



City of Green Cove Springs City Council Meeting November 15, 2022 Mobility Plan



Green Cove Springs Mobility Plan

Agenda

- Status Report – Michael Daniels
- VMT & PMT– Jeanette Berk
- Congestion on the Network– Jeanette Berk
- Project List & Costs – Jonathan Slason
- Preliminary Fee Results – Jonathan Slason
- Next Steps
- Questions & Answers





Green Cove Springs Mobility Plan

Status Report



Green Cove Springs Mobility Plan

Preliminary Meeting Schedule

| <u>Meeting</u> | <u>Date</u> |
|---------------------------|--------------------------|
| Kick off | October 12, 2022 |
| City Council | October 18, 2022 |
| Planning and Zoning Board | October 25, 2022 |
| Stakeholder Meeting | October 27, 2022 |
| Stakeholder Meeting | November 14, 2022 |
| City Council | November 15, 2022 |
| Stakeholder Meeting | TBD |
| City Council | December 13, 2022 |





Green Cove Springs Mobility Plan

Vehicle Miles Traveled versus Person Miles Traveled



Green Cove Springs Mobility Plan

Person Trips versus Vehicle Trips



4 person trips



1 vehicle trip **or** 4 person trips

1 car with 4
people



Green Cove Springs Mobility Plan

Person Trips by Mode by Mobility Zone

| Mobility Zone | Trip Mode | 2015 | | 2045 | |
|--------------------|-----------|------------------------|---------------|------------------------|---------------|
| | | Number of Person Trips | Percent Trips | Number of Person Trips | Percent Trips |
| Green Cove Springs | Walk | 3,617 | 9.5% | 8,659 | 10.7% |
| | Bike | 649 | 1.7% | 1,431 | 1.8% |
| | Transit | 11 | 0.0% | 208 | 0.3% |
| | Auto | 33,610 | 88.7% | 70,453 | 87.2% |
| | Total | 37,887 | 100.0% | 80,751 | 100.0% |



Green Cove Springs Mobility Plan

VMT and PMT by Mobility Zone

| Miles Traveled Distribution | Green Cove Springs |
|-----------------------------|--------------------|
| 2015 VMT | 139,582 |
| 2045 VMT | 366,661 |
| Difference VMT | 227,079 |

| Miles Traveled Distribution | Green Cove Springs |
|-----------------------------|--------------------|
| 2015 PMT | 192,845 |
| 2045 PMT | 482,551 |
| Difference PMT | 289,705 |

| Mobility Zone | Year | PMT Flow Type* | | | Bike & Ped & Transit PMT | Total |
|--------------------|------------|----------------|---------|---------|--------------------------|---------|
| | | II | IE\EI | EE | | |
| Green Cove Springs | 2015 | 20,391 | 65,187 | 101,680 | 5,588 | 192,845 |
| | 2045 | 40,570 | 153,913 | 574,630 | 13,438 | 482,551 |
| | Difference | 20,179 | 88,726 | 172,950 | 7,851 | 289,705 |

