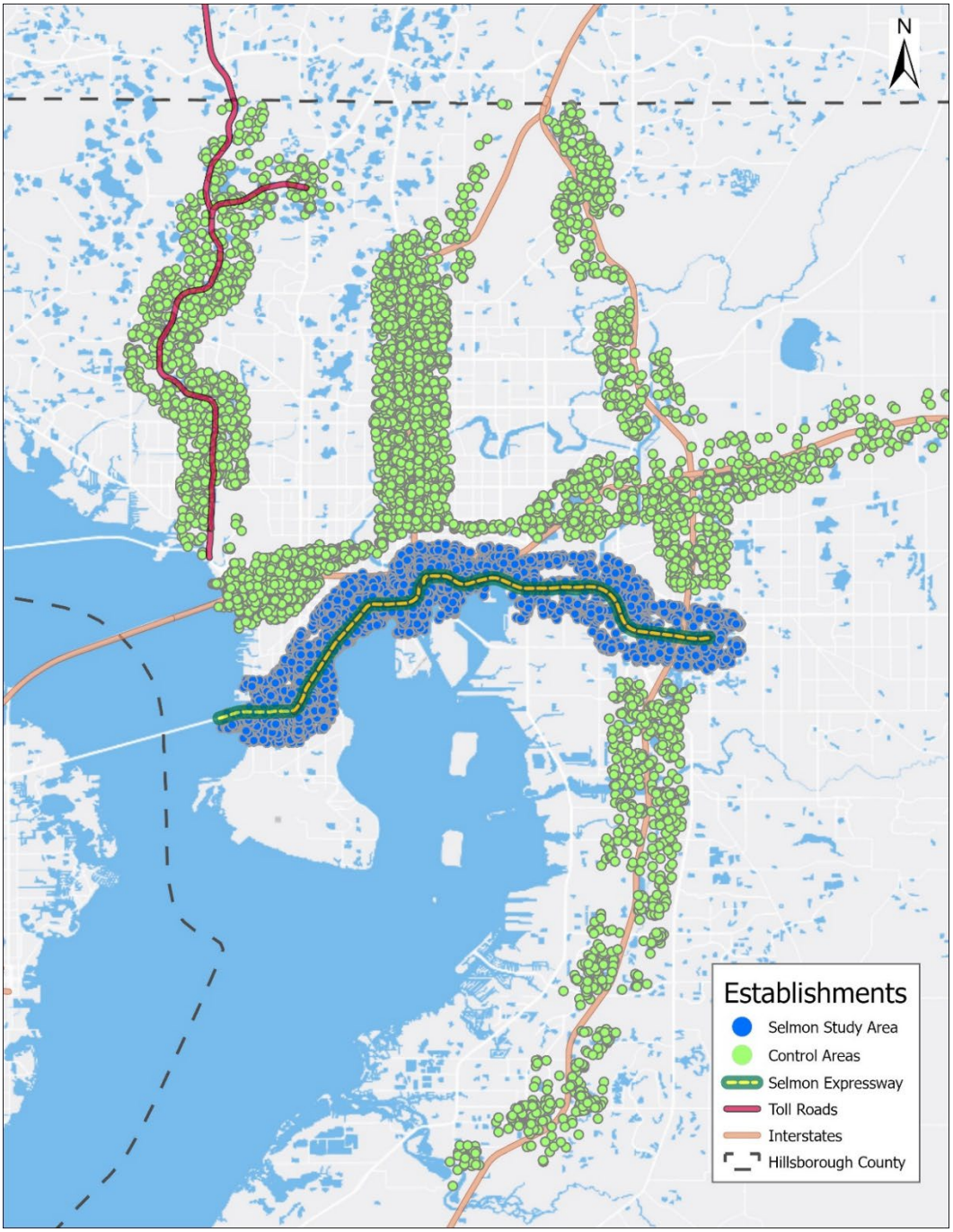

FIGURE 5-11 STUDY AREA (SELMON CORRIDOR, ONE-MILE BUFFER) AND CONTROL AREAS (OTHER TOLL ROADS AND INTERSTATES IN HILLSBOROUGH COUNTY) USED IN THE DID ESTIMATION

Sample Characteristics

Table 5-2 presents descriptive statistics for the study area and comparison groups as of 2025. The number of establishments in the Selmon corridor is comparable to the control areas, while average firm size and total employment are somewhat larger in the control areas, reflecting the presence of industrial and logistics facilities along other major highway corridors.

TABLE 5-2 SAMPLE DESCRIPTIVE STATISTICS FOR THE STUDY AREA, 2025

	Selmon Study Area	Control Areas	Rest of County
Establishments	16,739	20,630	48,634
Total employment	169,714	244,372	413,938
Avg. sales per employee ($, thousands)	130	160	136
Average firm size (employees)	10	12	9

Source: CUTR analysis of Infogroup data.

Results

Table 5-3 reports the DiD estimates of the Selmon Expressway's impact on establishment and employment growth at selected years throughout the study period. The estimates represent the percentage-point growth premium experienced by businesses in the corridor relative to the control areas in each year.

TABLE 5-3 ESTIMATED SELMON EXPRESSWAY IMPACT ON ESTABLISHMENT AND EMPLOYMENT GROWTH RELATIVE TO CONTROL AREAS

Year	Establishment Growth Premium	Employment Growth Premium
2010	n.s.†	8.1%
2014	5.6%	6.8%
2016	5.8%	6.9%
2019	3.3%	5.7%
2021	6.6%	5.5%
2023	7.6%	5.4%
2025	7.1%	6.0%
2023–2025 (Post-Selmon West Extension)	7.3%	5.7%

† n.s. = not statistically significant.

The establishment growth premium was not statistically significant in 2010, suggesting that the initial years following the 2006 opening were characterized by residential and land-use adjustment rather than immediate business formation. By 2014, a statistically significant premium of 5.6 percent had emerged, and it has remained positive and significant through 2025. The employment effects were significant from 2010 onward, with firms in the corridor

growing their workforces faster than comparable employers elsewhere in the county from the outset.

A notable observation is the 2023–2025 period, which corresponds to the post-construction phase of the Selmon West Extension. Rather than tapering off, as might be expected as the original 2006 improvements were fully absorbed, both establishment and employment growth premiums remained elevated, at 7.3 and 5.7 percent, respectively. This suggests that subsequent capacity additions continue to unlock latent demand for corridor locations, reinforcing the expressway's role as a sustained driver of economic activity.

5.8 Summary of Findings

This analysis provides consistent evidence that the Selmon Expressway has generated measurable and durable economic benefits for the communities it serves. Three complementary lines of evidence support this conclusion.

First, the corridor hosts a distinctive business profile. With nearly 16,740 establishments and 169,700 jobs, the one-mile study area accounts for almost one in five Hillsborough County businesses. The disproportionate concentration of key manufacturing and technical industries, including professional and technical services, a sector with above-average wages and productivity, points to the expressway's role in attracting high-value economic activity.

Second, spatial analysis reveals that business clustering has intensified and reorganized around expressway access points over the 2006–2025 period. Across the five sectors examined in detail, beverage and tobacco product manufacturing, wood product manufacturing, electrical equipment manufacturing, nonstore retail, and support activities for transportation, density maps show the emergence or reinforcement of clusters in proximity to on- and off-ramps. This pattern is consistent with firms actively valuing expressway access in their location decisions.

Third, and most rigorously, the econometric DiD analysis confirms that corridor businesses outpaced comparable firms elsewhere in the county by statistically significant margins. The estimated effects range from 3.3 to 7.6 percentage points for establishment growth and 5.4 to 8.1 percentage points for employment growth across the years examined. The persistence of these effects through 2025, including a renewed premium attributable to the Selmon West Extension, indicates that the economic returns to transportation investment in this corridor are ongoing rather than one-time.

In sum, the Selmon Expressway has functioned as an economic catalyst for Hillsborough County, attracting businesses, deepening industry clusters, and sustaining employment growth in a corridor that has become a significant part of the region's economic geography. These findings underscore the strategic value of continued investment in the expressway system and suggest that future capacity improvements are likely to generate further economic returns of a similar magnitude.

6 Impact on Property Values

6.1 Summary

This chapter evaluates the land use and property value impacts associated with THEA capital investments along the Selmon Expressway corridor, spanning from Gandy Boulevard eastward to Brandon.

The analysis draws on parcel-level data from the Hillsborough County Property Appraiser covering 45,451 parcels within one mile of the Selmon Expressway. A hedonic regression model, a standard econometric approach for isolating the contribution of specific factors to property prices, was used to compare sale prices in the study area against a control group of properties near other limited-access corridors countywide.

Key Findings

Transportation improvements positively and measurably influenced property values throughout the study period (2006–2025). The estimated price premiums for properties near the Selmon Expressway, relative to comparable properties elsewhere in Hillsborough County, are summarized below:

TABLE 6-1 SUMMARY OF IMPACTS ON PROPERTY VALUES

Property Type	Implied Premium per Property	Implied Premium per Sq. Ft.
Single-Family Residential	$60,736 (12.1%)	$35.10 (11.9%)
Condominium	$21,516 (5.7%)	$26.20 (7.4%)
Commercial (Occupied)	$92,125 (10.7%)	$56.20 (19.5%)

Source: CUTR analysis.

These premiums reflect the 2022–2025 post-COVID equilibrium period and represent a conservative estimate, as the analysis covers only a subset of property types.

The fiscal impact is equally significant. Enhanced property values within the study area generated an estimated average annual increase in property tax revenues of approximately $25.4 million, with $16.9 million attributable to single-family properties, $3.8 million to condominiums, and $4.7 million to commercial properties.

These findings demonstrate that THEA's investments in the Selmon Expressway corridor—including the Reversible Express Lanes (REL), the All-Electronic Tolling (AET) conversion, the I-4 Connector, and the Selmon West Extension—have delivered measurable economic value to the surrounding community and the broader tax base, well beyond their direct mobility benefits.

6.2 Introduction

Since its establishment, THEA has played a central role in improving regional mobility and access for commuters and businesses across Hillsborough County. Over the past four decades, the agency has pursued a strategic sequence of capital investments designed to respond to evolving mobility demands, expanding the network, increasing capacity, and improving connectivity between western and eastern parts of the county.

As documented in Chapter 2, these investments span several major milestones: the 1986 extension of the Crosstown Expressway to provide a direct link between South Tampa and Interstate 75; the 1996 development of the Brandon feeder road network serving eastern Hillsborough County; the 2006 opening of the Reversible Express Lanes (REL) along with corridor enhancements in the Channelside District; and most recently, the 2021 opening of the Selmon West Extension, which improved access for residents and businesses along Gandy Boulevard and the surrounding neighborhoods. Taken together, these projects have gradually reshaped travel patterns and economic activity throughout the corridor.

The period from 2006 through 2025 saw substantial residential and commercial development in areas adjacent to the Selmon Expressway system, stretching from Gandy Boulevard eastward to Brandon. While this growth coincides with broader regional expansion trends, the question of how much THEA's investments contributed to those outcomes, above and beyond what might have occurred anyway, warrants careful examination.

This chapter addresses that question directly. Its purpose is to evaluate the extent to which THEA's capital improvements contributed to observed development patterns in the study corridor. The analysis focuses specifically on changes in land use reasonably attributable to THEA investments, attempts to distinguish development that likely would not have occurred in the absence of those improvements, and quantifies the associated economic impacts.

6.3 Data Sources and Study Area

The analysis relies primarily on parcel-level data from the Hillsborough County Property Appraiser, which maintains current tax roll records and a comprehensive history of property sales transactions. These records include detailed attributes for each parcel, land area, building size, structural characteristics, assessor-estimated values, and recorded sale prices with dates. Each parcel is also assigned a land-use classification code, enabling consistent categorization across residential (single-family, condominium), commercial, industrial, governmental, and other uses.

Spatial data were obtained from the Property Appraiser's Geographic Information Systems (GIS) office, which provides parcel shapefiles for mapping and analysis [*25*]. These GIS datasets were supplemented with additional land-use shapefiles to enrich and contextualize the parcel database for empirical analysis.

The study area was defined by applying a one-mile buffer around the Selmon Expressway. Overlaying this boundary on the parcel data identified a total of 45,451 parcels in the 2025 tax roll, distributed across a range of property types as illustrated in Figure 6-1.

