Development Impact Fee Advisory Committee

Board Meeting

~ Agenda ~

Tuesday, October 21, 2025	3:35 PM	City Hall - Room 220

Immediately following the Roswell Development Authority Meeting

Call to Order

1. **Approval of the Minutes**

Regular Agenda

2. **Presentation of Draft Impact Fees**
3. **Next Steps (Adoption Timeline/Process)**
4. **Questions and Answers**

City of Roswell

Development Impact Fee Advisory Committee

AGENDA ITEM REPORT

ID # - 10137

MEETING DATE: October 21, 2025

DEPARTMENT: Administration

ITEM TYPE: Presentation

Presentation Development Impact Fee Advisory Committee - Second Meeting

Impact Fee Study Overview
Development Impact Fee Advisory Committee

Roswell, Georgia

October 21, 2025

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Development Impact Fee Advisory Mtg #2

Meeting #2: Presentation of Draft Impact Fees
Agenda

Welcome and Introductions:	Michelle M. Alexander, Director Community Development
Project Objectives and Management:	Michelle M. Alexander
Consultant Introduction	Carson Bise, AICP President, Tischler Bise
Draft Impact Fee Results:	Carson Bise

- Presentation of Draft Impact Fees
- Next Steps
- Adoption Process/Timeline
- Questions/Answers

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Development Impact Fee Advisory Committee

- Development Impact Fee Advisory Committee (Required by State law § 36-71-5.)
  - Prior to the adoption of a development impact fee ordinance, a municipality or county adopting an impact fee program shall establish a **Development Impact Fee Advisory Committee**
- The Development Impact Fee Advisory Committee shall serve in an advisory capacity to assist and advise the governing body of the municipality or county
  - Review development projections, assumptions, and methodology

Roswell Impact Fee Study

Roswell's existing Infrastructure categories included:

- Police
- Fire
- Transportation
- Recreation & Parks

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Methodologies for Fee Calculations

- Three standard methodologies
  - Sometimes multiple methodologies used for one fee category (e.g., plan-based for park land and cost recovery for a recently constructed aquatics center)
  - Cost Recovery (past)
    - Oversized and unique facilities
    - Funds typically used for debt service
  - Incremental Expansion (present)
    - Formula-based approach documents level-of-service with both quantitative and qualitative measures
  - Plan-Based (future)
    - Common for utilities but can also be used for other public facilities with non-impact fee funding

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Sources for Development Projections

- Population projection below is based on alternatives in the (current) **2040 Comprehensive Plan**
- Housing units determined using the PPHU factors and housing unit mix from the **ACS data**
- Employment data is from the **2050 Metropolitan Transportation Plan (Atlanta MPO)**
- Nonresidential square footage was determined using **"employment density factors" established by ITE**

Roswell, Georgia	2024	2025	2026	2027	2028	2029	2034	10-Year Increase	10-Year Avg. Inc.
	Base Year	1	2	3	4	5	10		
Population	**92,236**	**92,986**	**93,743**	**94,505**	**95,274**	**96,049**	**100,019**	**7,783**	778
Housing Units									
Single Family	26,746	26,985	27,204	27,426	27,649	27,874	29,026	**2,280**	228
Multi-family	10,872	10,969	11,058	11,148	11,238	11,330	11,798	**926**	93
Total Housing Units	**37,618**	**37,954**	**38,262**	**38,573**	**38,887**	**39,203**	**40,824**	**3,206**	321
Employment									
Industrial	6,111	6,152	6,194	6,236	6,279	6,321	6,539	**428**	43
Commercial	10,762	10,835	10,909	10,983	11,057	11,132	11,515	**753**	75
Office & Other Service	17,492	17,611	17,730	17,851	17,972	18,094	18,716	**1,224**	122
Institutional	13,391	13,482	13,573	13,666	13,758	13,852	14,328	**937**	94
Total Employment	**47,756**	**48,080**	**48,406**	**48,735**	**49,066**	**49,399**	**51,098**	**3,342**	334
Nonres. Floor Area (x1,000)									
Industrial	4,296	4,332	4,368	4,404	4,441	4,477	4,665	**370**	37
Commercial	6,409	6,443	6,478	6,513	6,548	6,583	6,763	**355**	35
Office & Other Service	7,516	7,552	7,589	7,626	7,663	7,701	7,892	**376**	38
Institutional	3,986	4,018	4,050	4,082	4,114	4,147	4,314	**328**	33
Total Nonres. Floor Area (x1,000)	**22,206**	**22,345**	**22,484**	**22,624**	**22,766**	**22,908**	**23,634**	**1,428**	143

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Recreation, Parks and Cultural Affairs

- Incremental expansion methodology
- Citywide service area
- Components
  - Park Improvements
  - Indoor recreation space
  - No land component (focus will be on making improvements to undeveloped park land)
- Credit for principal payments on existing debt

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Recreation, Parks and Cultural Affairs

- Park improvements level of service and cost factors

Description	Improvements	Unit Cost	Replacement Cost
Small Diamond Field	11	$638,000	$7,018,000
Large Diamond Field	7	$838,000	$5,866,000
Large Rectangular Field	12	$80,000	$960,000
Artificial Turf Field	7	$1,200,000	$8,400,000
Bocce Court (Outdoor)	3	$12,000	$36,000
Pickleball Court (Outdoor)	4	$191,000	$764,000
Futsal Court (Outdoor)	1	$191,000	$191,000
Tennis Court (Outdoor)	26	$75,000	$1,950,000
Volleyball Court (Outdoor)	2	$50,000	$100,000
Playground	9	$308,000	$2,772,000
Splashpad	2	$400,000	$800,000
Campground	1	$100,000	$100,000
Fitness Area	3	$2,000	$6,000
Disc Golf (Holes)	18	$6,850	$123,300
Boat Launch	4	$80,000	$320,000
Dog Park	3	$15,000	$45,000
Garden	4	$60,000	$240,000
Stage/Ampitheater	3	$115,000	$345,000
Picnic Shelter	25	$20,000	$500,000
Restroom	28	$100,000	$2,800,000
Concessions Building	14	$38,000	$532,000
Basketball Gym	7	$175,000	$1,225,000
Volleyball Court (Indoor)	4	$150,000	$600,000
Meeting Room	9	$250,000	$2,250,000
Pool	1	$500,000	$500,000
Total	**208**	**$184,824**	**$38,443,300**

Cost Allocation Factors	
Cost per Improvement	$184,824

Level-of-Service (LOS) Standards	
Existing Improvements	208
Residential	
Residential Share	100%
2024 Population	92,236
Improvements per Person	0.0023
Cost per Person	**$416.79**

Source: City of Roswell

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Recreation, Parks and Cultural Affairs

- Indoor recreation and cultural space level of service and cost factors

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Waller Park Community Center	13,288	$630	$8,371,440
Adult Aquatics Facility	13,589	$378	$5,136,642
Groveway Adult Recreation Center	20,561	$588	$12,089,868
Bill Johnson Community Building	32,301	$640	$20,666,180
Roswell River Landing	5,358	$378	$2,025,324
Art Center East	3,094	$630	$1,949,220
Cultural Arts Center	35,000	$840	$29,400,000
Art Center West	13,570	$640	$8,682,086
Physical Activity Building	38,376	$589	$22,618,814
Pool Building	4,278	$589	$2,521,453
Visual Arts Center	12,117	$589	$7,141,760
Total	**191,532**	**$630**	**$120,602,787**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$630

Level-of-Service (LOS) Standards	
Existing Square Feet	191,532
Residential	
Residential Share	100%
2024 Population	92,236
Square Feet per Person	2.0765
Cost per Person	**$1,307.55**