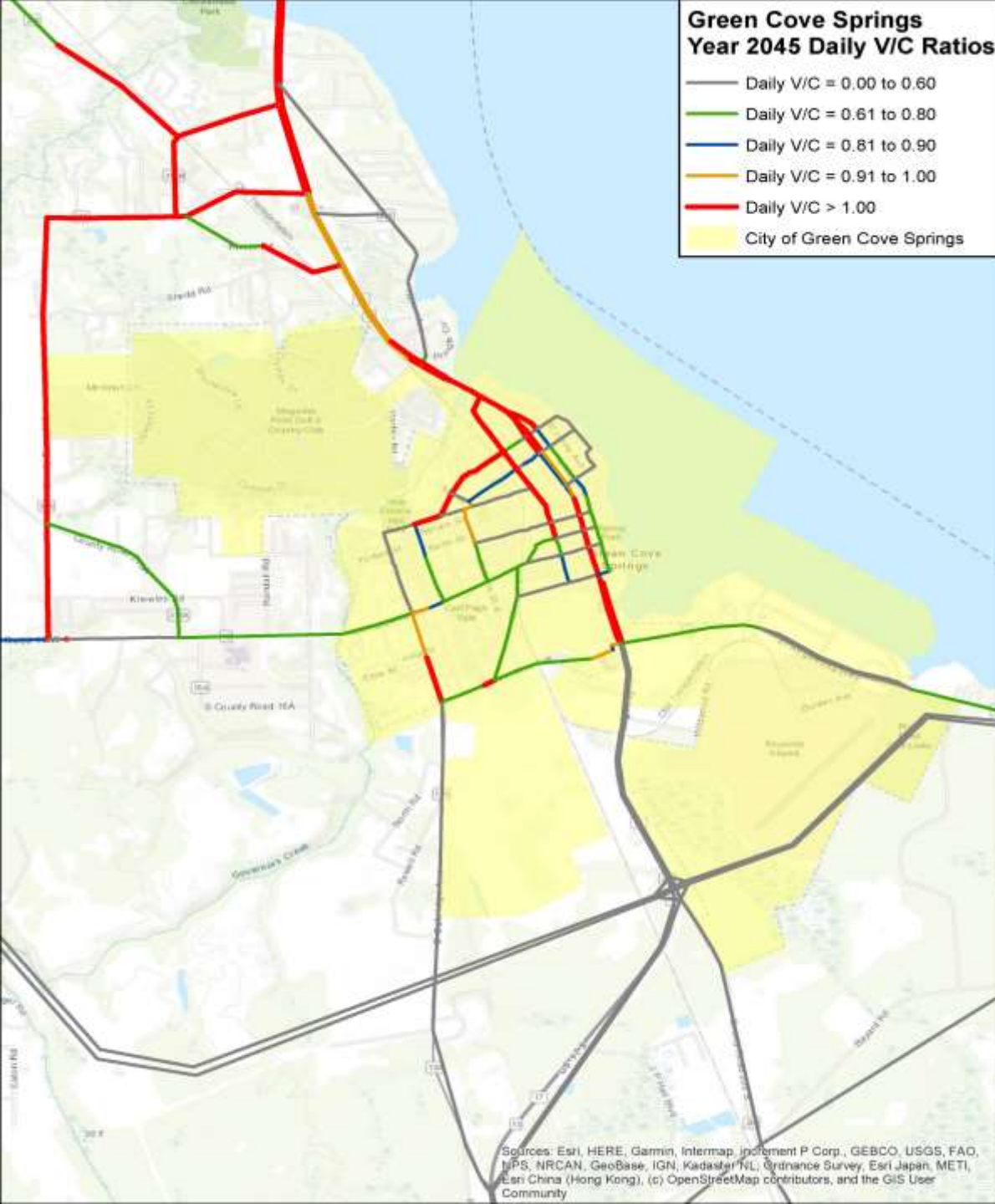
* Person Miles Traveled Flow Types:

- II = Internal – Internal
- IE\EI = Internal – External \ External – Internal
- EE = External – External