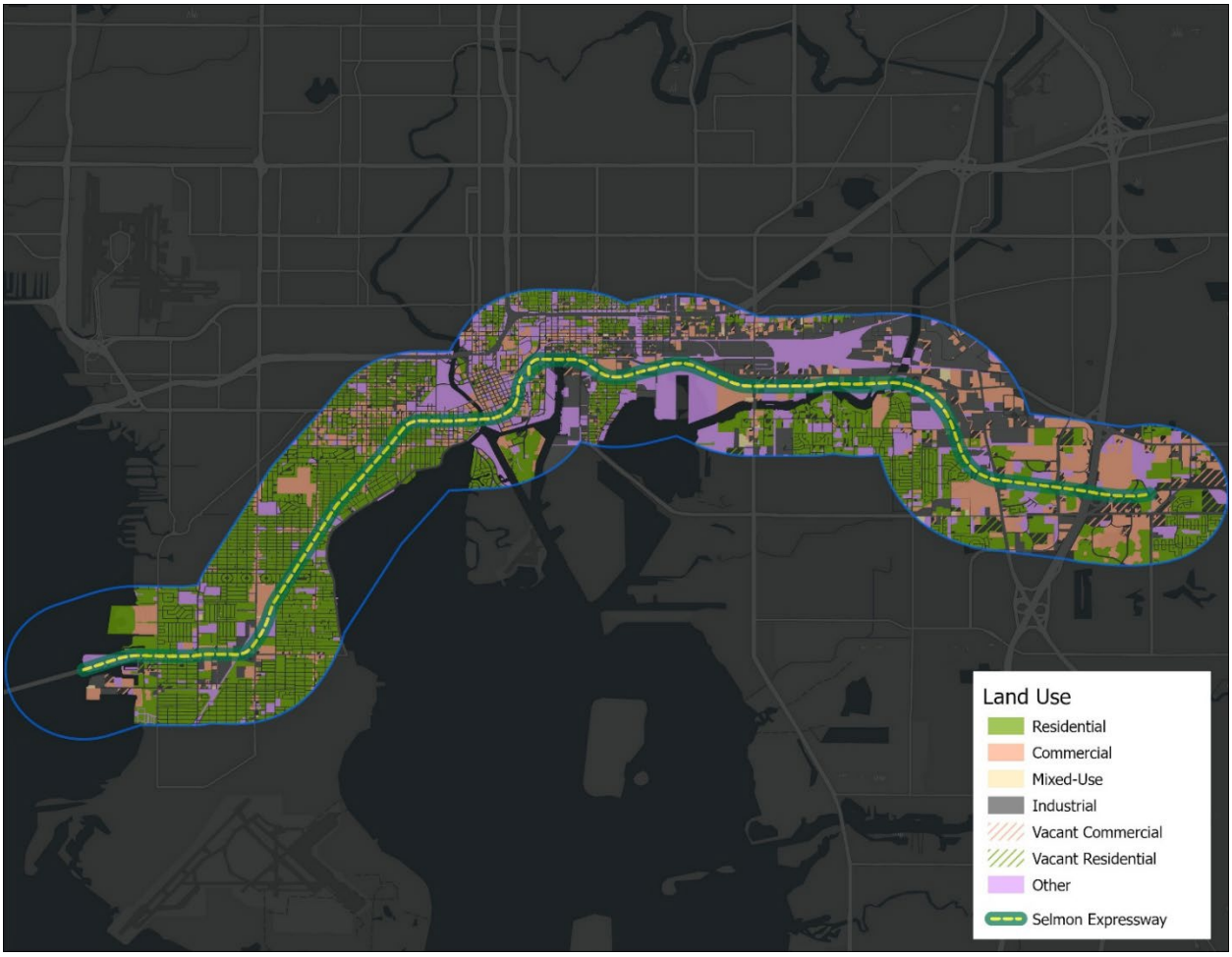

FIGURE 6-1 PARCELS BY LAND USE – SELMON EXPRESSWAY STUDY AREA

Figure 6-2 and Figure 6-3 compare the distribution of property types within the study area and across Hillsborough County. Residential parcels account for 84.6 percent of properties in the study area, modestly below the countywide share of 88.7 percent. The difference is largely explained by the study area's higher concentration of commercial (6.6 percent) and industrial (2.5 percent) uses, reflecting the presence of downtown Tampa's central business district (CBD) and adjacent industrial zones east of the CBD.

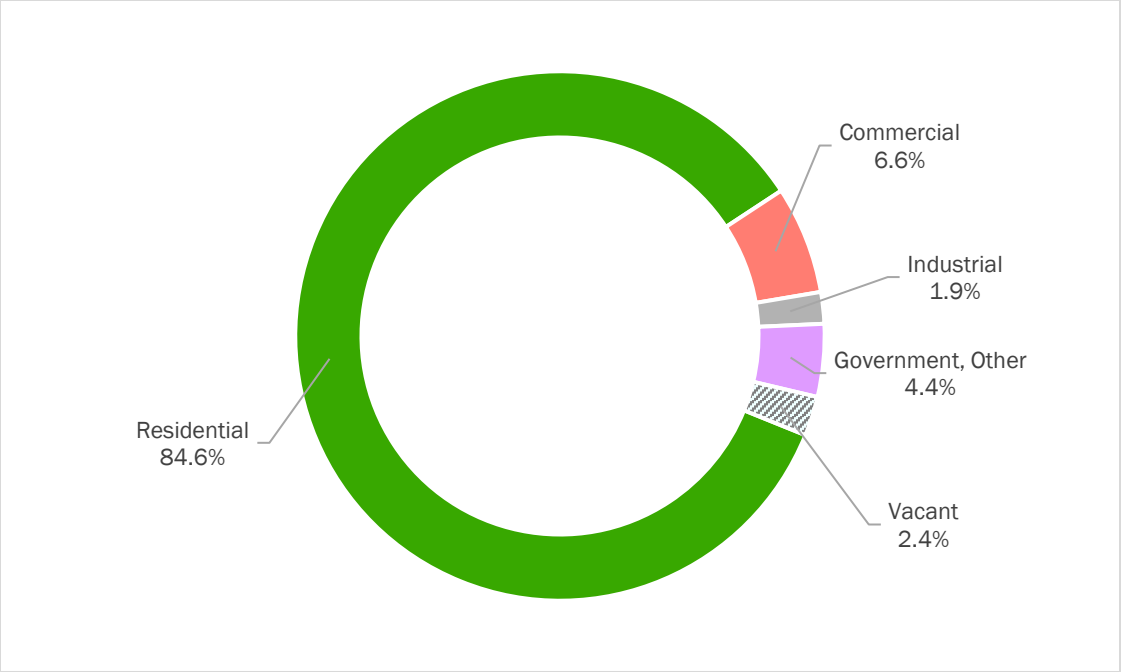

FIGURE 6-2 PARCEL DISTRIBUTION BY PROPERTY TYPE - SELMON EXPRESSWAY STUDY AREA

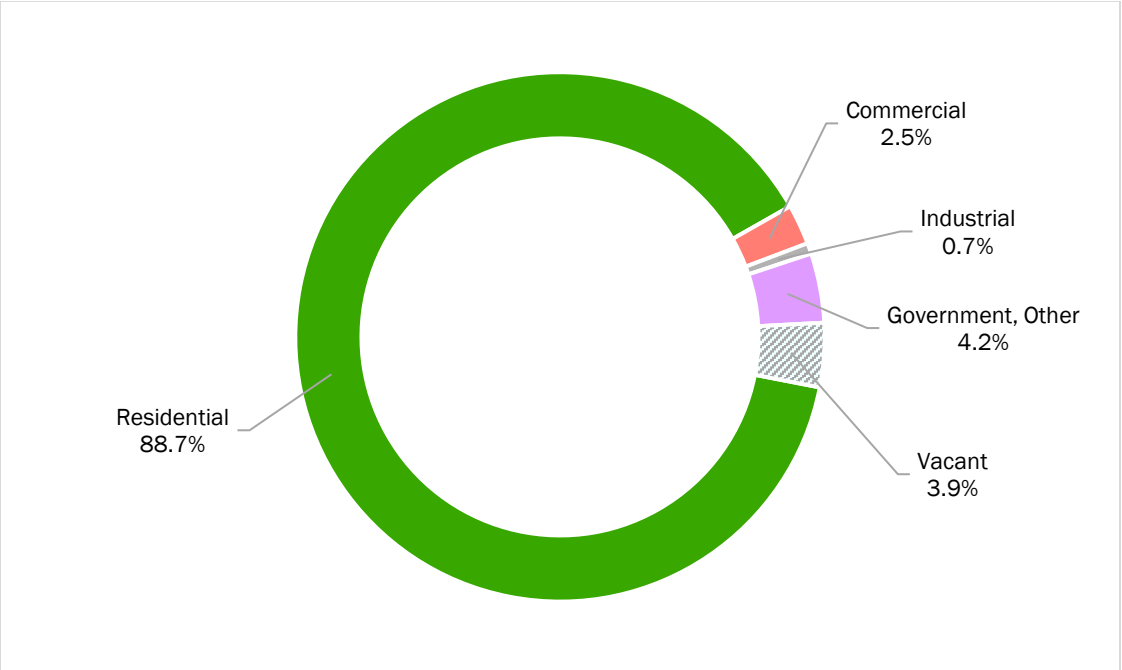

FIGURE 6-3 PARCEL DISTRIBUTION BY PROPERTY TYPE - HILLSBOROUGH COUNTY

Residential Properties

As of 2025, the study area contains approximately 39,195 residential parcels. Single-family residences represent the largest share at 63.0 percent of the total (Figure 6-4). Compared to the rest of the county (Figure 6-5), a notable characteristic of the study area is its disproportionately high share of condominium properties: 26.9 percent, compared with just

6.8 percent countywide. This concentration reflects the urbanized character of portions of the corridor, particularly near downtown Tampa.

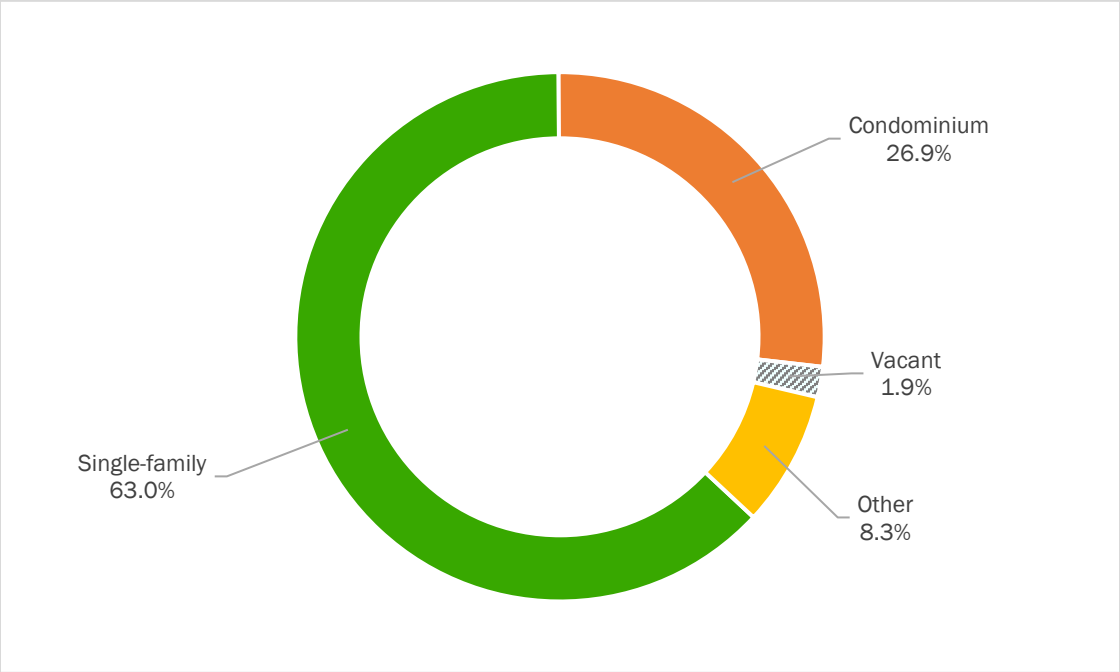

FIGURE 6-4 BREAKDOWN OF RESIDENTIAL PARCELS - SELMON EXPRESSWAY STUDY AREA

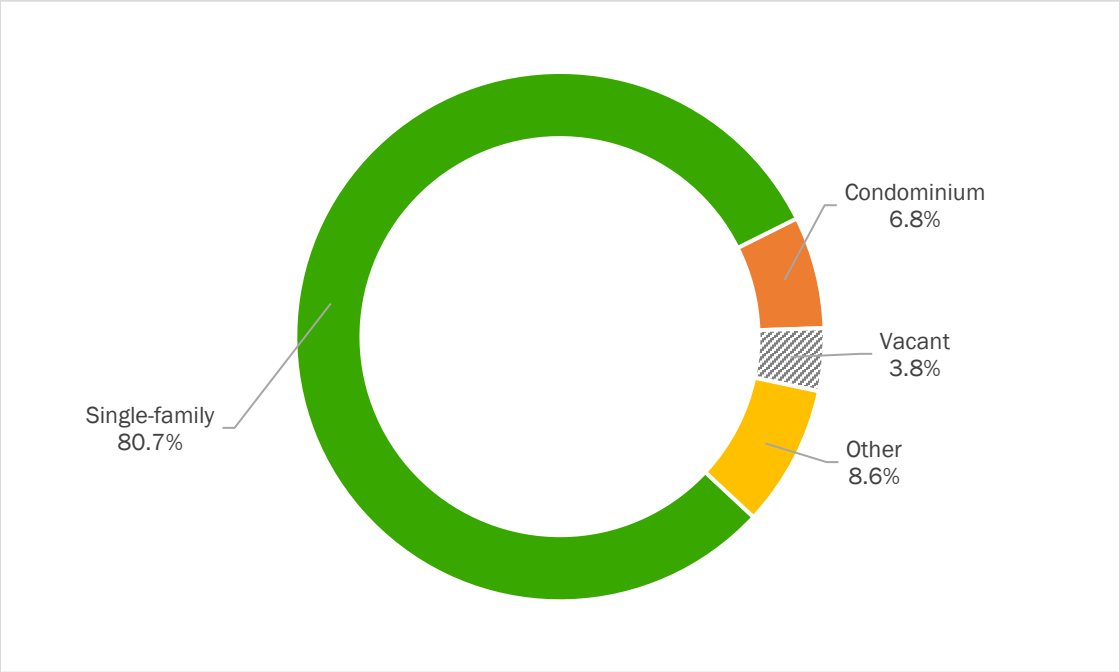

FIGURE 6-5 BREAKDOWN OF RESIDENTIAL PARCELS - HILLSBOROUGH COUNTY

Figure 6-6 and Figure 6-7 compare median sale prices for single-family and condominium properties within the study area against a control group consisting of properties located within one mile of comparable limited-access roadways elsewhere in the county (see Appendix D for the list of control corridors). Across both property types, study area properties consistently command higher sale prices than their counterparts in the control group.