Source: City of Roswell

Recreation, Parks and Cultural Affairs

- 10-year projection of future park improvement needs

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Park Improvements	0.0023 Improvements	per Person	$184,824

Demand for Park Improvements		
Year	Population	Improvements
2024	92,236	208.0
2025	92,986	209.7
2026	93,743	211.4
2027	94,505	213.1
2028	95,274	214.9
2029	96,049	216.6
2030	96,830	218.4
2031	97,617	220.1
2032	98,411	221.9
2033	99,212	223.7
2034	100,019	225.6
10-Yr Increase	**7,783**	**17.6**

Growth-Related Expenditures	$3,243,741

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Recreation, Parks and Cultural Affairs

- 10-year projection of future indoor recreation and cultural needs

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq. Ft.
Community Centers	2.0765 Square Feet	per Person	$630

Demand for Community Centers		
Year	Population	Square Feet
2024	92,236	191,532
2025	92,986	193,090
2026	93,743	194,660
2027	94,505	196,244
2028	95,274	197,840
2029	96,049	199,449
2030	96,830	201,071
2031	97,617	202,706
2032	98,411	204,355
2033	99,212	206,017
2034	100,019	207,693
10-Yr Increase	**7,783**	**16,161**

Growth-Related Expenditures	$10,176,134

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Recreation, Parks and Cultural Affairs

- Credit for future principal payments on existing debt

Year	Principal Payment 2023 GO Debt	Population	Debt Cost per Capita
2026	$674,520	92,986	$7.25
2027	$708,400	93,743	$7.56
2028	$742,280	94,505	$7.85
2029	$779,240	95,274	$8.18
2030	$819,280	96,049	$8.53
2031	$859,320	96,830	$8.87
2032	$902,440	97,617	$9.24
2033	$948,640	98,411	$9.64
2034	$994,840	99,212	$10.03
2035	$1,044,120	100,019	$10.44
2036	$1,099,560	100,832	$10.90
2037	$1,151,920	101,652	$11.33
2038	$1,207,360	102,479	$11.78
2039	$1,268,960	103,313	$12.28
2040	$1,333,640	104,153	$12.80
2041	$1,386,000	105,000	$13.20
2042	$1,444,520	105,778	$13.66
2043	$1,499,960	106,556	$14.08
2044	$1,561,560	107,334	$14.55
2045	$1,620,080	108,112	$14.99
Total	**$22,046,640**		**$217.17**

Discount Rate	**5.0%**
Net Present Value	**$127.11**

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Recreation, Parks and Cultural Affairs

- Draft maximum allowable impact fee

Fee Component	Cost per Person
Park Improvements	$416.79
Community Centers	$1,307.55
Principal Payment Credit	($127.11)
Net Cost per Demand Unit	**$1,597.23**

Residential Development	Fees per Unit				
Development Type	Persons per Housing Unit[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)	Percent Change
Single Family	2.66	**$4,249**	$663	$3,586	541%
Multi-Family	1.94	**$3,099**	$451	$2,648	587%

1. See Land Use Assumptions
2. From current fee schedule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are •2,500 sq. ft.

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Fire

- Incremental expansion methodology
- Citywide service area
- Components
  - Station space
  - Vehicles/apparatus
- Credit for principal payments on existing debt

Fire

- Station space level of service and cost factors

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Station 21	16,368	$661	$10,815,974
Station 22	2,900	$1,120	$3,248,000
Station 23	3,000	$1,120	$3,360,000
Station 24	14,090	$630	$8,876,700
Station 25	7,258	$498	$3,617,387
Station 26	8,217	$560	$4,601,520
Station 27	9,947	$630	$6,266,610
Fire RAPSTC	10,314	$497	$5,126,058
Fire Training Burn Building	3,504	$498	$1,746,394
Summit Building (Fire Share)	9,082	$378	$3,432,996
Total	**84,680**	**$603**	**$51,091,639**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$603

Level-of-Service (LOS) Standards	
Existing Square Feet	84,680
Residential	
Residential Share	69%
2024 Population	92,236
Square Feet per Person	0.6335
Cost per Person	**$382.21**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Square Feet per Vehicle Trip	0.1777
Cost per Vehicle Trip	**$107.23**

Source: Roswell Fire Department

Fire

- Vehicle/apparatus level of service and cost factors

Description	Count	Cost Per Unit	Total Cost
Engine	9	$1,080,676	$9,726,084
Aerial	4	$2,249,520	$8,998,080
Heavy Rescue	1	$2,704,000	$2,704,000
Pick Up	16	$165,000	$2,640,000
SUV	11	$96,538	$1,061,918
Med Unit	3	$400,000	$1,200,000
Brush/Truck	1	$230,000	$230,000
CRR	1	$250,000	$250,000
Rescue Boat	1	$125,000	$125,000
TOTAL	**47**	**$573,087**	**$26,935,082**

Cost Allocation Factors	
Total Vehicles	47
Total Cost	$26,935,082
Cost per Vehicle	**$573,087**

Level-of-Service (LOS) Standards	
Existing Vehicles	47
Residential	
Residential Share	69%
2024 Population	92,236
Vehicles per Person	0.0004
Cost per Person	**$201.50**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Vehicles per Vehicle Trip	0.0001
Cost per Vehicle Trip	**$56.53**

Source: Roswell Fire Department

Fire

- 10-year projection of future station space needs

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Fire Facilities	0.6335 Square Feet	per Person	$603
	0.1777 Square Feet	per Vehicle Trip	

Demand for Fire Facilities					
Year	Population	Nonresidential Vehicle Trips	Fire Station Square Feet		
			Residential	Nonresidential	Total
2024	92,236	147,710	58,429	26,251	84,680
2025	92,986	148,559	58,904	26,402	85,306
2026	93,743	149,414	59,384	26,554	85,937
2027	94,505	150,275	59,867	26,707	86,573
2028	95,274	151,142	60,353	26,861	87,214
2029	96,049	152,014	60,844	27,016	87,860
2030	96,830	152,893	61,339	27,172	88,511
2031	97,617	153,777	61,838	27,329	89,167
2032	98,411	154,668	62,341	27,487	89,828
2033	99,212	155,564	62,848	27,647	90,495
2034	100,019	156,467	63,359	27,807	91,166
10-Yr Increase	**7,783**	**8,757**	**4,930**	**1,556**	**6,486**

Growth-Related Expenditures	$2,974,571	$939,006	$3,913,578

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Fire

- 10-year projection of future vehicle/apparatus needs

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Fire Apparatus	0.0004 Vehicles	per Person	$573,087
	0.0001 Vehicles	per Vehicle Trip	

Demand for Fire Apparatus					
Year	Population	Nonresidential Vehicle Trips	Vehicles		
			Residential	Nonresidential	Total
2024	92,236	147,710	32.4	14.6	47.0
2025	92,986	148,559	32.7	14.7	47.3
2026	93,743	149,414	33.0	14.7	47.7
2027	94,505	150,275	33.2	14.8	48.1
2028	95,274	151,142	33.5	14.9	48.4
2029	96,049	152,014	33.8	15.0	48.8
2030	96,830	152,893	34.0	15.1	49.1
2031	97,617	153,777	34.3	15.2	49.5
2032	98,411	154,668	34.6	15.3	49.9
2033	99,212	155,564	34.9	15.3	50.2
2034	100,019	156,467	35.2	15.4	50.6
10-Yr Increase	**7,783**	**8,757**	**2.7**	**0.9**	**3.6**
Growth-Related Expenditures			$1,568,169	$495,036	$2,063,205