Green Cove Springs Mobility Plan

Congestion on the Network



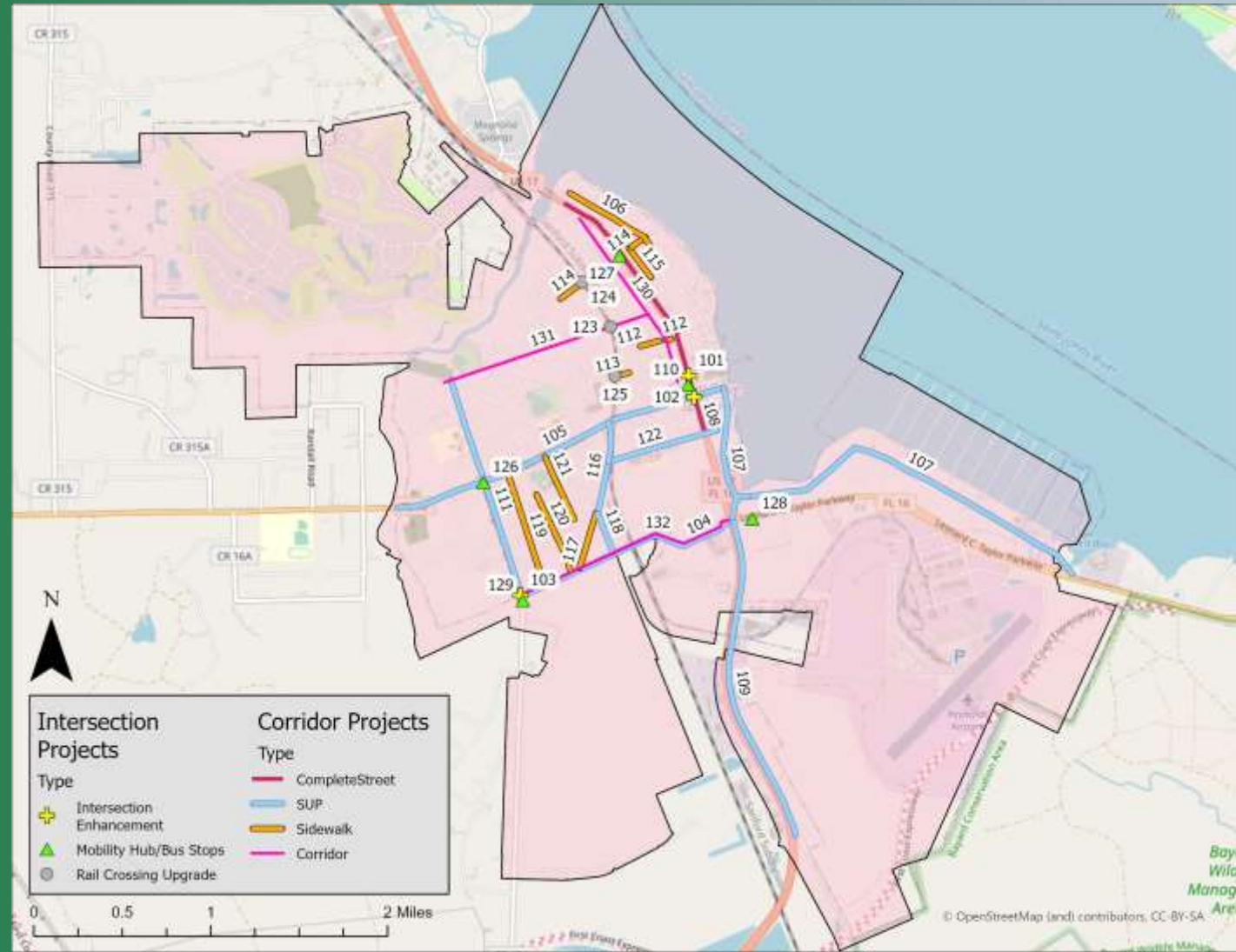


Green Cove Springs Mobility Plan

Project List & Costs



Green Cove Springs Mobility Plan Preliminary Project Map



Project Summary

| | |
|------------------------------|-------------------------------|
| Sidewalk | 2.7 Miles |
| Shared Use Path | 9.4 Miles |
| Intersection Upgrades | 4 intersections |
| Pedestrian rail crossings | 3 locations |
| Bus stop and mobility hubs | 5 locations |
| Complete Street enhancements | US 17 |
| Corridor improvements | 3 Corridors and intersections |