Both areas experienced the general upward price trend that characterized the broader 2006–2025 housing market expansion, but with notable differences in timing and magnitude. Study area properties exhibited stronger price growth relative to the control group during the 2013–2019 period and during the immediate post-COVID recovery (2020–2021). The market-wide slowdown observed between 2024 and 2025 was distributed broadly across the county, affecting both the study area and the control group.

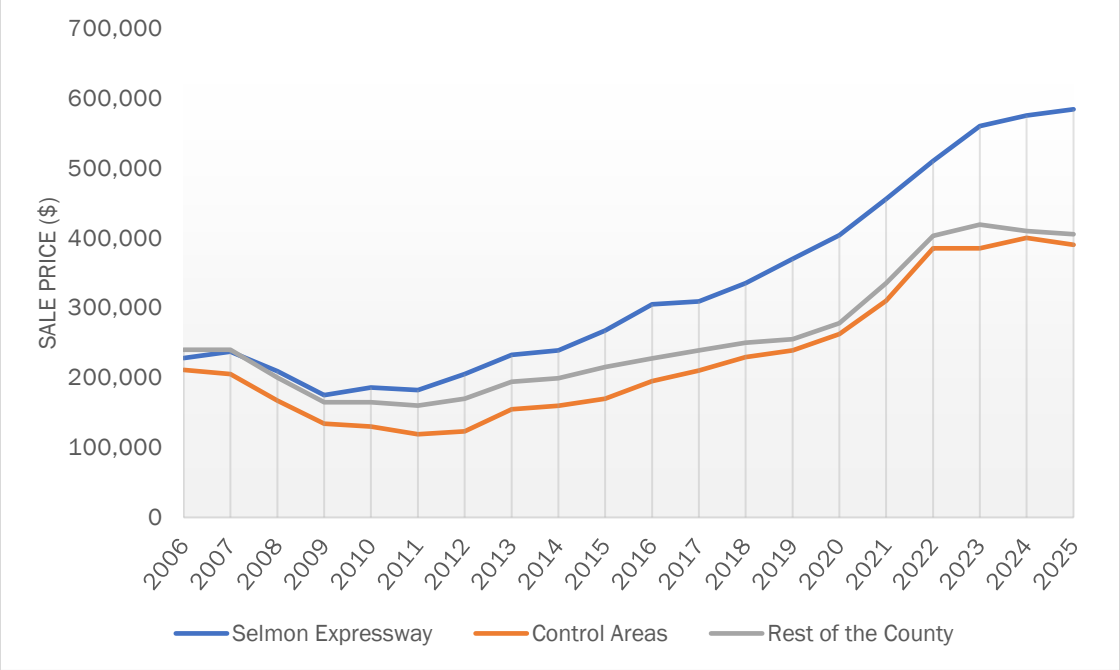

FIGURE 6-6 SINGLE-FAMILY PROPERTY SALES - 2005-2025

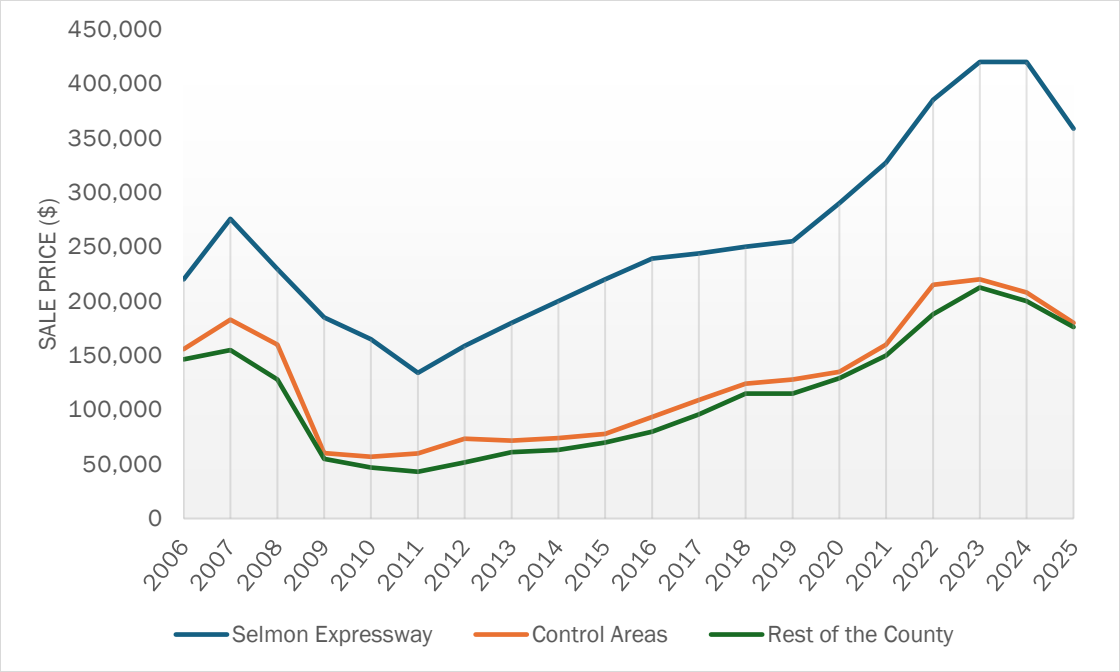

FIGURE 6-7 CONDOMINIUM PROPERTY SALES - 2005-2025

Commercial Properties

The study area contains 3,361 commercial parcels as of 2025, including both occupied and vacant properties. Office buildings and professional services account for the largest share of commercial uses at 32.0 percent, followed by shopping centers, stores, and supermarkets at 18.7 percent (Figure 6-8). Notably, the study area's vacant commercial parcel rate (10.9 percent) is lower than the countywide figure of 13.3 percent (Figure 6-9), suggesting relatively stronger demand for commercial space within the corridor.

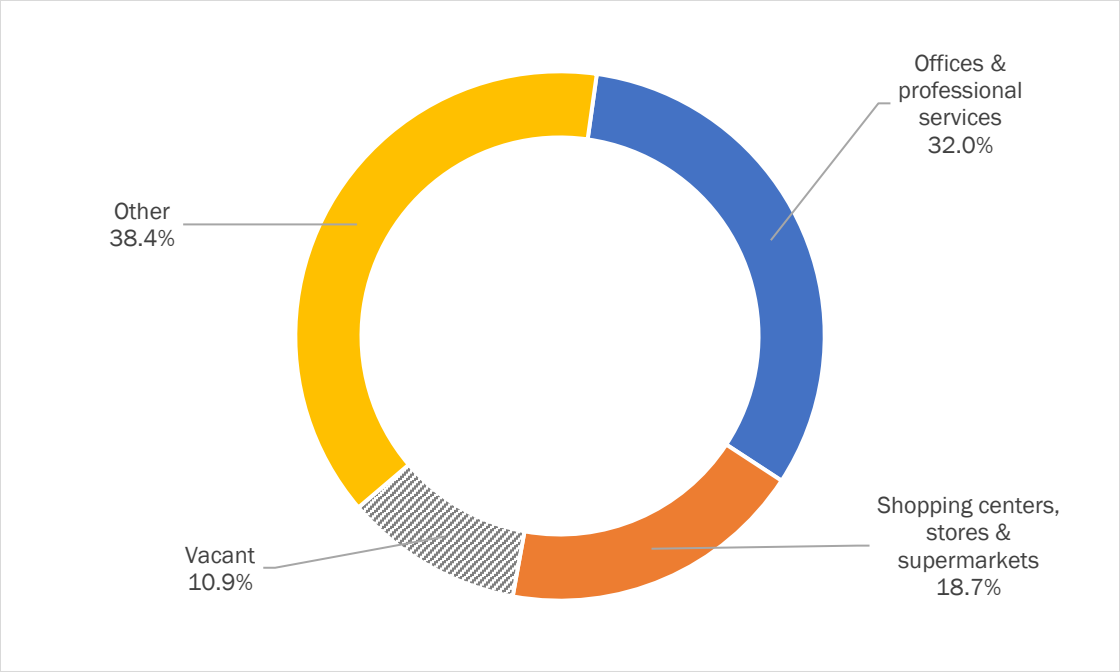

FIGURE 6-8 BREAKDOWN OF COMMERCIAL PARCELS - SELMON EXPRESSWAY STUDY AREA

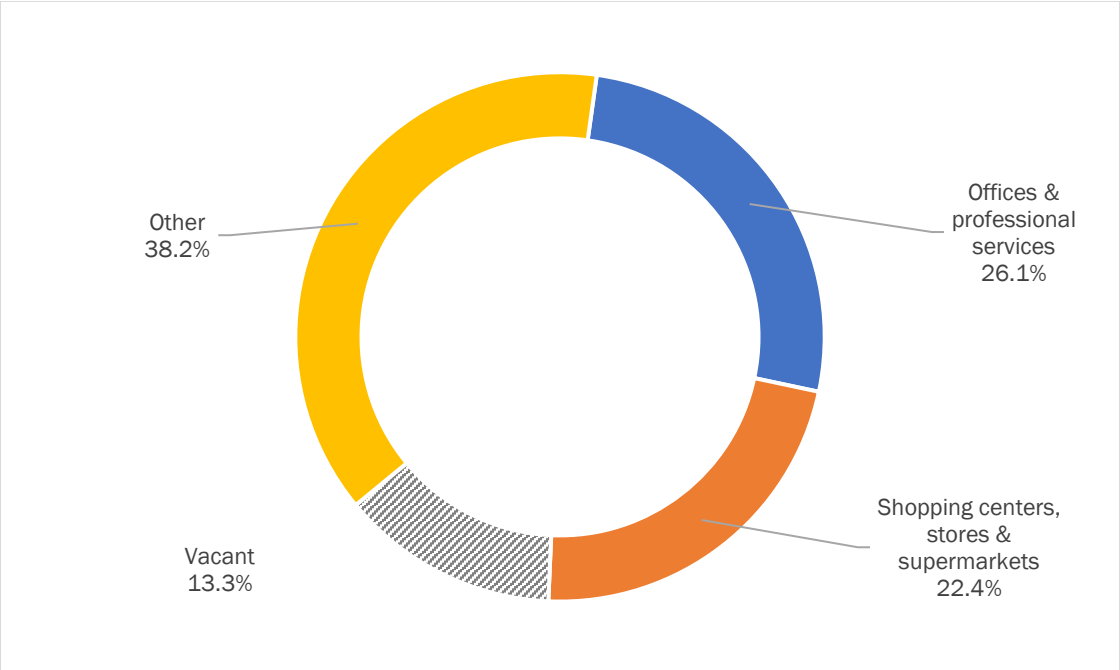

FIGURE 6-9 BREAKDOWN OF COMMERCIAL PARCELS - HILLSBOROUGH COUNTY

Figure 6-10 illustrates historical trends in average commercial property sale values from 2006 through 2025. The trajectory broadly mirrors that of residential properties, though year-to-year variation is more pronounced due to the smaller number of commercial

transactions relative to residential sales. On balance, the study area has experienced faster growth in commercial property values compared to the rest of the county.