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Fire

- Credit for future principal payments on existing debt

Year	Principal Payment 2016 Fire Truck Debt	Principal Payment 2023 GO Debt	Principal Payment 2019 Fire Truck Debt	Principal Payment 2022 Fire Truck Debt	Res. Share 69%	Population	Debt Cost per Capita	Nonres. Share 31%	Nonres. Vehicle Trips	Debt Cost per Trip
2026	$54,484	$83,111	$122,212	$82,780	$236,385	92,986	$2.54	$106,202	148,559	$0.71
2027		$87,285	$125,194	$85,429	$205,557	93,743	$2.19	$92,352	149,414	$0.62
2028		$91,460	$128,249	$88,163	$212,431	94,505	$2.25	$95,440	150,275	$0.64
2029		$96,014	$131,378	$90,984	$219,679	95,274	$2.31	$98,697	151,142	$0.65
2030		$100,947		$93,896	$134,441	96,049	$1.40	$60,401	152,014	$0.40
2031		$105,881		$96,900	$139,919	96,830	$1.44	$62,862	152,893	$0.41
2032		$111,194		$100,001	$145,724	97,617	$1.49	$65,470	153,777	$0.43
2033		$116,886		$103,201	$151,860	98,411	$1.54	$68,227	154,668	$0.44
2034		$122,579		$106,504	$158,067	99,212	$1.59	$71,015	155,564	$0.46
2035		$128,651		$109,912	$164,608	100,019	$1.65	$73,954	156,467	$0.47
2036		$135,482		$113,429	$171,748	100,832	$1.70	$77,162	157,376	$0.49
2037		$141,933		$117,059	$178,704	101,652	$1.76	$80,287	158,291	$0.51
2038		$148,764			$102,647	102,479	$1.00	$46,117	159,212	$0.29
2039		$156,354			$107,884	103,313	$1.04	$48,470	160,139	$0.30
2040		$164,324			$113,383	104,153	$1.09	$50,940	161,073	$0.32
2041		$170,775			$117,835	105,000	$1.12	$52,940	162,013	$0.33
2042		$177,986			$122,810	105,778	$1.16	$55,176	162,959	$0.34
2043		$184,817			$127,523	106,556	$1.20	$57,293	163,912	$0.35
2044		$192,407			$132,760	107,334	$1.24	$59,646	164,871	$0.36
2045		$199,617			$137,736	108,112	$1.27	$61,881	165,837	$0.37
Total	**$54,484**	**$2,716,461**	**$507,035**	**$1,188,257**	**$3,081,703**		**$30.99**	**$1,384,533**		**$8.89**

Discount Rate	**5.0%**		**5.0%**
Net Present Value	**$20.61**		**$5.89**

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Fire

- Draft maximum allowable impact fee

Fee Component	Cost per Person	Cost per Trip
Fire Facilities	$382.21	$107.23
Fire Apparatus	$201.50	$56.53
Principal Payment Credit	($20.61)	($5.89)
Net Cost Per Demand Unit	**$563.09**	**$157.86**

Residential Development	Fees per Unit				
Development Type	Persons per Housing Unit[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)	Percent Change
Single Family	2.66	**$1,498**	$1,086	$412	38%
Multi-Family	1.94	**$1,092**	$738	$354	48%

Nonresidential Development	Fees per 1,000 Square Feet				
Development Type	Average Wkdy Vehicle Trips[1]	Maximum Allowable Fees	Current Fees[3]	Increase or (Decrease)	Percent Change
Industrial	1.69	**$266**	$180	$86	48%
Commercial	12.21	**$1,928**	$260	$1,668	642%
Office & Other Services	5.42	**$856**	$320	$536	167%
Institutional	5.39	**$850**	$320	$530	166%

1. See Land Use Assumptions
2. From current fee schedule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are •2,500 sq. ft.
3. From current fee schedule; assuming Institutional development currently falls under the Office & Other Services

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Police

- Incremental expansion methodology
- Citywide service area
- Components
  - Station/911 Center space
- Credit for principal payments on existing debt

Police

o Station space level of service and cost factors

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Police Shared Evidence	10,500	$490	$5,145,000
Police Storage Building	4,056	$420	$1,703,520
911 Dispatch Center	7,500	$636	$4,767,000
Summit Building (Police Share)	53,918	$630	$33,968,340
Total	**75,974**	**$600**	**$45,583,860**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$600

Level-of-Service (LOS) Standards	
Existing Square Feet	75,974
Residential	
Residential Share	69%
2024 Population	92,236
Police Square Feet per Person	0.5683
Cost per Person	**$341.00**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Square Feet per Vehicle Trip	0.1594
Cost per Vehicle Trip	**$95.67**

Source: Roswell Police Department

Police

- 10-year projection of future station space needs

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Police Facilities	0.5683 Square Feet	per Person	$600
	0.1594 Square Feet	per Vehicle Trip	

Demand for Police Facilities					
Year	Population	Nonresidential Vehicle Trips	Police Station Square Feet		
			Residential	Nonresidential	Total
2024	92,236	147,710	52,422	23,552	75,974
2025	92,986	148,559	52,848	23,687	76,536
2026	93,743	149,414	53,278	23,824	77,102
2027	94,505	150,275	53,712	23,961	77,673
2028	95,274	151,142	54,148	24,099	78,248
2029	96,049	152,014	54,589	24,238	78,827
2030	96,830	152,893	55,033	24,378	79,411
2031	97,617	153,777	55,481	24,519	80,000
2032	98,411	154,668	55,932	24,661	80,593
2033	99,212	155,564	56,387	24,804	81,191
2034	100,019	156,467	56,845	24,948	81,794
10-Yr Increase	**7,783**	**8,757**	**4,423**	**1,396**	**5,820**
Growth-Related Expenditures			$2,653,907	$837,779	$3,491,686

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Police

- Credit for future principal payments on existing debt

Year	Principal Payment 2024 Police Tahoe Debt	Principal Payment 2023 GO Debt	Res. Share 69%	Population	Debt Cost per Capita	Nonres. Share 31%	Nonres. Vehicle Trips	Debt Cost per Trip
2026	$255,365	$83,111	$233,548	92,986	$2.51	$104,927	148,559	$0.71
2027	$268,593	$87,285	$245,556	93,743	$2.62	$110,322	149,414	$0.74
2028	$282,506	$91,460	$258,036	94,505	$2.73	$115,929	150,275	$0.77
2029	$297,140	$96,014	$271,276	95,274	$2.85	$121,878	151,142	$0.81
2030		$100,947	$69,653	96,049	$0.73	$31,294	152,014	$0.21
2031		$105,881	$73,058	96,830	$0.75	$32,823	152,893	$0.21
2032		$111,194	$76,724	97,617	$0.79	$34,470	153,777	$0.22
2033		$116,886	$80,651	98,411	$0.82	$36,235	154,668	$0.23
2034		$122,579	$84,579	99,212	$0.85	$37,999	155,564	$0.24
2035		$128,651	$88,769	100,019	$0.89	$39,882	156,467	$0.25
2036		$135,482	$93,482	100,832	$0.93	$41,999	157,376	$0.27
2037		$141,933	$97,934	101,652	$0.96	$43,999	158,291	$0.28
2038		$148,764	$102,647	102,479	$1.00	$46,117	159,212	$0.29
2039		$156,354	$107,884	103,313	$1.04	$48,470	160,139	$0.30
2040		$164,324	$113,383	104,153	$1.09	$50,940	161,073	$0.32
2041		$170,775	$117,835	105,000	$1.12	$52,940	162,013	$0.33
2042		$177,986	$122,810	105,778	$1.16	$55,176	162,959	$0.34
2043		$184,817	$127,523	106,556	$1.20	$57,293	163,912	$0.35
2044		$192,407	$132,760	107,334	$1.24	$59,646	164,871	$0.36
2045		$199,617	$137,736	108,112	$1.27	$61,881	165,837	$0.37
Total	**$1,103,604**	**$2,716,461**	**$2,635,845**		**$26.55**	**$1,184,220**		**$7.60**