| Project ID | LocationA | LocationB | LocationC | Improvement |
|------------|--|---|---------------------------|--|
| 101 | US 17/Walnut Steet | - | | Intersection Enhancement/Overhead Signage |
| 102 | US 17/SR 16 (Ferris St.) | - | | Roundabout/other intersection improvements |
| 103 | Green Cove Ave and Oakridge Ave | - | | Intersection / Vehicular Capacity Improvements |
| 104 | Green Cove Ave | Oakridge Ave | US 17 | Trail Project |
| 105 | SR 16 West | CR 218 | Spring Park | Trail Project connection to Clay-Duval Trail |
| 106 | St Johns Avenue Sidewalks | Walnut St | Governors St | Sidewalk Project |
| 107 | SR 16/US 17 | Shands Bridge | Spring Park | Trail Project |
| 108 | US 17 | Governors Street | SR 16 East | Landscaping/Mast Arms/Pedestrian Crossings |
| 109 | US 17 Corridor: South side path project | South City Limits | SR 16 East | Palatka-GCS Trail |
| 110 | Mobility Hub - multimodal downtown. Bus Stop | location across from city hall. Parking garage location. Shared mobility options. | | Mobilty Hub and Bus Stop |
| 111 | Oakridge Ave | MLK Jr Blvd | Green Cove Ave | SUP connection to Green Cove Ave |
| 112 | Gum St | Cypress Ave North/Palmetto Ave North | Palmetto Ave North/US 17 | Gum St 6' sidewalk improvements |
| 113 | Center St | Roderico Ave | Green St North | Center St 6' sidewalk improvements |
| 114 | Houston St | Magnolia Ave North/Saint Johns Ave | Leonard St/Pine Ave North | Houston St 6' sidewalk improvements |
| 115 | Magnolia Ave North | Houston St | Bayard St/Walburg St | Magnolia Ave North 6' sidewalk improvements |
| 116 | Melrose Ave | Green Cove Ave | Roberts St | 6' sidewalk |
| 117 | Melrose Ave | Roberts St | Idlewild / 16 | 8' SUP addition |
| 118 | Roberts St South | Melrose Ave | Green Cove Ave | 8' SUP addition |
| 119 | Highland Ave South | SR 16 | Green Cove Ave | Highland St 6' sidewalk addition |
| 120 | Vermont St | Green Cove Ave | | Vermont St 6' sidewalk addition |
| 121 | West St | SR 16 | Joey Dr | West St 6' sidewalk addition |
| 122 | Oak St | Melrose Ave | Magnolia Ave | 8' SUP addition |
| 123 | MLK JR Blvd - Rail crossing | Rail crossing | | Pedestrian Crossing upgrade |
| 124 | Houston St | Rail crossing | | Pedestrian Crossing upgrade |
| 125 | Center St | Rail crossing | | Pedestrian Crossing upgrade |
| 126 | Oakridge Ave / 16 | | | Bus stop. Shelter. Amenities, etc. |
| 127 | 17 / near Houston | | | Bus stop. Shelter. Amenities, etc. |
| 128 | Route 17 / Reynolds Park Bus Stop | | | Bus stop. Shelter. Amenities, etc. |
| 129 | Oakridge - Green Cove Ave | | | Bus stop. Shelter. Amenities, etc. |
| 130 | Palmetto Intersection Improvements | Capacity improvements up to 3 locations | | Roundabouts, turn lanes, or signalization |
| 131 | Martin Luther King Jr Blvd Improvements | Capacity improvements up to 2 locations | | Roundabouts, turn lanes, or signalization |
| 132 | Green Cove Avenue / Cooks Lane | Capacity improvements up to 2 locations | | Roadway lanes, intersections |