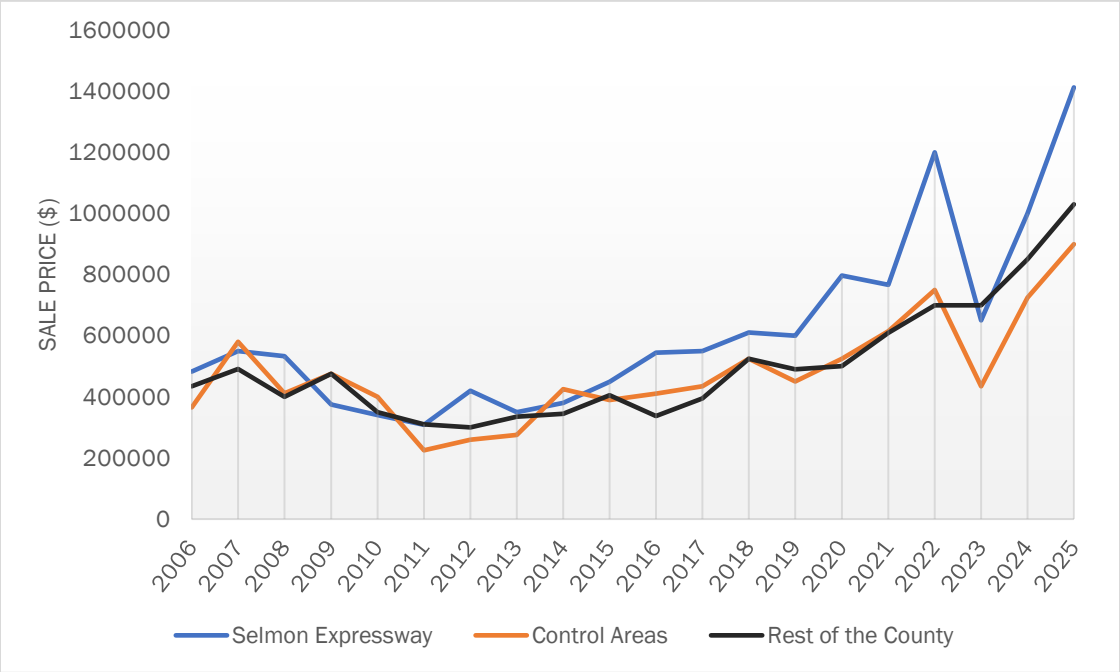

FIGURE 6-10 COMMERCIAL PROPERTY SALES - 2006-2025

6.4 Assessing the Impact of Accessibility Improvements

Descriptive comparisons of property values between the study area and the broader county are suggestive, but they do not, by themselves, establish a causal relationship between THEA's investments and property value growth. Changes in property values, both within the study area and countywide, reflect a mix of transportation improvements, broader economic cycles, and localized development activity. Disentangling these effects requires a more rigorous analytical approach.

To address this, the study employs a hedonic regression model, a well-established econometric method for estimating the contribution of specific attributes, structural, locational, and temporal, to observed property sale prices. The method was pioneered by Rosen [*26*] and has since become standard practice in transportation and real estate economics [*27; 28*]. Under this framework, the observed sale price of a property reflects the market's aggregated valuation of its individual characteristics, and statistical regression is used to isolate the marginal contribution of each factor.

The core analytical strategy compares price trends in the study area (properties within one mile of the Selmon Expressway) against a carefully matched control group (properties within one mile of comparable limited-access roadways). By controlling for property characteristics and broader market conditions, the model isolates the price effect attributable specifically to

proximity to the Selmon Expressway, and by extension, to THEA's accessibility improvements. A full description of the methodology is provided in Appendix D.

Estimation Results

The hedonic model was estimated separately for five property categories: single-family residential, condominium, vacant residential, occupied commercial, and vacant commercial. The analysis spans 2005 through 2025, with 2005—one year before the REL opening—serving as the benchmark. After removing records with incomplete data, the final dataset comprises 112,804 sales transactions across all property types.

The regression model accounts for a wide range of factors known to influence sale prices, including parcel size, heated living area, number of bedrooms and bathrooms, waterfront location, and proximity to amenities such as golf courses, parks, and schools. Conversely, it controls for characteristics that may depress values, including proximity to heavy industrial uses or phosphate mining sites.

Table 6-1 presents the estimated annual price premiums for properties near the Selmon Expressway relative to control properties, expressed as percentage differentials against the 2006 baseline year. For example, the 7.6 percent figure for single-family residential properties in 2007 indicates that, after controlling for property characteristics and broader market conditions, study area homes sold at a 7.6 percent premium relative to comparable properties elsewhere in the county.

TABLE 6-2 ESTIMATED ANNUAL IMPACT OF SELMON EXPRESSWAY ON PROPERTY SALE PRICES (% PREMIUM VS. CONTROL, 2006 BASELINE)

Year	Single-Family	Condominium	Vacant Residential	Commercial (Occupied)	Commercial (Vacant)
2007	7.60%	4.6%	3.6%	0.0%	5.8%
2008	10.47%	1.8%	2.0%	1.2%	8.2%
2009	17.43%	-22.1%	3.8%	1.8%	9.6%
2010	19.07%	2.8%	5.5%	0.5%	3.1%
2011	25.13%	2.4%	7.8%	1.1%	3.4%
2012	27.80%	3.2%	8.8%	1.9%	2.8%
2013	26.61%	2.9%	6.7%	4.4%	4.8%
2014	22.15%	1.9%	7.3%	4.7%	5.5%
2015	22.62%	2.5%	2.8%	4.3%	10.7%
2016	17.66%	6.5%	6.3%	5.3%	10.8%
2017	17.27%	4.0%	7.8%	6.3%	16.6%
2018	17.09%	2.2%	11.5%	6.9%	19.6%
2019	17.50%	6.5%	10.8%	8.0%	25.3%
2020	16.94%	5.2%	13.6%	8.7%	21.6%

Year	Single-Family	Condominium	Vacant Residential	Commercial (Occupied)	Commercial (Vacant)
2021	13.29%	5.6%	19.9%	8.8%	26.0%
2022	10.17%	6.7%	24.4%	10.3%	28.3%
2023	11.99%	6.6%	26.7%	11.1%	27.6%
2024	14.76%	5.8%	27.3%	10.5%	28.0%
2025	12.13%	3.0%	22.8%	11.1%	26.3%

All values are transaction-weighted. Estimates represent percent price premium relative to the 2006 baseline. See Appendix D for details.

To improve clarity and interpretability, the annual estimates are also aggregated into five market periods reflecting distinct phases of economic and infrastructure activity (Table 6-3). Each period is a weighted average of annual results, accounting for transaction volume. The five periods are designed to capture two major macroeconomic disruptions—the 2008–2012 financial crisis and housing market collapse, and the 2020–2021 COVID-19 pandemic—as well as THEA's major infrastructure milestones.

The pre-pandemic estimates grow gradually over time, consistent with the progressive capitalization of accessibility improvements into property values rather than any discrete shock. The 2020–2021 COVID period shows more volatility, reflecting temporary disruption to housing market liquidity. From 2022 onward, estimates stabilize at persistently positive levels across all property categories. Because the model includes year fixed effects, post-COVID estimates represent relative differences between study area and control properties within each year, net of aggregate market appreciation.

TABLE 6-3 ESTIMATED IMPACT BY MARKET PERIOD (TRANSACTION-WEIGHTED AVERAGES, % PREMIUM VS. CONTROL)

Market Period	Interpretation	Single-Family	Condominium	Vacant Res.	Commercial (Occ.)	Commercial (Vac.)
Treatment Onset (2006–2007)	Immediate market response following REL opening	7.6%	4.6%	3.6%	0.0%	5.8%
Financial Crisis (2008–2012)	Effect during macroeconomic disruption; AET conversion	20.3%	-1.9%	5.5%	1.4%	5.5%
Stable Growth (2013–2019)	Medium-run equilibrium; I-4 Connector & Selmon widening	19.6%	3.8%	7.6%	5.8%	13.0%

Market Period	Interpretation	Single-Family	Condominium	Vacant Res.	Commercial (Occ.)	Commercial (Vac.)
COVID Disruption (2020–2021)	Exogenous shock; Selmon West Extension opens	15.0%	5.5%	16.8%	8.8%	23.8%
Post-COVID (2022–2025)	Recent equilibrium; slip ramp improvements	12.1%	5.7%	25.3%	10.7%	27.6%

Source: CUTR analysis.

6.5 Summary of Property Value Impacts

The regression results provide strong empirical support for the conclusion that THEA's transportation investments have positively and measurably influenced property values throughout the study corridor.

Table 6-4 translates the estimated premiums for the 2022–2025 equilibrium period into average dollar values per property and per square foot of heated area. For single-family properties, the implied premium is approximately $60,736 per property, meaning that, absent the Selmon Expressway, the typical study area home would be worth roughly $60,700 less. For condominiums, the implied premium is approximately $21,516, and for commercial parcels, approximately $92,125.

On a per-square-foot basis, single-family homes sold at a premium of approximately $35 per square foot (11.9 percent), condominiums at $26 per square foot (7.4 percent), and commercial properties at $56 per square foot (19.5 percent). These estimates are based on median property values; higher-valued properties realize correspondingly greater absolute premiums.

TABLE 6-4 ESTIMATED AVERAGE PROPERTY VALUE IMPACT, 2022–2025

Metric		Single-Family*	Condominium	Commercial (Occupied)**
Per Property	Median Price ($)	$562,250	$399,450	$950,000
	% Premium	12.1%	5.7%	10.7%
	Implied Premium ($)	**$60,736**	**$21,516**	**$92,125**
Per Square Foot	Median Heated Area	1,753	1,056	2,016
	Median Price ($/sq.	$329.60	$383.20	$344.50
	% Premium	11.9%	7.4%	19.5%
	Implied Premium	**$35.10**	**$26.20**	**$56.20**

** Includes townhouses. ** Includes stores, supermarkets, shopping centers, restaurants and bars, service shops, offices, and mixed-use properties. See Appendix D for calculation methodology.*

Property Tax Revenue Impacts

The property value premiums generated by the Selmon Expressway translate directly into higher assessed values and, consequently, increased property tax revenues for local taxing jurisdictions. To estimate these fiscal effects, the analysis applies the estimated price premiums to each parcel's 2022-2025 taxable value, defined as just market value net of applicable homestead exemptions, and multiplies by the relevant millage rates.

Table 6-5 presents the estimated average annual tax revenue impact for 2022–2025. The results indicate that accessibility improvements along the Selmon Expressway have generated sustained and substantial fiscal benefits: an estimated $16.9 million per year in additional single-family property tax revenue, $3.8 million from condominiums, and $4.7 million from commercial properties, for a combined annual total of approximately $25.4 million.

TABLE 6-5 ESTIMATED AVERAGE ANNUAL IMPACT ON PROPERTY TAX REVENUE, 2022–2025

Property Type	Total Adjusted Value — Without Selmon ($M)	Total Adjusted Value — With Selmon ($M)	Change in Value ($M)	Tax Revenue — Without Selmon ($M)	Tax Revenue — With Selmon ($M)	Change in Tax Revenue ($M)
Single-Family	7,071	7,927	856	139.3	156.2	16.9
Condominium	3,390	3,583	193	67.1	70.9	3.8
Commercial	4,223	4,675	452	82.5	87.2	4.7
Total	**14,685**	**16,186**	**1,501**	**288.9**	**314.3**	**25.4**

Source: CUTR analysis.

These estimates are conservative. The analysis covers only three property categories and a four-year window. Extended over a longer time horizon or applied to a broader set of parcel types, the cumulative fiscal benefit would be substantially larger. The figures presented here should therefore be interpreted as a lower bound on the total economic value generated by THEA's investment in the Selmon Expressway system.

7 Conclusions

Investments in highways and other types of transportation system improvements are recognized as an important means to achieve economic growth and development at the local, state, and national levels. Infrastructure investments serve to support key industries, increase mobility, reduce business costs, and expand business opportunities, ultimately leading to economic growth and improved standards of living. This study estimated THEA's contribution to local economic growth through its strategic capital infrastructure investments and the mobility benefits associated with its Selmon Expressway.

7.1 Economic Impact of Capital Infrastructure Investments and Operations

Since its inception, the economic impact of THEA's capital infrastructure investments and operations has been substantial in terms of its contribution to economic growth measured by $3.7 billion in total output (gross business sales), $2.1 billion in local GDP, and over 18,000 jobs. THEA activities and strategic capital infrastructure investments provide a significant contribution toward supporting jobs in the most relevant industries of the region.

7.2 Impact on Urban Mobility

In addition to the impact generated by infrastructure investment spending, THEA's Selmon Expressway produces substantial benefits in terms of travel time reductions, increased safety, and reduction in harmful emissions. This study finds that the Selmon Expressway saves its users $5.7 billion annually.

Each commuter saves on average 29 hours in congested travel time per year. This represents a 34 percent reduction in the 85 hours of travel spent annually in congested conditions. Households residing in the study area using the expressway save $97 million per year in out-of-pocket costs due to reduced vehicle fuel and operating costs. Savings on fuel and vehicle operating costs represent money for use on other household expenditures. These savings provide an income benefit to households at lower income ranges, representing a consistent gain in purchasing power. Businesses also benefit from improved travel conditions, through savings of about $144 million per year in congested travel and fuel and vehicle operating costs.