Discount Rate	**5.0%**		**5.0%**
Net Present Value	**$17.96**		**$5.12**

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Police

- Draft maximum allowable impact fee

Fee Component	Cost per Person	Cost per Trip
Police Facilities	$341.00	$95.67
Principal Payment Credit	($17.96)	($5.12)
Net Cost per Demand Unit	**$323.05**	**$90.55**

Residential Development	Fees per Unit			
Development Type	Persons per Housing Unit[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)
Single Family	2.66	**$859**	$0	$859
Multi-Family	1.94	**$627**	$0	$627

Nonresidential Development	Fees per 1,000 Square Feet			
Development Type	Average Wkdy Vehicle Trips[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)
Industrial	1.69	**$153**	$0	$153
Commercial	12.21	**$1,106**	$0	$1,106
Office & Other Service	5.42	**$491**	$0	$491
Institutional	5.39	**$488**	$0	$488

1. See Land Use Assumptions
2. Currently no impact fee assessed for Police.

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Transportation

- Plan-based methodology
- Citywide service area
- Components
  - Roadway projects
  - Pedestrian projects
- Credit for future TSPLOST project funding

Travel Demand Model

- Projection of person trips

Development Type	Dev Unit	ITE Code	Avg Wkday PTE	Trip Adjustment	2024 Dev Units	2024 Pers Trips
Single Family	HU	210	16.49	66%	26,746	291,174
Multi-Family	HU	220	11.79	66%	10,872	84,596
Industrial	KSF	130	6.58	50%	4,296	14,133
Commercial	KSF	820	72.26	33%	6,409	152,829
Office & Other Services	KSF	710	21.17	50%	7,516	79,536
Institutional	KSF	610	21.03	50%	3,986	41,909
Total						664,178

	Roswell, GA	Base 2024	1 2025	2 2026	3 2027	4 2028	5 2029	6 2030	7 2031	8 2032	9 2033	10 2034	10-Year Increase
Development	Single Family Units	26,746	26,932	27,151	27,371	27,594	27,819	28,045	28,273	28,503	28,735	28,968	2,222
	Multi-Family Units	10,872	11,004	11,094	11,184	11,275	11,367	11,459	11,552	11,646	11,741	11,837	965
	Industrial KSF	4,296	4,332	4,368	4,404	4,441	4,477	4,515	4,552	4,589	4,627	4,665	370
	Commercial KSF	6,409	6,443	6,478	6,513	6,548	6,583	6,619	6,654	6,690	6,727	6,763	355
	Office & Other Services KSF	7,516	7,552	7,589	7,626	7,663	7,701	7,738	7,776	7,814	7,853	7,892	376
	Institutional KSF	3,986	4,018	4,050	4,082	4,114	4,147	4,180	4,213	4,247	4,280	4,314	328
Avg Weekday Person Trips	Single-Family Trips	291,174	293,194	295,579	297,983	300,407	302,850	305,313	307,797	310,300	312,824	315,368	24,194
	Multi-Family Trips	84,596	85,626	86,322	87,024	87,732	88,445	89,165	89,890	90,621	91,358	92,101	7,505
	Residential Trips	375,771	378,820	381,901	385,007	388,139	391,296	394,478	397,687	400,921	404,182	407,470	31,699
	Industrial Trips	14,133	14,251	14,370	14,489	14,610	14,731	14,853	14,976	15,099	15,224	15,349	1,216
	Commercial Trips	152,829	153,649	154,474	155,306	156,142	156,985	157,833	158,687	159,546	160,412	161,283	8,454
	Office & Other Services Trips	79,536	79,922	80,311	80,702	81,096	81,493	81,892	82,294	82,698	83,106	83,516	3,980
	Institutional Trips	41,909	42,243	42,580	42,919	43,260	43,604	43,950	44,299	44,649	45,002	45,358	3,449
	Nonresidential Trips	288,407	290,066	291,735	293,416	295,108	296,812	298,527	300,254	301,993	303,744	305,506	17,099
	Total Person Trips	**664,178**	**668,886**	**673,636**	**678,423**	**683,247**	**688,108**	**693,006**	**697,941**	**702,915**	**707,926**	**712,976**	**48,798**

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Travel Demand Model

- Projection of average weekday vehicle trips

Development Type	Dev Unit	ITE Code	Avg Wkday VTE	Trip Adjustment	2024 Dev Units	2024 Veh Trips
Single Family	HU	210	9.43	66%	26,746	166,462
Multi-Family	HU	220	6.74	66%	10,872	48,363
Industrial	KSF	130	3.37	50%	4,296	7,238
Commercial	KSF	820	37.01	33%	6,409	78,272
Office & Other Services	KSF	710	10.84	50%	7,516	40,735
Institutional	KSF	610	10.77	50%	3,986	21,464
Total						362,535

	Roswell, GA	Base	1	2	3	4	5	6	7	8	9	10	10-Year Increase
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	
Development	Single Family Units	26,746	26,932	27,151	27,371	27,594	27,819	28,045	28,273	28,503	28,735	28,968	2,222
	Multi-Family Units	10,872	11,004	11,094	11,184	11,275	11,367	11,459	11,552	11,646	11,741	11,837	965
	Industrial KSF	4,296	4,332	4,368	4,404	4,441	4,477	4,515	4,552	4,589	4,627	4,665	370
	Commercial KSF	6,409	6,443	6,478	6,513	6,548	6,583	6,619	6,654	6,690	6,727	6,763	355
	Office & Other Services KSF	7,516	7,552	7,589	7,626	7,663	7,701	7,738	7,776	7,814	7,853	7,892	376
	Institutional KSF	3,986	4,018	4,050	4,082	4,114	4,147	4,180	4,213	4,247	4,280	4,314	328
Avg Weekday Vehicle Trips	Single-Family Trips	166,462	167,617	168,980	170,354	171,740	173,137	174,545	175,965	177,396	178,839	180,293	13,832
	Multi-Family Trips	48,363	48,951	49,350	49,751	50,156	50,563	50,975	51,389	51,807	52,229	52,654	4,291
	Residential Trips	214,825	216,568	218,330	220,105	221,896	223,700	225,520	227,354	229,203	231,067	232,947	18,122
	Industrial Trips	7,238	7,299	7,360	7,421	7,482	7,544	7,607	7,670	7,733	7,797	7,861	623
	Commercial Trips	78,272	78,692	79,115	79,541	79,969	80,401	80,835	81,272	81,713	82,156	82,602	4,330
	Office & Other Services Trips	40,735	40,933	41,132	41,332	41,534	41,737	41,941	42,147	42,355	42,563	42,773	2,038
	Institutional Trips	21,464	21,635	21,808	21,981	22,156	22,332	22,509	22,688	22,867	23,048	23,230	1,767
	Nonresidential Trips	147,710	148,559	149,414	150,275	151,142	152,014	152,893	153,777	154,668	155,564	156,467	8,757
	Total Vehicle Trips	**362,535**	**365,127**	**367,744**	**370,380**	**373,037**	**375,715**	**378,413**	**381,131**	**383,871**	**386,632**	**389,414**	**26,879**