| Project ID | LocationA | Improvement | Mobility Fee Cost | Percent Local Traffic | Local Cost |
|------------|---|---|-------------------|-----------------------|-------------|
| 101 | US 17/Walnut Steet | Intersection Enhancement/Overhead Signage | \$ 1,000,000 | 40% | \$ 400,000 |
| 102 | US 17/SR 16 (Ferris St.) | Roundabout/other intersection improvements | \$ 1,000,000 | 40% | \$ 400,000 |
| 103 | Green Cove Ave and Oakridge Ave | Intersection / Vehicular Capacity Improvements | \$ 1,500,000 | 50% | \$ 750,000 |
| 104 | Green Cove Ave | Trail Project | \$ 423,672 | 95% | \$ 402,489 |
| 105 | SR 16 West | Trail Project connection to Clay-Duval Trail | \$ 642,975 | 95% | \$ 610,826 |
| 106 | St JohnsAvenue Sidwalks | Sidewalk Project | \$ 128,581 | 100% | \$ 128,581 |
| 107 | SR 16/US 17 | Trail Project | \$ 981,951 | 95% | \$ 932,854 |
| 108 | US 17 | Landscaping/Mast Arms/Pedestrian Crossings | \$ 500,000 | 40% | \$ 200,000 |
| 109 | US 17 Corridor: South side path project | Palatka-GCS Trail | \$ 611,424 | 95% | \$ 580,853 |
| 110 | Mobility Hub - multimodal downtown. Bus Stop | Mobilty Hub and Bus Stop | \$ 200,000 | 100% | \$ 200,000 |
| 111 | Oakridge Ave | SUP connection to Green Cove Ave | \$ 90,678 | 100% | \$ 90,678 |
| 112 | Gum St | Gum St 6' sidewalk improvements | \$ 32,033 | 100% | \$ 32,033 |
| 113 | Center St | Center St 6' sidewalk improvements | \$ 15,796 | 100% | \$ 15,796 |
| 114 | Houston St | Houston St 6' sidewalk improvements | \$ 84,965 | 100% | \$ 84,965 |
| 115 | Magnolia Ave North | Magnolia Ave North 6' sidewalk improvements | \$ 47,148 | 100% | \$ 47,148 |
| 116 | Melrose Ave | 6' sidewalk | \$ 169,658 | 100% | \$ 169,658 |
| 117 | Melrose Ave | 8' SUP addition | \$ 73,633 | 100% | \$ 73,633 |
| 118 | Roberts St South | 8' SUP addition | \$ 76,940 | 100% | \$ 76,940 |
| 119 | Highland Ave South | Highland St 6' sidewalk addition | \$ 147,149 | 100% | \$ 147,149 |
| 120 | Vermont St | Vermont St 6' sidewalk addition | \$ 106,988 | 100% | \$ 106,988 |
| 121 | West St | West St 6' sidewalk addition | \$ 87,363 | 100% | \$ 87,363 |
| 122 | Oak St | 8' SUP addition | \$ 208,326 | 100% | \$ 208,326 |
| 123 | MLK JR Blvd - Rail crossing | Pedestrian Crossing upgrade | \$ 200,000 | 100% | \$ 200,000 |
| 124 | Houston St | Pedestrian Crossing upgrade | \$ 200,000 | 100% | \$ 200,000 |
| 125 | Center St | Pedestrian Crossing upgrade | \$ 200,000 | 100% | \$ 200,000 |
| 126 | Oakridge Ave / 16 | Bus stop. Shelter. Amenities, etc. | \$ 75,000 | 100% | \$ 75,000 |
| 127 | 17 / near Houston | Bus stop. Shelter. Amenities, etc. | \$ 75,000 | 100% | \$ 75,000 |
| 128 | Route 17 / Reynolds Park Bus Stop | Bus stop. Shelter. Amenities, etc. | \$ 75,000 | 100% | \$ 75,000 |
| 129 | Oakridge - Green Cove Ave | Bus stop. Shelter. Amenities, etc. | \$ 75,000 | 100% | \$ 75,000 |
| 130 | Palmetto Intersection Improvements | Roundabouts, turn lanes, or signalization (4 locations) | \$ 4,000,000 | 100% | \$4,000,000 |
| 131 | Martin Luther King Jr Blvd Improvements | Roundabouts, turn lanes, or signalization (3 locations) | \$ 3,000,000 | 100% | \$3,000,000 |
| 132 | Green Cove Avenue / Cooks Lane | Roadway lanes, intersections (2 locations) | \$ 1,500,000 | 50% | \$ 750,000 |

| | |
|--|------------------|
| Total Cost of new Capacity | \$17,529,280 |
| Cost for External (EE) Share of Capacity | \$3,133,001 |
| Cost for Local Share of Capacity | \$ 14,396,279 |
| Local PMT (non-EE) | 85,621 |
| Cost per PMT | \$ 168.14 |





Green Cove Springs Mobility Plan

Preliminary Fee Calculations



Green Cove Springs Mobility Study

Mobility Fee Calculation

Fee Structure for any Land Use

| | |
|------------------------------------|---|
| Person Mile Traveled (PMT) Fee [A] | PMT Fee= Cost of Projects / growth in PMT |
| Trip Rate [B] | Trip Rate = ITE Trip Rates (11 th Edition) |
| Trip Length [C] | Trip Length = Travel Model |
| % New Trips [D] | % New Trips = accounts for existing uses and pass-by |
| Double Counting Factor [E] | Double Counting Factor = reduces chance of counting the total trip length for two different trip-ends. Travel model counts VMT for trips that remain in the City. |