A considerable amount of the state's motor vehicle accidents occurs in the Tampa-St. Petersburg MSA, accounting for a significant number of injuries and fatalities. In 2025, about 78,900 motor vehicle crashes occurred in the MSA. This amounts to approximately 11.9 percent of the total crashes statewide. This study finds that THEA's Selmon Expressway contributes to increased safety by reducing the number of crashes by about one percent and thus reducing crash costs by about $207 million annually.

7.3 Impact on Job Accessibility

The Selmon Expressway materially expands both the geographic scope of the labor market accessible to Tampa-area workers and the number of employment opportunities they can realistically reach within standard commuting times. The analysis contrasts the no-toll and the toll scenarios in terms of the size of the isochrone (square miles) and the number of jobs

accessible within each contour. On average, using the Selmon Expressway allows a traveler to reach an area of employment and services that is between 12 and 341 square miles larger than under the no-toll scenario, depending on the travel-time threshold. At the 30-minute contour, which corresponds to the average commute time for the Tampa MSA as reported by the U.S. Census American Community Survey, the Selmon Expressway provides access to approximately 64,800 additional jobs, a 15.2 percent gain.

7.4 Impact on Business Activity

Increased transportation accessibility leads to clustering of business and residential units in proximity to the expressway points of access. This leads to a larger pool of workers and customers, which in turn positively affects firm location decisions, sales, and employment levels. As of 2025, there are about 16,740 businesses operating within one mile of the Selmon Expressway. These businesses employ approximately 169,700 workers and represent 19.4 percent of all establishments operating in Hillsborough County.

This study finds that by improving business and residential accessibility, THEA's strategic investments increased business clustering and specialization. Compared to comparable areas within the county, the Selmon Expressway corridor has generated a 7.1 percent higher growth in the number of business establishments and a 6.0 percent higher growth in employment at the establishment level in 2025.

7.5 Impact on Urban Development

Urban economic theory suggests that highway improvements influence urban growth patterns through land prices. The improved accessibility offered by highways generates higher property prices. Since its inception, THEA has generated mobility benefits for a relevant share of commuters by improving accessibility for commuters living and working in both the western and eastern parts of Hillsborough County. The Authority engaged in several capital infrastructure projects that added capacity to the system and made home and work locations more accessible. During this period, the areas around the Selmon Expressway experienced rapid growth in business and residential establishments.

Through an extensive analysis of the changes in residential and commercial parcels, this study found empirical evidence that improved transport accessibility positively affected the property prices of both residential and commercial parcels located in proximity to the Selmon Expressway. On a per-square-foot basis over the period 2022-2025, single-family homes sold at a premium of approximately $35 per square foot (11.9 percent), condominiums at $26 per square foot (7.4 percent), and commercial properties at $56 per square foot (19.5 percent). This translates into an annual impact on the tax revenue base of about $25.4 million, or 8.8 percent of the total estimated 2022-2025 average tax revenue of $289 million for the entire study area.

These estimates are conservative. The analysis covers only three property categories and a four-year window. Extended over a longer time horizon or applied to a broader set of parcel types, the cumulative fiscal benefit would be substantially larger.

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Appendix A Input-Output Modeling and Tax Impact Estimation Methodology

Input-output (I-O) modeling, originally introduced by Leontief [*29*], describes commodity flows from producers to intermediate and final consumers. It depicts an economic system as a set of tables where the total industry purchases of commodities, services, employment compensation, value added, and imports is equal to the value of the commodities produced. Purchases for final use (final demand) drive the model. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services (indirect purchases) continues until leakages from the region (imports and value added) stop the cycle. These indirect and induced effects (the effects of household spending) can be mathematically derived. The derivation is called the *Leontief Inverse*. The resulting sets of multipliers describe the change of output for each regional industry caused by a one-dollar change in final demand for any given industry.

To conduct economic impact analysis, this study employed I-O multiplier tables from the Bureau of Economic Analysis RIMS II I-O model. RIMS II is a regional input–output multiplier system maintained by the U.S. Bureau of Economic Analysis (BEA). It produces final-demand and direct-effect multipliers for four impact categories: total industry output, earnings, employment, and value-added. RIMS II is widely used in transportation, infrastructure, and economic development analyses because it is regionally specific, defensible, and inexpensive relative to proprietary alternatives. RIMS multiplier tables provide a means to assess economic impacts caused by changes made to the accounting expenditure matrix for the region analyzed. By entering a change, say, in expenditure in one industry sector, the analyst can see how this affects the overall economic structure of the region. The effects are measured by the same metric used to express the elements composing the original database matrix.

The changes are measured in terms of the following:

- Industry output
- Employment
- Value added
- Final demands

Industry output is a single number in dollars, or millions of dollars, for each industry located in the region. The dollars represent the value of an industry's production. Employment is listed as a single number of jobs for each industry. Data is usually derived from the ES202 employment security data and supplemented by county business patterns and Regional Economic Information System (REIS) data. It includes both temporary and permanent jobs.

Value added is a subset of total output and is equal to total output minus the cost of materials and labor. It represents a measure of the contribution of production factors and is

often used as a measure of economic activity (also defined as GDP). There are four subcomponents of value added:

1. Employee compensation
2. Proprietary income
3. Other property type income
4. Indirect business taxes

Employee compensation describes the total payroll costs (including benefits) of each industry in the region. It includes the wages and salaries of workers paid by employers, as well as benefits such as health insurance and life insurance. Proprietary income consists of payments received by self-employed individuals as income. Other types of income include payments for rents, royalties, and dividends. Indirect business taxes consist of excise taxes, property taxes, fees, licenses, and taxes paid by businesses.

Estimating State and Local Tax Impacts from RIMS II Multiplier Analysis

RIMS II does not produce fiscal impact estimates as a native output. Unlike other I-O models, which use a Social Accounting Matrix (SAM) to track transfer payments between institutions and report taxes on production and imports, household taxes, corporate income taxes, and social insurance contributions, RIMS II terminates at the production-account level. The system does not allocate value-added across institutional recipients, and therefore does not generate a tax impact report.

The practical consequence is that any practitioner using RIMS II who needs a tax impact estimate must build one as a post-processing step. The methodology in this document specifies how that step should be carried out for studies focused on the Tampa MSA. The approach is consistent with practice in published applied input–output studies and with guidance found in the regional economic impact literature, in which effective tax rates are applied to the relevant RIMS II impact components to yield a tax revenue estimate.

Conceptual Framework

From Impact Estimates to Tax Revenue

The methodology rests on a simple identity: tax revenue equals a tax base multiplied by an effective tax rate. RIMS II provides four candidate impact measures — output, earnings, value-added, and employment — that can be mapped to different tax bases. The Calculator uses these mappings:

TABLE A - 1 TAX REVENUE ESTIMATION ASSUMPTIONS

Tax Component	RIMS II Source	Derived Tax Base	Effective Rate Applied
Sales & use tax	Earnings impact	Earnings × taxable consumption share	State 6.0% + MSA-weighted local surtax
Property tax	Value-added impact	Value-added × capital/VA ratio	MSA-weighted millage rate
Corporate income tax	Value-added impact	Value-added × corporate profits share	Statutory rate × effective ratio
Other state & local taxes	Output impact	Output (full base)	Residual effective rate

Why Florida Requires a Customized Approach

Florida's tax structure differs from that of most other states in three respects that materially affect the calculation:

1. Florida levies no individual income tax. The single largest tax line item in most state-level fiscal impact templates is therefore absent. This raises the relative importance of sales and property taxes in capturing the fiscal benefit of any economic activity in Florida.
2. Florida relies heavily on general sales taxation. Roughly two-thirds of state tax collections come from sales and use taxes, and discretionary local sales surtaxes are levied at the county level at rates that vary materially within the Tampa MSA. A weighted-average approach across the MSA counties is therefore necessary to avoid overstating or understating the local share of sales tax revenue.
3. Florida's corporate income tax has a low statutory rate (5.5%) and a comparatively narrow effective base due to apportionment rules, exemptions for pass-through entities, and net operating loss carryforwards. The effective rate applied to corporate profits is substantially below the statutory rate.

The Calculator addresses each of these features explicitly. The omitted personal income tax line is the most visible departure from analogous templates designed for other states.

Tampa MSA Population Weights

Because local tax rates differ across the four counties of the MSA, the Calculator computes a single MSA-level effective rate by weighting each county's rate by its share of MSA population. The weights are based on the U.S. Census Bureau's July 1, 2024 vintage population estimates:

TABLE A - 2 TAX RATES POPULATION WEIGHTS

County	Population (2024, approx.)	MSA Weight
Hillsborough	1,480,000	45.2%
Pinellas	960,000	29.3%
Pasco	615,000	18.8%
Hernando	210,000	6.4%
MSA Total	**≈ 3,265,000**	**100.0%**

These weights are applied to both the discretionary sales surtax and the average effective property tax rate to yield single MSA-level rates used in the Calculator.

Workbook Structure

The Calculator is organized as a six-sheet Microsoft Excel workbook. The sheets are arranged so that the analyst encounters them in the order required to use the tool: documentation first, inputs second, assumptions third, calculation fourth, results fifth, and citations last. All sheets follow industry-standard color conventions for financial models, with blue text indicating hardcoded inputs, black text indicating formulas, and green text indicating cross-sheet links.

Sheet 1 — README

The README sheet documents the purpose of the workbook, the meaning of the color coding, the methodology in summary form, and key limitations. It is intended to allow an analyst unfamiliar with the workbook to understand its structure and intended use without consulting external documentation. The README also includes a brief statement of Florida's tax-structure peculiarities, including the absence of an individual income tax.

Sheet 2 — Inputs

The Inputs sheet collects two categories of information from the analyst:

- Study identification fields, including project name, analyst, date of analysis, study region, reference year (RIMS II vintage), dollar year, and multiplier type (Type I or Type II).
- RIMS II impact estimates, including total output impact, total earnings impact, total value-added impact, and total employment impact. These are the four quantities that the analyst transfers from the RIMS II output into the Calculator.

All editable cells are highlighted yellow and use blue text, consistent with the color convention. Cell-level notes describe the expected units (dollars or jobs) and identify each cell as either direct, indirect-and-induced, or total. The Calculator is designed for total impact (direct + indirect + induced) but can be used with direct-only inputs if the analyst wishes to estimate only the fiscal impact of the directly affected industry.

Sheet 3 — Tax Rates

The Tax Rates sheet contains all parameters that govern the calculation. It is organized into four sections, each corresponding to one of the four tax components:

- Section A — Sales and use tax. Contains the Florida state rate (6.0%), each MSA county's discretionary surtax, the calculated MSA-weighted local surtax, the combined state + local rate, and the assumed share of earnings that becomes taxable consumption (default 35%).
- Section B — Property tax. Contains each MSA county's average effective property tax rate, the calculated MSA-weighted average, and the capital-stock-to-value-added multiplier used to derive the property tax base from RIMS II value-added impact (default 2.5).
- Section C — Corporate income tax. Contains Florida's 5.5% statutory rate, the effective-to-statutory ratio (default 60%), the calculated effective rate, and the corporate profits share of value-added (default 12%).
- Section D — Other state and local taxes. Contains a single residual effective rate (default 0.85% of output) capturing documentary stamp tax, communications services tax, fuel taxes, tourist development taxes, intangibles tax, and business licenses.

Every parameter is editable. Calculated values (such as the MSA-weighted rates) are displayed in light-green cells with black formula text to distinguish them from inputs. Every assumption has a corresponding source citation in an adjacent column, and the full bibliographic detail is repeated in Sheet 6.

Sheet 4 — Calculation

The Calculation sheet performs the tax revenue computation in a tabular format with four rows (one per tax component) and four columns: tax component name, tax base (calculated from RIMS II inputs), effective rate (linked from the Tax Rates sheet), and tax revenue (the product of the two). A total row aggregates the four components.

A secondary section of the Calculation sheet allocates total tax revenue between the State of Florida and local governments. The allocation uses the share of the combined sales tax rate attributable to each level for the sales tax line, assigns all property tax revenue to local governments, assigns all corporate income tax revenue to the State, and applies a 55/45 state/local split to the residual "other taxes" category based on Florida Department of Revenue collection data.

Sheet 5 — Summary

The Summary sheet presents results in a format suitable for inclusion in technical memoranda, executive summaries, board presentations, and grant proposals. It includes the study identification information, a recap of the RIMS II impact inputs, a tax revenue table with percentage shares, a state/local jurisdiction allocation, and three key ratios: tax revenue per dollar of output, tax revenue per job supported, and the overall effective tax rate. All cells are formatted with appropriate units and dollar signs.

Sheet 6 — Sources

The Sources sheet provides the full citation for every assumption used in the workbook, organized by topic. Sources include Florida Statutes, Florida Department of Revenue publications and tax handbooks, the Florida Office of Economic and Demographic Research, the U.S. Bureau of Economic Analysis, the U.S. Census Bureau, and the four county property appraisers. Each citation includes a URL where applicable.