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Transportation

- Proposed roadway and pedestrian capacity expanding projects

Category	Roadway Projects	Cost
Intersection	Alpharetta Hwy (@ Hembree Rd)	$900,000
Intersection	Alpharetta Hwy (@ Hill St)	$45,000
Intersection	Alpharetta Hwy (@ Mansell Rd)	$45,000
Intersection	Alpharetta Hwy (@ Norcross St)	$20,000
Intersection	Alpharetta Hwy (@ Upper Hembree Rd)	$20,000
Intersection	Canton Street (@ Webb St)	$900,000
Intersection	Crabapple Road (@ Hembree Rd)	$4,075,000
Intersection	Crossville Road (@ Crabapple Rd)	$35,000
Intersection	Grimes Bridge Road (@ Dogwood Rd)	$1,465,214
Intersection	Hardscrabble Road (@ Etris Rd)	$20,000
Intersection	Hardscrabble Road (@ King Rd)	$4,075,000
Intersection	Holcomb Bridge Road (@ Alpharetta Hwy)	$35,000
Intersection	Holcomb Bridge Road (@ Dogwood Rd)	$19,673,722
Intersection	Holcomb Bridge Road (@ Old Alabama Rd)	$150,000
Intersection	Holcomb Bridge Road (@ Warsaw Rd)	$8,991,743
Intersection	Houze Rd (@ Crabapple Rd)	$50,000
Intersection	Houze Rd (@ Mansell Rd)	$2,000,000
Intersection	Mansell Road (@ Colonial Center Pwky)	$20,000
Intersection	Mansell Road (@ Warsaw Rd)	$50,000
Intersection	Marietta Hwy (@ Willeo Rd)	$20,000
Intersection	Old Alabama Road (@ Roxburgh Dr)	$8,500,000
Intersection	Old Roswell Road (@ Old Roswell Pl)	$350,000
Intersection	Riverside Rd (@ Dogwood Rd)	$4,075,000
Intersection	SR 9/120 (Village Center)	$12,968,467
Intersection	Woodstock Rd (@ Mtn. Park)	$30,000
Realignments	Big Creek Pkwy (Phase III)	$63,956,100
Realignments	Commerce Parkway	$2,081,490
Realignments	Houze Road	$4,827,256
Realignments	Mansell Road	$13,685,230
Realignments	Old Ellis/Sun Valley Connector	$2,119,491
Realignments	Riverwalk Emergency Access	$154,355
Realignments	Sun Valley/Houze Connector	$550,518
Total		$155,888,586

Source: City of Roswell Transportation Master Plan, 2023.

Category	Pedestrian Projects	Cost
Corridor	Canton Street	$2,500,000
Corridor	Cherry Way	$1,061,333
Corridor	Green Street	$1,988,898
Corridor	Warsaw Road Safety Improvements	$1,662,363
Corridor	Webb Street	$4,561,000
Bicycle/Pedestrian	Canton Street	$126,298
Bicycle/Pedestrian	Crabapple Rd	$2,131,634
Bicycle/Pedestrian	Crabapple Rd/Canton St	$1,720,120
Bicycle/Pedestrian	East Roswell Trail	$3,708,204
Bicycle/Pedestrian	Elkins Rd	$2,737,144
Bicycle/Pedestrian	Grimes Bridge Rd	$2,142,451
Bicycle/Pedestrian	Grimes Bridge Rd	$2,350,536
Bicycle/Pedestrian	Grimes Bridge Rd	$1,521,133
Bicycle/Pedestrian	Hembree Rd	$4,972,250
Bicycle/Pedestrian	Hog Wallow Creek	$2,177,952
Bicycle/Pedestrian	Hog Wallow Creek	$2,726,245
Bicycle/Pedestrian	Hog Wallow Creek	$4,115,609
Bicycle/Pedestrian	Holcomb Bridge Rd	$100,000
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,139,969
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,269,630
Bicycle/Pedestrian	Holcomb Woods Pkwy	$50,000
Bicycle/Pedestrian	Jones Rd	$415,000
Bicycle/Pedestrian	Market Boulevard	$2,713,378
Bicycle/Pedestrian	Mimosa Blvd/Oxbo Rd	$2,597,286
Bicycle/Pedestrian	Norcross St	$1,707,544
Bicycle/Pedestrian	Norcross St	$2,236,178
Bicycle/Pedestrian	N-S Corridor	$2,581,679
Bicycle/Pedestrian	Old Roswell Cemetary Trail	$417,574
Bicycle/Pedestrian	Old Roswell Rd	$1,849,055
Bicycle/Pedestrian	Warsaw Rd	$2,567,271
Bicycle/Pedestrian	Willeo Rd	$1,956,233
Total		$69,803,967

Source: City of Roswell Transportation Master Plan, 2023.

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Transportation

- Level of service and cost factors

Cost Factors	
Roadway Projects Cost	$155,888,586
Pedestrian Projects Cost	$69,803,967

Level-of-Service (LOS) Standards	
2034 Vehicle Trips	389,414
Cost per Vehicle Trip	$400.32
2034 Person Trips	712,976
Cost per Person Trip	$97.91

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Transportation

- Credit for future TSPLOST funding to transportation projects

TSPLOST III Credit							
Fiscal Year	Annual Debt Service	Roadway Share	Vehicle Trips	Payment per Veh Trip	Pedestrian Share	Person Trips Trips	Payment per Per Trip
2024	$0	$0	362,535	$0.00	$0	664,178	$0.00
2025	$13,333,333	$9,209,495	365,127	$25.22	$4,123,838	668,886	$6.17
2026	$13,333,333	$9,209,495	367,744	$25.04	$4,123,838	673,636	$6.12
2027	$13,333,333	$9,209,495	370,380	$24.86	$4,123,838	678,423	$6.08
2028	$13,333,333	$9,209,495	373,037	$24.69	$4,123,838	683,247	$6.04
2029	$13,333,333	$9,209,495	375,715	$24.51	$4,123,838	688,108	$5.99
2030	$13,333,333	$9,209,495	378,413	$24.34	$4,123,838	693,006	$5.95
2031	$0	$0	381,131	$0.00	$0	697,941	$0.00
2032	$0	$0	383,871	$0.00	$0	702,915	$0.00
2033	$0	$0	386,632	$0.00	$0	707,926	$0.00
2034	$0	$0	389,414	$0.00	$0	712,976	$0.00
Total	$80,000,000	$55,256,971		$148.67	$24,743,029		$36.34

Rate	3.00%	Credit per Vehicle Trip	$130.40	Credit per Person Trip	$31.88

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Transportation

- Draft maximum allowable impact fee

Fee Component	Cost per Vehicle Trip	Cost per Person Trip
Roadway	$400.32	$0.00
Pedestrian	$0.00	$97.91
TSPLOST III Credit	($130.40)	($31.88)
Total	$269.92	$66.03

Residential Fees per Unit								
Unit Type	Average Weekday Vehicle Trips[1]	Average Weekday Person Trips[1]	Roadway	Pedestrian	Maximum Allowable Fees	Current Fees[2]	Increase / (Decrease)	Percent Change
Single Family	6.22	10.89	$1,680	$719	$2,399	$2,004	$395	20%
Multi-Family	4.45	7.78	$1,201	$514	$1,714	$1,363	$351	26%

Nonresidential Fees per 1,000 Square Feet								
Development Type	Average Weekday Vehicle Trips[1]	Average Weekday Person Trips[1]	Roadway	Pedestrian	Maximum Allowable Fees	Current Fees[3]	Increase / (Decrease)	Percent Change
Industrial	1.69	3.29	$455	$217	$672	$865	($193)	-22%
Commercial	12.21	23.85	$3,297	$1,574	$4,871	$2,718	$2,153	79%
Office & Other Services	5.42	10.58	$1,463	$699	$2,162	$1,176	$986	84%
Institutional	5.39	10.51	$1,453	$694	$2,148	$1,176	$972	83%

1. See Land Use Assumptions
2. From current fee schudule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are •2,500 sq. ft.
3. From current fee schedule; assuming Institutional development currently falls under the Office & Other Services category.