$$\text{Base Mobility Fee} = A \times B \times C \times D \times E$$

$$\text{Final Mobility Fee} = \text{Base Mobility Fee} - \text{credits}$$



Green Cove Springs Mobility Plan

Base Fee Calculation

| Land Use | PMT Fee | Trip Rate | Trip Length | New Trips | PMT Factor | Double Counting | Base mobility Fee |
|--|---------|-----------|-------------|-----------|------------|-----------------|-------------------|
| Residential (Single Family Detached > 1500 sq. ft) | \$168 | 7.81 | 2.29 | 100% | 1.32 | 0.88 | \$3,493 |
| General Office 10,000 Square Feet | \$168 | 9.74 | 2.29 | 100% | 1.32 | 0.88 | \$43,563 |
| Shopping Center 10,000 Square Feet | \$168 | 37.75 | 2.29 | 66% | 1.32 | 0.88 | \$111,435 |





Green Cove Springs Mobility Plan

Mobility Fee Calculation Land Use Examples



| Land Use Code (1) | Land Use Categories | Land Use Categories | Unit of Measure | Daily Vehicle Trips/ Unit[B] | [pass-by] | New Trips[D] | New Daily Trips/ unit | Avg. Trip Length [C] | Double Counting Factor [F] | PMT Factor | Total Eligible PMT | Base Impact Fee per Unit |
|-------------------|-----------------------|---|-----------------|------------------------------|-------------|--------------|-----------------------|----------------------|----------------------------|------------|--------------------|--------------------------|
| 210.1 | Residential | Single Family (less than 1,500 sqft) & Very Low Income | dwelling | 2.75 | 0% | 100% | 2.75 | 2.29 | 0.88 | 1.32 | 7.32 | \$1,230 |
| 210.2 | Residential | Single Family (less than 1,500 sqft) & Low Income | dwelling | 4.13 | 0% | 100% | 4.13 | 2.29 | 0.88 | 1.32 | 10.99 | \$1,847 |
| 210.3 | Residential | Single Family (less than 1,500 sqft) | dwelling | 6.23 | 0% | 100% | 6.23 | 2.29 | 0.88 | 1.32 | 16.57 | \$2,786 |
| 210 | Residential | Single Family (1,500 sqft to 2,499 sqft) | dwelling | 7.81 | 0% | 100% | 7.81 | 2.29 | 0.88 | 1.32 | 20.78 | \$3,493 |
| 210.4 | Residential | Single Family (> 2,499 sqft) | dwelling | 8.82 | 0% | 100% | 8.82 | 2.29 | 0.88 | 1.32 | 23.46 | \$3,945 |
| 220 | Residential | Multiple Family (low rise) | dwelling | 7.32 | 0% | 100% | 7.32 | 2.29 | 0.88 | 1.32 | 19.47 | \$3,274 |
| 221 | Residential | Multiple Family (mid-rise) | dwelling | 5.44 | 0% | 100% | 5.44 | 2.29 | 0.88 | 1.32 | 14.47 | \$2,433 |
| 240 | Residential | Mobile Home | dwelling | 5.00 | 0% | 100% | 5.00 | 2.29 | 0.88 | 1.32 | 13.30 | \$2,236 |
| 253 | Residential | Assisted Living/Congregate Care Facility | dwelling | 2.02 | 0% | 100% | 2.02 | 2.29 | 0.88 | 1.32 | 5.37 | \$ 903 |
| 260 | Residential | Recreational Home/Vehicle | dwelling | 3.47 | 0% | 100% | 3.47 | 2.29 | 0.88 | 1.32 | 9.23 | \$1,552 |
| 310 | Commercial – Services | Hotel | rooms | 8.36 | 0% | 100% | 8.36 | 2.29 | 0.88 | 1.32 | 22.24 | \$3,739 |
| 320 | Commercial – Services | Motel | rooms | 3.35 | 0% | 100% | 3.35 | 2.29 | 0.88 | 1.32 | 8.91 | \$1,498 |