Calculation Logic

This section specifies the formulas used by the Calculator. Each tax component is computed independently and the four are summed to yield total state and local tax revenue.

Sales and Use Tax

$$\text{Sales Tax} = \text{Earnings Impact} \times \text{Taxable Consumption Share} \times (\text{State Rate} + \text{MSA Local Surtax})$$

The earnings impact from RIMS II includes wages, salaries, and proprietor income across the directly affected industry and the indirect and induced rounds of spending. The Calculator assumes that a defined share of this total (the taxable consumption share) is spent on goods and services subject to Florida sales tax within the MSA. The default share is 35%, reflecting the fact that food for home consumption, prescription medicines, most household services, rent, savings, and a portion of out-of-area spending are not subject to Florida sales tax. The MSA-weighted local surtax is calculated as described in Section 2.3.

Property Tax

$$\text{Property Tax} = \text{Value-Added Impact} \times \text{Capital/VA Ratio} \times \text{MSA Effective Millage}$$

Florida's property tax falls on real property and certain tangible personal property held for business use. Because RIMS II does not report a property tax base directly, the Calculator constructs one by multiplying the value-added impact by an estimate of the ratio of private capital stock to annual gross value-added. The default ratio of 2.5 is consistent with BEA Fixed Assets data for Florida's private sector. Capital-intensive sectors (real estate, manufacturing, utilities) have substantially higher ratios; an analyst working on such a study should adjust this assumption upward. The MSA-weighted average effective property tax rate, expressed as a fraction of assessed value, is applied to the resulting base.

Corporate Income Tax

$$\text{Corporate Income Tax} = \text{Value-Added Impact} \times \text{Corporate Profits Share} \times (\text{Statutory Rate} \times \text{Effective Ratio})$$

Florida's corporate income tax is imposed on net income apportioned to Florida for C-corporations only. Pass-through entities (S-corporations, partnerships, LLCs taxed as partnerships) are not subject to the tax. The Calculator estimates corporate income tax by first identifying the portion of value-added attributable to corporate profits (default 12%, drawn from the gross operating surplus component of GDP-by-state) and then applying an effective rate equal to the 5.5% statutory rate multiplied by a 0.60 effective ratio. The effective ratio captures the combined effect of single-sales-factor apportionment, the corporate income tax exemption (currently $50,000), net operating loss carryforwards, and the exclusion of pass-through entities from the tax base. The resulting effective rate is approximately 3.3%.

Other State and Local Taxes

$$\text{Other Taxes} = \text{Output Impact} \times \text{Residual Effective Rate}$$

The residual category captures a heterogeneous set of taxes that, while individually small, are material in aggregate: documentary stamp tax on real estate transfers and financial instruments, communications services tax, motor fuel and aviation fuel taxes, tourist development tax ("bed tax"), severance taxes, intangibles tax on certain financial instruments, business licenses, and county- and municipal-level non-ad-valorem assessments. Rather than model each separately, the Calculator applies a single residual effective rate of 0.85% to the output impact. This rate is derived from Florida Department of Revenue and Office of Economic and Demographic Research data on these taxes' collections relative to Florida gross state product.

State vs. Local Allocation

Total tax revenue is allocated between the State of Florida and local governments as follows:

- Sales tax revenue is allocated in proportion to the state and local components of the combined rate. With a state rate of 6.0% and an MSA-weighted local surtax of approximately 1.19%, the resulting split is roughly 83% state / 17% local.
- Property tax revenue is allocated entirely to local governments, since Florida levies no statewide property tax on private property (the limited state Required Local Effort millage on schools is collected and retained locally for school operations).
- Corporate income tax revenue is allocated entirely to the State of Florida.
- Other state and local taxes are allocated on a 55% state / 45% local basis, reflecting the approximate composition of the residual category.

Key Assumptions and Sensitivity

Five assumptions in the Calculator merit particular attention. Each is editable on the Tax Rates sheet, and analysts are encouraged to test the sensitivity of their results to alternative values.

TABLE A - 3 KEY ASSUMPTIONS

Assumption	Default	Sensitivity Range	When to Adjust
Taxable consumption share of earnings	35%	25% – 45%	Lower for studies with higher in-MSA savings or out-of-area leakage; higher for tourism-related activity
Capital/value-added ratio	2.5	1.5 – 4.0	Increase to 3.5–4.0 for real estate, utilities, port, or heavy manufacturing; decrease to 1.5–2.0 for professional services
Corporate profits share of value-added	12%	8% – 18%	Lower for labor-intensive sectors; higher for capital-intensive sectors with high gross operating surplus shares
Effective-to-statutory CIT ratio	60%	50% – 70%	Lower when impact is concentrated in pass-through-dominated sectors (construction, professional services)
Residual effective rate (other taxes)	0.85%	0.5% – 1.5%	Increase substantially for studies focused on real estate transactions (documentary stamp) or tourism (tourist development tax)

Appendix B Urban Mobility Benefit Analysis Methodology and Data

Travel Time Savings

The following data sources were employed to estimate travel time savings reported in Table 3-2 of this report.

Average Vehicle Occupancy

Average vehicle occupancy comes from the U.S. Department of Transportation's 2022 National Household Travel Survey person trip file, which reports the number of day trips by trip purpose [*30*].

Mode Split

The private versus commercial travel split data are from the 2019 Florida Traffic Information DVD, available from the Florida Department of Transportation at Florida Transportation Information (FTI) [*8*].

Prevailing Wage Rate

The average prevailing wage rate for the Tampa-Saint Petersburg MSA is obtained from the Bureau of Labor Statistics at May 2025 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates [*31*].

Accident Cost Savings

The accident cost savings reported in Table 3-4 of this report are estimated as the change in health and safety costs associated with vehicle crashes. To estimate these changes, the total social cost per accident by severity type is multiplied by the change in number of crashes in each severity class; its product is summed over all severity classes

$$Total\ Health\ and\ Safety\ Costs = \sum Total\ Crash\ Cost_i\ x\ Change\ in\ Number\ of\ Crashes_i$$

Crash Costs

Crash cost estimates come from the USDOT benefit-cost analysis guidance for discretionary programs [*6*]. The report (Table A-1) provides estimates of average economic and comprehensive costs by crash-assigned injury scale (KABCO). Economic costs consist of loss of human capital, market productivity, household productivity, medical care, property damage, legal costs, and travel delay, and include the "willingness to pay" or intangible costs to avoid these events. These costs are reported to 2025 dollars.

TABLE B - 1 CRASH COSTS

KABCO Adjusted	*$, 2025**
No Injury (0)	5,500
Possible Injury (C)	122,400
Nonincapacitating Evident Injury (B)	256,300
Incapacitating Injury (A)	1,302,300
Fatal Injury (K)	13,700,000
Total	**15,386,500.0**

**Source: USDOT Benefit-Cost Analysis Guidance for Discretionary Grant Programs*

Savings from Emission Reductions

The emission reduction cost savings reported in Table 3-5 are produced by applying the following calculation. For each mode *i* and each pollutant *k*, the total pollution cost *PC* is equal to

$$PC_{ik} = \sum \left(\frac{gram_{ik}}{mile}\right)(VMT_i)\left(\frac{\$}{gram_k}\right)$$

Emission Costs

Emission costs are measured in $/Kg and account for damages related to health and visibility impacts and physical impacts on the environment. This study adopts the societal cost estimates provided by the USDOT benefit-cost analysis guidance for discretionary programs [6]. EPA cost estimates consider the damage costs related to climate change, changes in net agricultural productivity, human health, property damages from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning. EPA and other federal agencies use these estimates to assess climate impacts of rulemakings.

Appendix C Difference-in-Difference Analysis of Changes in Business Activity

The econometric models use fixed-effect regression (FE) to control for time-invariant, industry-specific, unobservable characteristics that may affect establishment location decisions. Productivity, as measured by the sales per employee ratio, is useful for comparing productivity across businesses within the same industry. This variable is obtained by dividing the total gross business sales by the total number of employees for each industry sector. Businesses with higher productivity tend to be more efficient and profitable, which affects the number of firms operating within the sector.

Impact on Establishment Growth

The establishment sample consists of an unbalanced panel of 764 observations on NAICS 3-digit establishments (74 NAICS 3-digit sectors in the study area, 79 sectors in the control areas, and T=5 years). Table C-1 reports the naïve pooled ordinary least-squared (OLS) and the fixed-effects (FE) regression results, controlling for time-invariant, industry-specific effects. Both models include year dummy variables to control for common exogenous shocks from business cycle effects and secular trends. The FE is the preferred model as it better accounts for time-invariant unobserved effects that could affect growth rates differently between the study area and control areas.

The parameters of interest are highlighted and represent the estimates of the Selmon Expressway effects on the growth in the number of business establishments. The sign and magnitude of the estimated effects on the parameter of interest measuring the impact on establishment growth over time suggests that the developments near the Selmon Expressway have promoted higher growth in the study area.

Referring to the FE model as the preferred estimator and using the proportional change formula[2], the results show that, all else being equal, in 2019 establishments located in proximity to the Selmon Expressway were experiencing a 12.6 percent higher growth in number than comparable businesses located near other transport accessibility infrastructures (i.e., the control areas). Other factors explain business growth and are related to industry specialization, measured by the estimated LQ parameter associated with industry concentration. In particular, a 10.0 percent increase in localized industry specialization increases establishment growth by about 2.7 percent.

Impact on Employment Growth

While there is statistical evidence of positive growth in the number of establishments for firms located near the Selmon Expressway, these effects may encompass relocation decisions rather than creation of new businesses. As discussed earlier, expected and realized changes in accessibility have an impact on not only firm location, but also on growth within the establishment over time. More specifically, at the establishment level, increased

[2] The proportional change is estimated by applying the following formula [(exp (β)-1)*100], where β is the estimated parameter expressing the interaction term between treatment project phase.

accessibility from improvements to the Selmon Expressway, such as the REL system and the Brandon Parkway, may have an impact on business hiring decisions. The models test the hypothesis that the infrastructure improvements have an impact on firm employment growth. The estimation strategy applies the same statistical method described in the previous section and uses business employment levels as the dependent variable in the regression.

Table C-1 and Table C-2 report the results of the regression on the number of establishments and level of employment, respectively. The last two columns of the table report the regression results with the parameters of interest highlighted. As in the previous analysis, the table shows different specifications comparing employment growth within the Selmon Expressway study area to control areas. The FE (3) is the preferred model as it better accounts for time-invariant unobserved effect.

The results show that businesses operating in proximity to the Selmon Expressway experienced higher employment growth than businesses in the control areas. The highlighted parameters are used to estimate the changes reported in the main body of the report (Table 5-3).

TABLE C - 1 REGRESSION RESULTS – NUMBER OF ESTABLISHMENTS

	Models			
Variables	1	2	3	4
Natural log of sales	-0.243 ***	-0.249 ***	-0.064 ***	-0.060 ***
	(0.003)	(0.003)	(0.007)	(0.008)
Natural log of sales_emp_naics_3	-0.134 ***	-0.109 ***	0.023 *	0.043 ***
	(0.004)	(0.004)	(0.014)	(0.014)
Natural log of lq_3	0.457 ***	0.419 ***	0.425 ***	0.446 ***
	(0.012)	(0.012)	(0.028)	(0.029)
Coded HH Index NAICS 3				
Competitive	-2.687 ***	-2.612 ***	-0.612 ***	-0.591 ***
	(0.036)	(0.035)	(0.043)	(0.042)
Low-Moderate Concentration	-1.518 ***	-1.508 ***	-0.331 ***	-0.314 ***
	(0.061)	(0.060)	(0.043)	(0.042)
Moderate Concentration	-0.276 ***	-0.268 ***	-0.151 ***	-0.158 ***
	(0.024)	(0.023)	(0.017)	(0.016)
Highly Concentrated	-1.579 ***	-1.292 ***	-0.510 ***	-0.469 ***
	(0.074)	(0.066)	(0.046)	(0.040)
Near-Dominance	-3.027 ***	-2.999 ***	-1.247 ***	-1.307 ***
	(0.084)	(0.085)	(0.135)	(0.129)