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Impact Fee Summary

o Draft maximum allowable impact fees

Maximum Allowable Impact Fees						
Residential Development	**Fees Per Unit**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Single Family	$4,249	$859	$1,498	$2,399	$270	**$9,275**
Multi-Family	$3,099	$627	$1,092	$1,714	$196	**$6,728**

Nonresidential Development	**Fees per 1,000 Square Feet**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Industrial	$0	$153	$266	$672	$33	**$1,123**
Commercial	$0	$1,106	$1,928	$4,871	$237	**$8,142**
Office & Other Services	$0	$491	$856	$2,162	$105	**$3,613**
Institutional	$0	$488	$850	$2,148	$105	**$3,590**

Current Fees						
Residential Development	**Fees Per Unit**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Single Family[1]	$663	$0	$1,086	$2,004	$59	**$3,812**
Multi-Family[1]	$451	$0	$738	$1,363	$87	**$2,639**

Nonresidential Development	**Fees per 1,000 Square Feet**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Industrial	$0	$0	$180	$865	$20	**$1,065**
Commercial	$0	$0	$260	$2,718	$55	**$3,033**
Office & Other Services	$0	$0	$320	$1,176	$30	**$1,526**
Institutional[2]	$0	$0	$320	$1,176	$30	**$1,526**

Increase / (Decrease)						
Residential Development	**Fees Per Unit**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Single Family	$3,586	$859	$412	$395	$211	**$5,463**
Multi-Family	$2,648	$627	$354	$351	$109	**$4,089**

Nonresidential Development	**Fees per 1,000 Square Feet**					
Development Type	**Parks & Recreation**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Industrial	$0	$153	$86	($193)	$13	**$58**
Commercial	$0	$1,106	$1,668	$2,153	$182	**$5,109**
Office & Other Services	$0	$491	$536	$986	$75	**$2,087**
Institutional	$0	$488	$530	$972	$75	**$2,064**

1. From current fee schudule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are•2,500 sq. ft.
2. From current fee schedule; assuming Institutional development currently falls under the Office & Other Services category.

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Impact Fee Comparison

- Comparison of single family fees to nearby communities

Community	Recreation & Parks	Library	Police	Fire	Transportation	Admin (3%)	Total Single Family Impact Fee
Milton	$6,915	$0	$203	$1,763	$1,461	$310	$10,652
Roswell	$4,249	$0	$859	$1,498	$2,399	$270	$9,275
Forsyth County[1]	$1,253	$157	$543	$0	$7,066	$0	$9,019
Sandy Springs[1]	$4,544	$0	$445	$0	$1,667	$200	$6,856
Alpharetta[2]	-	-	-	-	-	$195	$6,690
Cumming	$2,157	$148	$328	$510	$2,104	$0	$5,247
Canton	$2,809	$0	$77	$539	$406	$115	$3,946
Gainesville	$1,400	$261	$375	$685	$0	$82	$2,803
Cherokee County[1]	$1,620	$126	$60	$581	$174	$0	$2,561
Stockbridge	$1,246	$0	$0	$0	$1,105	$71	$2,422
Kennesaw	$628	$0	$50	$0	$0	$21	$699

[1] Public Safety fee shown as Police here

[2] Fee schedule by facility type not published

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Next Steps

- Present findings and recommended options Mayor and Council
- Begin adoption process

Questions?

Impact Fee Report and Capital Improvement Element
(An Amendment to the Comprehensive Plan)

Prepared for:
City of Roswell, Georgia

October 2, 2025

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EXECUTIVE SUMMARY

Roswell, Georgia, contracted with TischlerBise, Inc., to analyze the impacts of future development on capital facilities and calculate impact fees based on that analysis. Impact fees are one-time payments used to construct system improvements needed to accommodate future development. The impact fee represents future development's proportionate share of infrastructure costs. Impact fees may be used for infrastructure improvements or debt service for growth-related infrastructure. In contrast to general taxes, impact fees may not be used for operations, maintenance, replacement, or correcting existing deficiencies.

The Georgia Development Impact Fee Act (O.C.G.A. 36-71-1) sets forth the foundation local jurisdictions must follow in order to develop and implement a development impact fee program. Accordingly, Roswell has developed its land use/growth pattern projections and assumptions in accordance with Georgia law with specific guidance provided by the Georgia Department of Community Affairs with the update, preparation, and submittal of the "Roswell Comprehensive Plan".

The City of Roswell has experienced steady residential and nonresidential growth in recent years, and this growth is expected to continue. As a result, Roswell must plan for future infrastructure improvements if existing levels of service are to be maintained. This report includes the following infrastructure categories:

- Recreation & Parks
- Police
- Fire
- Transportation

CAPITAL IMPROVEMENT ELEMENT

This document, the Roswell Impact Fee Report, will serve as the basis for the Capital Improvement Element of the Roswell Comprehensive Plan. As such it provides a guide for the efficient use of public funds that are to be invested in roads and streets. The investment in the facilities presented in this report will significantly contribute to the quality of life in Roswell for both the residential and commercial citizens and for future populations as well.

The projects to be presented in the CIE and projected costs are based on current conditions and development patterns and form the basis for the nexus of the Transportation Impact Fees calculated in this report. As the development in the Roswell community occurs, the assumptions and recommendations made as part of this study will need to be updated periodically to ensure that they align with actual development patterns.

GENERAL LEGAL FRAMEWORK

Both state and federal courts have recognized the imposition of impact fees on development as a legitimate form of land use regulation, provided the fees meet standards intended to protect against regulatory takings. Land use regulations, development exactions, and impact fees are subject to the Fifth Amendment prohibition on taking of private property for public use without just compensation. To comply

with the Fifth Amendment, development regulations must be shown to substantially advance a legitimate governmental interest. In the case of impact fees, that interest is in the protection of public health, safety, and welfare by ensuring that development is not detrimental to the quality of essential public services. The means to this end are also important, requiring both procedural and substantive due process. The process followed to receive community input, with stakeholder meetings, work sessions, and public hearings provide opportunity for comments and refinements to the impact fees.

There is little federal case law specifically dealing with impact fees, although other rulings on other types of exactions (e.g., land dedication requirements) are relevant. In one of the most important exaction cases, the U. S. Supreme Court found that a government agency imposing exactions on development must demonstrate an "essential nexus" between the exaction and the interest being protected (see *Nollan v. California Coastal Commission,* 1987). In a more recent case (*Dolan v. City of Tigard, OR,* 1994), the Court ruled that an exaction also must be "roughly proportional" to the burden created by development. However, the *Dolan* decision appeared to set a higher standard of review for mandatory dedications of land than for monetary exactions such as impact fees.

There are three reasonable relationship requirements for impact fees that are closely related to "rational nexus" or "reasonable relationship" requirements enunciated by a number of state courts. Although the term "dual rational nexus" is often used to characterize the standard by which courts evaluate the validity of impact fees under the U.S. Constitution, TischlerBise prefers a more rigorous formulation that recognizes three elements: need, benefit, and proportionality. The dual rational nexus test explicitly addresses only the first two, although proportionality is reasonably implied, and was specifically mentioned by the U.S. Supreme Court in the *Dolan* case. Individual elements of the nexus standard are discussed further in the following paragraphs.

All new development in a community creates additional demands on some, or all, public facilities provided by local government. If the capacity of facilities is not increased to satisfy that additional demand, the quality, or availability, of public services for the entire community will deteriorate. Impact fees may be used to recover the cost of growth-related facilities, but only to the extent that the need for facilities is a consequence of development that is subject to the fees. The *Nollan* decision reinforced the principle that development exactions may be used only to mitigate conditions created by the developments upon which they are imposed. That principle clearly applies to impact fees. In this study, the impact of development on infrastructure needs is analyzed in terms of quantifiable relationships between various types of development and the demand for specific facilities, based on applicable level-of-service standards.