| 150 | Industrial | Warehouse | ksq ft of GFA | 1.74 | 0% | 100% | 1.74 | 2.29 | 0.88 | 1.32 | 4.63 | \$ 778 |
| 151 | Industrial | Mini-Warehouse | ksq ft of GFA | 1.51 | 0% | 100% | 1.51 | 2.29 | 0.88 | 1.32 | 4.02 | \$ 675 |
| 140 | Industrial | Manufacturing | ksq ft of GFA | 3.93 | 0% | 100% | 3.93 | 2.29 | 0.88 | 1.32 | 10.45 | \$1,758 |
| 420 | Commercial – Retail | Marina | berth | 2.41 | 0% | 100% | 2.41 | 2.29 | 0.88 | 1.32 | 6.41 | \$1,078 |
| 947 | Commercial – Services | Carwash | wash stall | 108.00 | 65% | 35% | 37.80 | 2.29 | 0.88 | 1.32 | 100.55 | \$16,906 |
| 817 | Commercial – Retail | Nursery (Garden Center) | ksq ft of GFA | 68.10 | 26% | 74% | 50.39 | 2.29 | 0.88 | 1.32 | 134.05 | \$22,539 |
| 818 | Commercial – Retail | Nursery (Wholesale) | ksq ft of GFA | 39.00 | 26% | 74% | 28.86 | 2.29 | 0.88 | 1.32 | 76.77 | \$12,908 |
| 816 | Commercial – Retail | Hardware Store | ksq ft of GFA | 9.14 | 26% | 74% | 6.76 | 2.29 | 0.88 | 1.32 | 17.99 | \$3,025 |
| 820 | Commercial – Retail | Shopping Center | ksq ft of GFA | 37.75 | 34% | 66% | 24.92 | 2.29 | 0.88 | 1.32 | 66.28 | \$11,144 |
| 857 | Commercial – Retail | Discount Club | ksq ft of GFA | 41.80 | 17% | 83% | 34.69 | 2.29 | 0.88 | 1.32 | 92.29 | \$15,517 |
| 863 | Commercial – Retail | Electronics Superstore | ksq ft of GFA | 41.05 | 34% | 66% | 27.09 | 2.29 | 0.88 | 1.32 | 72.07 | \$12,118 |
| 880 | Commercial – Retail | Pharmacy/Drugstore w/o Drive Thru | ksq ft of GFA | 90.08 | 53% | 47% | 42.34 | 2.29 | 0.88 | 1.32 | 112.62 | \$18,936 |
| 849 | Commercial – Retail | Tire Superstore | ksq ft of GFA | 20.37 | 28% | 72% | 14.67 | 2.29 | 0.88 | 1.32 | 39.01 | \$6,560 |
| 890 | Commercial – Retail | Furniture Store | ksq ft of GFA | 6.30 | 0% | 100% | 6.30 | 2.29 | 0.88 | 1.32 | 16.76 | \$2,818 |
| 710 | Commercial – Office | General Office Building | ksq ft of GFA | 9.74 | 0% | 100% | 9.74 | 2.29 | 0.88 | 1.32 | 25.91 | \$4,356 |
| 760 | Commercial – Office | Research & Development Center | ksq ft of GFA | 11.26 | 0% | 100% | 11.26 | 2.29 | 0.88 | 1.32 | 29.95 | \$5,036 |
| 550 | Institutional | University / College / Jr College | students | 1.36 | 0% | 100% | 1.36 | 2.29 | 0.88 | 1.32 | 3.60 | \$ 606 |
| 536 | Institutional | Private School, K-12 | ksq ft of GFA | 3.54 | 0% | 100% | 3.54 | 2.29 | 0.88 | 1.32 | 9.42 | \$1,583 |
| 610 | Institutional | Hospital | ksq ft of GFA | 10.72 | 0% | 100% | 10.72 | 2.29 | 0.88 | 1.32 | 28.52 | \$4,795 |
| 620 | Institutional | Nursing home | ksq ft of GFA | 6.64 | 0% | 100% | 6.64 | 2.29 | 0.88 | 1.32 | 17.66 | \$2,970 |
| 560 | Institutional | Place of worship | ksq ft of GFA | 6.95 | 0% | 100% | 6.95 | 2.29 | 0.88 | 1.32 | 18.49 | \$3,108 |

Green Cove Springs Mobility Plan

Next Steps





Green Cove Springs Mobility Plan

Questions and Answers

Thank you!