Dominant Firm Market	-3.908	***	-3.813	***	-1.166	***	-1.122	***
	(0.154)		(0.154)		(0.380)		(0.417)	
Monopoly	-5.446	***	-5.474	***	-1.610	***	-1.635	**
	(0.361)		(1.272)		(0.356)		(0.732)	
Study area (1) vs controls (0) and all others (-1)								
Treatment	0.109	***	0.141	***	-0.281	***	-0.268	***
	(0.017)		(0.018)		(0.026)		(0.027)	
Study area (1) vs controls (0) and all others (-1) # Archive Version Year								
Treatment # 2010	-0.004		-0.014		-0.003		-0.009	
	(0.025)		(0.026)		(0.012)		(0.012)	
Treatment # 2014	-0.009		-0.019		0.056	***	0.054	***
	(0.023)		(0.024)		(0.015)		(0.015)	
Treatment # 2016	-0.009		-0.026		0.062	***	0.056	***
	(0.023)		(0.025)		(0.016)		(0.016)	
Treatment # 2019	-0.062	***	-0.073	***	0.030	*	0.033	*
	(0.023)		(0.025)		(0.017)		(0.017)	
Treatment # 2021	-0.050	**	-0.059	**	0.058	***	0.064	***
	(0.024)		(0.025)		(0.018)		(0.018)	
Treatment # 2023	-0.023		-0.037		0.069	***	0.073	***
	(0.025)		(0.026)		(0.018)		(0.019)	
Treatment # 2025	-0.027		-0.037		0.064	***	0.068	***
	(0.025)		(0.026)		(0.018)		(0.019)	
Intercept	8.382	***	8.268	***	6.446	***	6.323	***
	(0.025)		(0.026)		(0.093)		(0.097)	
Number of observations	183336		170390		183336		170390	
Adjusted R-squared	0.14		0.13		0.11		0.12	

**** p<.01, ** p<.05, * p<.1*
Standard errors reported in parenthesis
2006 is the baseline year; time trends variables not reported for brevity
1: OLS; 2: OLS Restricted ;3: FE; 4: FE Restricted
Restricted excludes NAICS 11-21-22-23 sectors

TABLE C - 2 REGRESSION RESULTS – EMPLOYMENT

	Models							
Variables	1		2		3		4	
Natural log of sales	0.719	***	0.712	***	0.470	***	0.462	***
	(0.003)		(0.004)		(0.011)		(0.012)	
Natural log of sales_emp_naics_3	-0.602	***	-0.590	***	-0.235	***	-0.225	***
	(0.004)		(0.004)		(0.008)		(0.008)	
Natural log of lq_3	-0.520	***	-0.498	***	-0.237	***	-0.224	***
	(0.006)		(0.006)		(0.011)		(0.011)	
Coded HH Index NAICS 3								
Competitive	-0.098	***	-0.096	***	0.003		0.002	
	(0.020)		(0.020)		(0.015)		(0.015)	
Low-Moderate Concentration	0.093	***	0.087	***	0.019		0.014	
	(0.022)		(0.023)		(0.018)		(0.018)	
Moderate Concentration	0.171	***	0.169	***	0.110	***	0.107	***
	(0.013)		(0.013)		(0.012)		(0.012)	
Highly Concentrated	0.392	***	0.420	***	0.145	***	0.139	***
	(0.027)		(0.028)		(0.016)		(0.017)	
Near-Dominance	0.347	*	0.334	*	0.049		0.116	*
	(0.188)		(0.187)		(0.095)		(0.061)	
Dominant Firm Market	-0.126		-0.138		-0.018		-0.011	
	(0.086)		(0.086)		(0.061)		(0.066)	
Monopoly	-0.846	**	-1.450		-0.092		-0.672	
	(0.367)		(1.138)		(0.266)		(0.503)	
Study area (1) vs controls (0) and all others (-1)								
Treatment	0.134	***	0.128	***	0.058	***	0.054	***
	(0.007)		(0.007)		(0.017)		(0.017)	
Study area (1) vs controls (0) and all others (-1) # Archive Version Year								
Treatment # 2010	0.078	***	0.078	***	0.032	***	0.027	***
	(0.009)		(0.009)		(0.006)		(0.007)	
Treatment # 2014	0.067	***	0.066	***	0.045	***	0.037	***
	(0.009)		(0.009)		(0.008)		(0.008)	
Treatment # 2016	0.065	***	0.067	***	0.037	***	0.030	***

	Models							
Variables	1		2		3		4	
	(0.008)		(0.009)		(0.008)		(0.008)	
Treatment # 2019	0.059	***	0.056	***	0.015	*	0.010	
	(0.008)		(0.009)		(0.008)		(0.009)	
Treatment # 2021	0.057	***	0.053	***	0.018	**	0.012	
	(0.009)		(0.009)		(0.009)		(0.009)	
Treatment # 2023	0.055	***	0.053	***	0.014		0.008	
	(0.010)		(0.010)		(0.009)		(0.010)	
Treatment # 2025	0.063	***	0.059	***	0.021	**	0.016	
	(0.012)		(0.012)		(0.010)		(0.010)	
Intercept	0.616	***	0.587	***	-0.095	*	-0.108	*
	(0.022)		(0.022)		(0.055)		(0.057)	
Number of observations	183336		170390		183336		170390	
Adjusted R-squared	0.72		0.72		0.34		0.34	

**** p<.01, ** p<.05, * p<.1*
Standard errors reported in parenthesis
2006 is the baseline year; time trends variables not reported for brevity
1: OLS; 2: OLS Restricted ;3: FE; 4: FE Restricted
Restricted excludes NAICS 11-21-22-23 sectors

Appendix D Difference-in-Differences Analysis of Changes in Property Values

Urban economic theory suggests that transportation improvements influence urban growth patterns through land prices. The improved accessibility offered by transportation investments generates higher property prices. Empirical studies demonstrate that there is generally a positive relationship between accessibility improvements and property values, although results vary by area, investment type, and evaluation method. Early research summarized by Huang [27] and Ryan [28] shows that new highways make land that is farther from the urban center more suitable for residential development by reducing the commute-travel costs. This translates into increasing prices that users pay for residential and other properties. Being too close to a highway can also negatively affect housing prices and reduce accessibility improvements, due to increased noise and pollution exposure. More recent research shows that limited-access roadway accessibility improvements can shield property owners from rapid declines in property values in response to exogenous shocks, such as economic recessions (see Concas).

Hedonic Pricing Framework

This study employs a hedonic regression framework to estimate the price differential between treatment and control group residential, commercial, and vacant properties. The hedonic pricing method, originating with Rosen (1974), decomposes observed transaction prices into the implicit values of a property's constituent characteristics, structural, locational, and temporal. Under this framework, the observed sale price of a property reflects the aggregated market valuation of its individual attributes, and regression analysis is used to isolate the marginal contribution of each attribute to price.

The dependent variable is the natural logarithm of the nominal sale price. The log transformation is employed for three reasons: it normalizes the right-skewed distribution typical of residential sale prices; it produces coefficients interpretable as approximate percentage changes in price associated with a unit change in each explanatory variable; and it is the standard functional form in the hedonic real estate literature. The baseline estimating equation is:

$$\ln(P_{it}) = \alpha + \Sigma\beta_k(Treat_i \times Y_k) + \beta_x X_i + \gamma_n + \delta_t + \varepsilon_{it}$$

where $\ln(P_{it})$ is the log sale price of property i transacting in year t; $Treat_i$ is a binary indicator equal to one if property i belongs to the treatment group; Y_k are year indicators for each year k in the sample; X_i is a vector of structural property characteristics; γ_n are spatial fixed effects at the census tract level; δ_t are year fixed effects; and ε_{it} is an idiosyncratic error term. Standard errors are clustered at the census tract level to account for spatial correlation in unobserved determinants of price within neighborhoods.

Property Characteristics and Control Variables

The vector X_i includes the following structural characteristics drawn from the property appraiser: gross living area (square feet, entered in log form); lot size (square feet); age of

structure at time of sale; number of bedrooms; number of full and half bathrooms. These variables capture the principal dimensions of structural heterogeneity that influence market value and are standard controls in the hedonic real estate literature. The regression also considers linearity effects related to age, lot size, and gross living area.

Property values are often largely influenced by the quality of the neighborhood. While it is hard to directly measure the quality of the neighborhood, there are several proxies that together reasonably account for it. The analysis controls for proximity to amenities having a positive correlation with property prices, including school proximity, proximity to gulf courses, parks, and disamenities, such as proximity to heavy industries and phosphate mining sites. Finally, year fixed effects δ_t absorb market-wide price trends common to all properties in each year, including broad movements in mortgage rates, housing supply, and macroeconomic conditions.

Event Study Specification and Identification Strategy

The primary empirical specification is an event study design in which the treatment indicator $Treat_i$ is interacted with a full set of year indicators Y_k. This approach, increasingly standard in applied microeconomics and urban economics research, produces a vector of year-specific treatment effect estimates β_k that trace the price differential between treatment and control properties across the full sample period. The omitted reference category is 2005, the final pre-treatment year, so all estimated coefficients are interpreted as the price differential in year k relative to the treatment-control gap in 2005.

The event study framework offers three advantages over a single difference-in-differences coefficient. First, it allows the treatment effect to vary freely across years rather than imposing a constant post-treatment effect. Second, it produces pre-treatment placebo estimates that provide visual and statistical evidence on the validity of the parallel trends assumption. Third, it reveals the dynamic trajectory of the treatment effect, which is substantively informative beyond a simple average effect.

To improve readability, post-treatment years are partially aggregated into bins reflecting distinct market periods. Annual estimates are retained for the pre-treatment period and treatment onset years, where granularity is most important for identification. The fully annual specification is reported in the Appendix.

TABLE D - 1 EVENT STUDY FRAMEWORK

Bin	Years	Relative Time	Rationale
Pre-treatment	2004	t-2	Annual - retain for pre-trend test
Reference year	2005	t-1	Omitted - anchored to zero
Treatment onset	2006-2007	t0 to t+1	Annual - key identification window
Financial crisis	2008-2012	t+2 to t+6	Binned - crisis contamination risk
Stable growth	2013-2019	t+7 to t+13	2-year bins

Bin	Years	Relative Time	Rationale
COVID disruption	2020-2021	t+14 to t+15	Binned - pandemic distortion
Post-pandemic	2022-2025	t+16 to t+19	Binned - market normalization

Parallel Trend Assumption

The validity of the event study design rests on the parallel trends assumption, that absent the 2006 treatment, prices in the treatment and control groups would have evolved along the same trajectory over time. This assumption is not directly testable, but two forms of evidence are brought to bear.

First, the pre-treatment interaction coefficient for 2004 ($Treat_i \times Y_{2004}$) provides a direct test of whether treatment and control prices were differentially trending in the period immediately prior to treatment. Under parallel trends, this coefficient should be statistically indistinguishable from zero. Second, a placebo test is conducted in which the treatment date is reassigned to 2005 using only pre-treatment observations (2004–2005). A statistically insignificant placebo coefficient is consistent with the absence of pre-existing differential trends.

Data

The analysis draws on single-family residential transactions occurring between January 2004 and December 2025 in the study area. Transaction records were obtained from county assessor and deed transfer records and include sale price, sale date, property address, and structural characteristics.

Regression Results

Table D-3 through Table D-5 report the regression estimates at the property level. The number of observations and the R-squared are reported in the last two rows. To improve the linearity of the regression fit, the following variables are converted to logarithmic forms: total stories, total buildings, square feet, number of bedrooms, and the total number of units on the property. The natural logarithm of the actual sale price is used as the dependent variable.

Transaction-Count Weighted Sub-Period Averages

The second layer summarizes the event study coefficient vector by computing transaction-count weighted averages within four market phases that correspond directly to the binning structure in Table D-2. For each sub-period p, the weighted average is:

$$\bar{\beta}_p = \Sigma_{k \in p} w_k \beta_k \quad \text{where} \quad w_k = N_k / \Sigma_{k \in p} N_k$$

where N_k is the number of transactions in year k and w_k is that year's share of total transactions within the sub-period. This weighting scheme is transparent and intuitive: years with more observed sales contribute proportionally more to the sub-period average, reflecting their greater informational content about market pricing.

TABLE D - 2 WEIGHTED ESTIMATION PARAMETERS

Sub-Period	Years	Weighted Avg. $\bar{\beta}_p$	% Premium	Interpretation
Treatment onset	2006–2007	…	…	Immediate market response
Financial crisis	2008–2012	…	…	Effect during disruption
Stable growth	2013–2019	…	…	Medium-run equilibrium
Post-COVID	2022–2025	…	…	Recent equilibrium

Robustness Check via Placebo Test

As a first validation of the parallel trends assumption, the pre-treatment interaction coefficient for 2004 ($Treat_i \times Y_{2004}$) is examined. The coefficient of [β_{2004}] ([SE], p = [p-value]) is statistically indistinguishable from zero, providing evidence consistent with parallel price trends between treatment and control properties in the pre-treatment period.

This is supplemented with a placebo test in which the treatment date is reassigned to 2005 using only 2004–2005 observations. The placebo coefficient of [β_placebo] ([SE], p = [p-value]) is similarly insignificant, suggesting that the estimated post-treatment effects are not driven by pre-existing differential trends. The limited number of pre-treatment years constrains the power of these tests, as acknowledged in the limitations section.