The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the *Dolan* case (although the relevance of that decision to impact fees has been debated) and is logically necessary to establish a proper nexus. Proportionality is established through the procedures used to identify growth-related facility costs, and in the methods used to calculate impact fees for various types of facilities and categories of development. The demand for facilities is measured in terms of relevant and measurable attributes of development (e.g., a typical housing unit's average weekday vehicle trips).

A sufficient benefit relationship requires that impact fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. Impact fees must be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, nothing in the U.S. Constitution or the state enabling legislation requires that facilities funded with fee revenues be available *exclusively* to development paying the fees. In other words, benefit may extend to a general area including multiple real estate developments. These procedural, as well as substantive, issues are intended to ensure that new development benefits from the impact fees they are required to pay. The authority and procedures to implement impact fees is separate from and complementary to the authority to require improvements as part of subdivision or zoning review.

GEORGIA DEVELOPMENT IMPACT FEE ACT

The Georgia Development Impact Fee Act (DIFA) requires that development impact fees be determined in a manner that ensures a reasonable correlation or relationship (nexus) between the fee levied and the specific capital improvements to be constructed. Since different communities have different facility and infrastructure needs, it is not unusual for impact fees to vary from one jurisdiction to another. In summary, legally defensible impact fees in Georgia must:

- Be in compliance with the Georgia Development Impact Fee Act.
- Not be arbitrary or discriminatory.
- Not be based on the relationship of the impact fee charged and the benefits received by the fee payer.
- Be used to finance new facilities/infrastructure needed to serve new development.
- Not exceed the proportionate share of the cost of the facilities needed to serve new residents or developments (i.e. nexus).

Under DIFA, Roswell must:

- Use impact fee revenues appropriately:
  - Only for expansion of facilities and infrastructure.
  - Never for O & M expenses.
- Establish a Capital Improvement Program also referred to as the Capital Improvement Element which includes a Schedule of Improvements also known as the Short-Term Work Program (STWP).
- Establish impact fee accounts (cannot be co-mingled with other City funds).
- Establish an Advisory Committee to assist and advise with regard to the adoption of an impact fee ordinance.
- Establish service area districts
- Prepare an annual report in conjunction with the annual audit.
- Update the Capital Improvement Element on an annual basis.

CONCEPTUAL IMPACT FEE CALCULATION

In contrast to project-level improvements, impact fees fund growth-related infrastructure that will benefit multiple development projects, or the entire service area (usually referred to as system improvements). The first step is to determine an appropriate demand indicator for the particular type of infrastructure. The demand indicator measures the number of service units for each unit of development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the impact fee formula is to determine infrastructure units per service unit, typically called level-of-service (LOS) standards. In keeping with the park example, a common LOS standard is improved park acres per thousand people. The third step in the impact fee formula is the cost of various infrastructure units. To complete the park example, this part of the formula would establish a cost per acre for land acquisition and / or park improvements.

METHODOLOGY

Impact fees for the capital facilities made necessary by future development must be based on the same level of service (LOS) provided to existing development in the service area. There are three basic methodologies used to calculate impact fees. They examine the past, present, and future status of infrastructure. Each methodology has advantages and disadvantages in a particular situation and can be used simultaneously for different cost components. Reduced to its simplest terms, the process of calculating impact fees involves two main steps: (1) determining the cost of growth-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss basic methodologies for calculating impact fees and how those methodologies can be applied.

- **Cost Recovery** (past improvements) - The rationale for recoupment, often called cost recovery, is that future development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before future development can take place.
- **Incremental Expansion** (concurrent improvements) - The incremental expansion methodology documents current LOS standards for each type of public facility, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in infrastructure. Future development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate future development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.
- **Plan-Based** (future improvements) - The plan-based methodology allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic

options for determining the cost per demand unit: (1) total cost of a public facility can be divided by total demand units (average cost), or (2) the growth-share of the public facility cost can be divided by the net increase in demand units over the planning timeframe (marginal cost).

Evaluation of Credits

There are two types of credits that should be addressed in impact fee studies and ordinances. The first type of credit is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the impact fee. This type of credit is integrated into the fee calculation, thus reducing the amount of the impact fee. The second type of credit is a site-specific credit, or developer reimbursement, for dedication of land or construction of system improvements. **This type of credit is addressed in the administration and implementation of the impact fee program.** For ease of administration, TischlerBise normally recommends developer reimbursements for system improvements.

Specific policies and procedures related to site-specific credits should be addressed in the ordinance that establishes the impact fees. Project-level improvements, required as part of the development approval process, are not eligible for credits against impact fees. If a developer constructs a system improvement included in the fee calculations, it will be necessary to either reimburse the developer or provide a credit against the fees in the area that benefits from the system improvement. The latter option is more difficult to administer because it creates unique fees for specific geographic areas. Based on national experience, it is better for the City to establish a reimbursement agreement with the developer that constructs a system improvement. The reimbursement agreement should be limited to a payback period of no more than ten years, and the City should not pay interest on the outstanding balance. The developer must provide sufficient documentation of the actual cost incurred for the system improvement. The City should only agree to pay the lesser of the actual construction cost or the estimated cost used in the impact fee analysis. If the City pays more than the cost used in the fee analysis, there will be insufficient fee revenue. Reimbursement agreements should only obligate the City to reimburse developers annually according to actual fee collections from the benefiting area.

Impact Fee Components

Figure 1 summarizes service areas, methodologies, and infrastructure cost components for the impact fee categories.

Figure 1: Proposed Impact Fee Service Areas, Methodologies, and Cost Components

Infrastructure Category	Service Area	Cost Recovery	Incremental Expansion	Plan-Based	Cost Allocation
Parks	Citywide	N/A	Park Improvements, Community Centers	N/A	Population
Police	Citywide	N/A	Police Facilities	N/A	Population, Nonres. Vehicle Trips
Fire	Citywide	N/A	Fire Facilities, Fire Apparatus	N/A	Population, Nonres. Vehicle Trips
Transportation	Citywide	N/A	N/A	Roadway Expansion, Pedestrian Expansion	Vehicle Trips, Person Trips

Calculations throughout this report are based on an analysis conducted using Excel software. Most results are discussed in the report using two, three, and four decimal places, which represent rounded figures. However, the analysis itself uses figures carried to their ultimate decimal places; therefore, the sums and products generated in the analysis may not equal the sum or product if the reader replicates the calculation with the factors shown in the report (due to the rounding of figures shown, not in the analysis).

Maximum Allowable Impact Fees

Impact fees for residential development will be assessed per dwelling unit, based on the type of unit. Nonresidential impact fees will be assessed per 1,000 square feet of floor area, based on the development type. The fees represent the maximum allowable fees. Roswell may adopt fees that are less than the amounts shown; however, a reduction in impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital improvements, and/or a decrease in Roswell's LOS standards. All costs in the Impact Fee Report represent current dollars with no assumed inflation over time. If costs change significantly over time, impact fees should be recalculated.

Figure 2: Maximum Allowable Impact Fees

Residential Development	Fees Per Unit					
Development Type	**Recreation & Parks**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Single Family	$4,249	$859	$1,498	$2,399	$270	**$9,275**
Multi-Family	$3,099	$627	$1,092	$1,714	$196	**$6,728**

Nonresidential Development	Fees per 1,000 Square Feet					
Development Type	**Recreation & Parks**	**Police**	**Fire**	**Transportation**	**Admin (3%)**	**Total**
Industrial	$0	$153	$266	$672	$33	**$1,123**
Commercial	$0	$1,106	$1,928	$4,871	$237	**$8,142**
Office & Other Services	$0	$491	$856	$2,162	$105	**$3,613**
Institutional	$0	$488	$850	$2,148	$105	**$3,590**

CHANGES OF LAND USE

As discussed above, the impact fees would be established by ordinance and only assessed against new land uses. Specific policies and procedures related to change of land use and alternative fee calculations should also be contained within the ordinance. For example, if an existing 10,000 square foot industrial building is converted into a new retail space, it is reasonable that the County may want to charge the difference in transportation fee between the old use (industrial) and the new use (retail).