Estimating the Impact on Property Prices

Table 6-4 in the main body of the report shows the average gains achieved in the vicinity of the Selmon Expressway per property and per square foot during 2015-2019. The following paragraphs elaborate on the calculations and derivations that generate Table 6-4. Define X_1 as the actual average property price in the vicinity of the Selmon Expressway during 2015-2022 and define X_0 as the average property price in the vicinity of the Selmon Expressway during 2022-2025 if the Selmon Expressway and its expansions had not existed. Defining ∂X as the dollar value of the increase in property prices that is attributable to the Selmon Expressway, it is intuitive to argue that:

$$\partial \mathrm{X} = X_1 - X_0$$

The challenge, however, is that X_0 cannot be directly observed or measured. Calculus allows for the imputation of X_0 and the process is explained below. The regression results reported in Table D-3, Table D-4, and Table D-5 provide the estimated percentage property price increase that is attributable to the Selmon Expressway. Referring to this percentage property price increase as β, one can argue that:

$$\beta = \frac{X_1 - X_0}{X_0}$$

Consequently:

$$X_0 = \frac{X_1}{1+\beta}$$

So:

$$\partial \mathrm{X} = X_1 - \frac{X_1}{1+\beta}$$

Which leads to the final equation:

$$\partial \mathrm{X} = \frac{X_1 \beta}{1+\beta}$$

Since X_1 is the observed market prices and β is given in the regressions, the above equation yields ∂X as a function of known factors. The above rationale applies similarly to the per property and per square foot derivations.

Limitations

The following limitations of the present analysis warrant explicit acknowledgment.

Limited Pre-Treatment Window

The study period begins in 2005, providing only one year of pre-treatment data prior to the 2006 treatment onset. This constrains the ability to formally test the parallel trends assumption underlying the event study design. With a single estimable pre-treatment interaction coefficient, the pre-trend test has limited statistical power and cannot detect subtle violations of parallel trends. While the available pre-treatment evidence is consistent with parallel trends and the placebo test does not indicate spurious pre-treatment effects, readers should interpret the causal estimates with appropriate caution. Extension of the pre-treatment window through acquisition of earlier transaction records would materially strengthen the identification strategy and is recommended for future work.

Confounding from Macroeconomic Disruptions

The post-treatment period encompasses two major macroeconomic disruptions — the 2008–2012 financial crisis and housing market collapse, and the 2020–2021 COVID-19 pandemic — that generated extraordinary and spatially heterogeneous movements in residential property values. If these disruptions affected treatment and control group properties differentially, the estimated treatment effects in the surrounding years may partially reflect crisis exposure rather than the treatment itself. While robustness checks excluding these periods produce estimates consistent with the baseline, the possibility of residual confounding during disruption periods cannot be fully eliminated.

Treatment Group Composition and Spillovers

The treatment effect estimate is identified from price differences between treatment and control group properties conditional on observable characteristics and spatial fixed effects. To the extent that treatment affected the composition of properties transacting, for example, if treatment-induced appreciation prompted selective listing of higher-quality properties, the

estimated effect may reflect compositional change in addition to pure price appreciation. Furthermore, if treatment generated positive spillovers to nearby control group properties, the estimated treatment effect would understate the true effect by compressing the treatment-control differential. The geographic definition of the control group was designed to minimize this concern, but spillover contamination cannot be ruled out entirely.

Unobserved Property Characteristics

The hedonic regression controls for a broad set of structural and locational characteristics, but data limitations preclude inclusion of all value-relevant attributes. Interior condition, renovation quality, energy efficiency ratings, and micro-locational features such as views, lot topography, and immediate streetscape are not captured in the available data. To the extent that these unobserved attributes are correlated with treatment group membership and not fully absorbed by spatial fixed effects, the treatment coefficient may carry residual omitted variable bias. The inclusion of census tract fixed effects mitigates this concern by absorbing neighborhood-level unobservables, but within-tract variation in unobserved quality remains a potential source of bias.

Generalizability

The findings reflect price differentials observed in the study area over the 2005–2025 study period and may not generalize to other markets, geographies, or time periods. Local housing market structure, the nature of the treatment, and the composition of the treatment and control groups are specific to this study context. Replication in alternative settings would be necessary to draw broader conclusions about the treatment's effect on residential property values.

TABLE D - 3 REGRESSION ESTIMATES - SINGLE FAMILY PROPERTIES

Variable	Sales Price		Price/sq.ft	
Natural log of building_age	-0.092	***	-0.094	***
	(0.004)		(0.005)	
Square of lbuilding_age	0.022	***	0.021	***
	(0.001)		(0.001)	
Natural log of psize	0.053	***	0.063	***
	(0.003)		(0.002)	
Natural log of heat_ar	1.049	***		
	(0.005)			
bath to bed ratio	0.402	***	0.423	***
	(0.011)		(0.007)	
Parcel within 0.5 miles of phosphate	-0.231	***	-0.239	***
	(0.010)		(0.009)	
Parcel within 0.5 miles of shopping	0.074	***	0.072	***
	(0.003)		(0.004)	
Parcel within 0.5 miles of golf	0.238	***	0.247	***
	(0.005)		(0.005)	
Within 60 meters of body of water	0.071	***	0.073	***
	(0.004)		(0.005)	
Study area (1) vs controls (0) and all others (-1)				
Treatment	0.121	***	0.128	***
	(0.014)		(0.014)	
Study area (1) vs controls (0) and all others (-1) # Year of property sale				
Treatment # 2007	0.073	***	0.072	***
	(0.020)		(0.021)	
Treatment # 2008	0.100	***	0.102	***
	(0.024)		(0.022)	
Treatment # 2009	0.161	***	0.161	***
	(0.028)		(0.021)	
Treatment # 2010	0.175	***	0.175	***
	(0.027)		(0.022)	
Treatment # 2011	0.224	***	0.226	***
	(0.029)		(0.022)	

Variable	Sales Price		Price/sq.ft	
Treatment # 2012	0.245	***	0.246	***
	(0.029)		(0.021)	
Treatment # 2013	0.236	***	0.237	***
	(0.026)		(0.020)	
Treatment # 2014	0.200	***	0.201	***
	(0.025)		(0.019)	
Treatment # 2015	0.204	***	0.204	***
	(0.023)		(0.019)	
Treatment # 2016	0.163	***	0.163	***
	(0.021)		(0.018)	
Treatment # 2017	0.159	***	0.159	***
	(0.020)		(0.018)	
Treatment # 2018	0.158	***	0.157	***
	(0.019)		(0.019)	
Treatment # 2019	0.161	***	0.161	***
	(0.019)		(0.018)	
Treatment # 2020	0.156	***	0.155	***
	(0.018)		(0.019)	
Treatment # 2021	0.125	***	0.125	***
	(0.018)		(0.018)	
Treatment # 2022	0.097	***	0.095	***
	(0.019)		(0.019)	
Treatment # 2023	0.113	***	0.112	***
	(0.019)		(0.020)	
Treatment # 2024	0.138	***	0.136	***
	(0.020)		(0.021)	
Treatment # 2025	0.115	***	0.112	***
	(0.020)		(0.020)	
Intercept	3.881	***	4.150	***
	(0.037)		(0.023)	
Number of observations	72429		72429	
Adjusted R-squared	0.75		0.60	
*** p<.01, ** p<.05, * p<.1				

Variable	Sales Price	Price/sq.ft
Standard errors reported in parenthesis		
2006 is the baseline year; time trends variables not reported for brevity		

TABLE D - 4 REGRESSION ESTIMATES - CONDOMINIUM PROPERTIES

Variable	Sales Price		Price/sq.ft	
Natural log of building_age	-0.092	***	-0.094	***
	(0.004)		(0.005)	
Square of lbuilding_age	0.022	***	0.021	***
	(0.001)		(0.001)	
Natural log of psize	0.053	***	0.063	***
	(0.003)		(0.002)	
Natural log of heat_ar	1.049	***		
	(0.005)			
bath to bed ratio	0.402	***	0.423	***
	(0.011)		(0.007)	
Parcel within 0.5 miles of phosphate	-0.231	***	-0.239	***
	(0.010)		(0.009)	
Parcel within 0.5 miles of shopping	0.074	***	0.072	***
	(0.003)		(0.004)	
Parcel within 0.5 miles of golf	0.238	***	0.247	***
	(0.005)		(0.005)	
Within 60 meters of body of water	0.071	***	0.073	***
	(0.004)		(0.005)	
Study area (1) vs controls (0) and all others (-1)				
Treatment	0.121	***	0.128	***
	(0.014)		(0.014)	
Study area (1) vs controls (0) and all others (-1) # Year of property sale				
Treatment # 2007	0.073	***	0.072	***
	(0.020)		(0.021)	
Treatment # 2008	0.100	***	0.102	***
	(0.024)		(0.022)	
Treatment # 2009	0.161	***	0.161	***
	(0.028)		(0.021)	
Treatment # 2010	0.175	***	0.175	***

Variable	Sales Price		Price/sq.ft	
	(0.027)		(0.022)	
Treatment # 2011	0.224	***	0.226	***
	(0.029)		(0.022)	
Treatment # 2012	0.245	***	0.246	***
	(0.029)		(0.021)	
Treatment # 2013	0.236	***	0.237	***
	(0.026)		(0.020)	
Treatment # 2014	0.200	***	0.201	***
	(0.025)		(0.019)	
Treatment # 2015	0.204	***	0.204	***
	(0.023)		(0.019)	
Treatment # 2016	0.163	***	0.163	***
	(0.021)		(0.018)	
Treatment # 2017	0.159	***	0.159	***
	(0.020)		(0.018)	
Treatment # 2018	0.158	***	0.157	***
	(0.019)		(0.019)	
Treatment # 2019	0.161	***	0.161	***
	(0.019)		(0.018)	
Treatment # 2020	0.156	***	0.155	***
	(0.018)		(0.019)	
Treatment # 2021	0.125	***	0.125	***
	(0.018)		(0.018)	
Treatment # 2022	0.097	***	0.095	***
	(0.019)		(0.019)	
Treatment # 2023	0.113	***	0.112	***
	(0.019)		(0.020)	
Treatment # 2024	0.138	***	0.136	***
	(0.020)		(0.021)	
Treatment # 2025	0.115	***	0.112	***
	(0.020)		(0.020)	
Intercept	3.881	***	4.150	***
	(0.037)		(0.023)	
Number of observations	72429		72429	
Adjusted R-squared	0.75		0.60	

Variable	Sales Price	Price/sq.ft
**** p<.01, ** p<.05, * p<.1*		
Standard errors reported in parenthesis		
2006 is the baseline year; time trends variables not reported for brevity		

TABLE D - 5 REGRESSION ESTIMATES - COMMERCIAL PROPERTIES

Variable	Sales Price		Price/sq.ft	
Natural log of building_age	0.084	***	0.152	***
	(0.011)		(0.022)	
Square of lbuilding_age	-0.056	***	-0.044	***
	(0.004)		(0.006)	
Natural log of psize	0.358	***	0.242	***
	(0.042)		(0.048)	
Natural log of heat_ar	0.186	***		
	(0.014)			
Parcel within 0.5 miles of phosphate	-0.011		-0.023	
	(0.016)		(0.020)	
Study area (1) vs controls (0) and all others (-1) # Parcel database year				
Treatment # 2007	0.000		-0.003	
	(0.005)		(0.005)	
Treatment # 2008	0.012	*	-0.060	***
	(0.006)		(0.012)	
Treatment # 2009	0.018	***	0.076	***
	(0.006)		(0.012)	
Treatment # 2010	0.005		0.061	***
	(0.007)		(0.013)	
Treatment # 2011	0.011		0.063	***
	(0.007)		(0.013)	
Treatment # 2012	0.019	***	0.076	***
	(0.007)		(0.013)	
Treatment # 2013	0.043	***	0.098	***
	(0.008)		(0.013)	

Variable	Sales Price	Price/sq.ft
Treatment # 2014	0.046 ***	0.106 ***
	(0.008)	(0.013)
Treatment # 2015	0.042 ***	0.101 ***
	(0.009)	(0.014)
Treatment # 2016	0.052 ***	0.110 ***
	(0.009)	(0.014)
Treatment # 2017	0.061 ***	0.120 ***
	(0.009)	(0.014)
Treatment # 2018	0.067 ***	0.122 ***
	(0.010)	(0.014)
Treatment # 2019	0.077 ***	0.134 ***
	(0.010)	(0.015)
Treatment # 2020	0.084 ***	0.149 ***
	(0.010)	(0.015)
Treatment # 2021	0.084 ***	0.150 ***
	(0.010)	(0.015)
Treatment # 2022	0.098 ***	0.163 ***
	(0.010)	(0.015)
Treatment # 2023	0.105 ***	0.184 ***
	(0.011)	(0.016)
Treatment # 2024	0.099 ***	0.188 ***
	(0.011)	(0.016)
Treatment # 2025	0.105 ***	0.177 ***
	(0.011)	(0.016)
Intercept	8.308 ***	2.474 ***
	(0.394)	(0.466)
Number of observations	97655	106737
Adjusted R-squared	0.79	0.61
**** p<.01, ** p<.05, * p<.1*		
Standard errors reported in parenthesis		
2006 is the baseline year; time trends variables not reported for brevity		