CAPITAL IMPROVEMENT ELEMENT

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The key component of any Development Impact Fee Program is the establishment of a Capital Improvement Element. Roswell has selected certain projects within the CIP to be included in the CIE for impact fee calculation purposes.

The Capital Improvement Plan is simply a capital improvement budget or spending plan that sets the priority and timing for the construction or purchase of facilities, equipment and/or infrastructure that have been identified as necessary to maintain the current level of service demands from the public and to maintain the overall quality of life within a community.

As with most Capital Improvement Plans, Roswell has developed the current CIP based upon input received from the City's consulting engineers, City staff and input from Roswell residents submitted during the update of the Comprehensive Plan.

The following section provides a summary of the Capital Improvement Plans depicting growth-related capital demands and costs on which the fees are based. Each infrastructure category is discussed in turn. First, Figure 3 and Figure 4 lists the projected growth over the next ten years in Roswell (further details can be found in Appendix B: Land Use Assumptions). As the development in the Roswell community occurs, the assumptions and recommendations made as part of this study will need to be updated periodically to ensure that they align with actual development patterns.

Figure 3. Ten-Year Projected Residential Growth

Roswell, GA	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	10-Year
	Base Year	1	2	3	4	5	6	7	8	9	10	Increase
Population												
Single Family	71,144	71,638	72,221	72,808	73,400	73,997	74,599	75,206	75,818	76,434	77,056	**5,911**
Multi-Family	21,092	21,348	21,522	21,697	21,873	22,051	22,231	22,412	22,594	22,778	22,963	**1,871**
Total	**92,236**	**92,986**	**93,743**	**94,505**	**95,274**	**96,049**	**96,830**	**97,617**	**98,411**	**99,212**	**100,019**	**7,783**
Housing Units												
Single Family	26,746	26,932	27,151	27,371	27,594	27,819	28,045	28,273	28,503	28,735	28,968	**2,222**
Multi-Family	10,872	11,004	11,094	11,184	11,275	11,367	11,459	11,552	11,646	11,741	11,837	**965**
Total	**37,618**	**37,936**	**38,244**	**38,555**	**38,869**	**39,185**	**39,504**	**39,825**	**40,149**	**40,476**	**40,805**	**3,187**

Figure 4. Ten-Year Projected Nonresidential Growth

Roswell, GA	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	10-Year
	Base Year	1	2	3	4	5	6	7	8	9	10	Increase
Employment												
Industrial	6,111	6,152	6,194	6,236	6,279	6,321	6,364	6,407	6,451	6,495	6,539	**428**
Commercial	10,762	10,835	10,909	10,983	11,057	11,132	11,208	11,284	11,360	11,438	11,515	**753**
Office & Other Services	17,492	17,611	17,730	17,851	17,972	18,094	18,217	18,340	18,465	18,590	18,716	**1,224**
Institutional	13,391	13,482	13,573	13,666	13,758	13,852	13,946	14,040	14,136	14,232	14,328	**937**
Total	**47,756**	**48,080**	**48,406**	**48,735**	**49,066**	**49,399**	**49,734**	**50,072**	**50,412**	**50,754**	**51,098**	**3,342**
Nonresidential Sq Ft (x1,000)												
Industrial	4,296	4,332	4,368	4,404	4,441	4,477	4,515	4,552	4,589	4,627	4,665	**370**
Commercial	6,409	6,443	6,478	6,513	6,548	6,583	6,619	6,654	6,690	6,727	6,763	**355**
Office & Other Services	7,516	7,552	7,589	7,626	7,663	7,701	7,738	7,776	7,814	7,853	7,892	**376**
Institutional	3,986	4,018	4,050	4,082	4,114	4,147	4,180	4,213	4,247	4,280	4,314	**328**
Total	**22,206**	**22,345**	**22,484**	**22,624**	**22,766**	**22,908**	**23,051**	**23,196**	**23,341**	**23,487**	**23,634**	**1,428**

The Georgia Development Fee Act (O.C.G.A. § 36-71-1et seq.) details items necessary in a Capital Improvement Element, shall include, but not be limited to, the following items:

- **Projection of Needs:** A projection of needs for system improvements during a planning horizon established in the comprehensive plan. To ensure consistency, the time frame used for projecting infrastructure needs shall coincide with the planning horizon used for the remainder of the comprehensive plan.
- **Schedule of Improvements:** A schedule of capital improvements intended to meet the projected needs for system improvements identified in the comprehensive plan. At a minimum, improvements shall be scheduled over a five-year period, coinciding with the initial Short Term Work Program developed in the comprehensive plan. Thereafter, local governments shall annually update and maintain, at a minimum, a five-year schedule of system improvements within the Capital Improvements Element of their comprehensive plans.
- **Description of Funding Sources:** A description of anticipated funding sources for each required improvement.
- **Designation of Service Areas and Levels of Service:** The designation of one or more service areas within the community and the assignment of levels of service for public facilities within each service area. Once assigned to each service area, levels of service shall be used as the basis for calculating impact fees.

A summary of the impact fee related capital improvement plan (CIP) for each infrastructure category included in the study is provided below. Additionally, the City of Roswell annually prepares a larger CIP which includes items that are not impact fee eligible such as replacement of existing capital assets.

Recreation & Parks

The Recreation & Parks development impact fee is based on the existing level of service provided for park improvements and community centers. Listed in the Recreation & Parks CIP (Figure 5), to serve projected growth at current levels of service, the City plans to purchase or construct new park improvements. The Recreation & Parks Department also plans to renovate and expand capacity within existing community centers—particularly the Crabapple Center—to support program growth, rather than building new

centers. It is expected that the CIP will be updated to reflect the demand for Recreation & Parks facilities based on the current level of service provided should demand be higher or lower than projected need.

Figure 5. Recreation & Parks 10-Year Growth-Related CIP

10-Year Impact Fee Capital Plan	Units	10-Year Need	Cost per Unit	Cost
New Improvements				
New Improvements	Units	18	$184,824	$3,326,824
New Community Centers				
New Community Centers	Square Feet	16,161	$630	$10,176,134
Total				**$13,502,958**

POLICE

The Police development impact fee is based on the current level of service for police station space. Listed in the Police CIP (Figure 6), to serve projected growth at current levels of service, the City plans to purchase or construct new police facilities space. There are currently plans to expand the current 911 Call Center in order to accommodate increased demand for emergency response. It is expected that the CIP will be updated to reflect the demand for Police facilities based on the current level of service provided should demand be higher or lower than projected need.

Figure 6. Police 10-Year Growth-Related CIP

10-Year Impact Fee Capital Plan	Units	10-Year Need	Cost per Unit	Cost
New Facilities				
New Facilities	Square Feet	5,820	$600	$3,491,959
Total				**$3,491,959**

FIRE

The Fire development impact fee is based on the current level of service for fire station space and fire apparatus. Listed in the Fire CIP (Figure 7), to serve projected growth at current levels of service, the City plans to purchase or construct new fire facilities space. The Fire Department also plans to purchase additions to their fleet, which is anticipated to be fully funded by impact fees. It is expected that the CIP will be updated to reflect the demand for Fire facilities based on the current level of service provided should demand be higher or lower than projected need.

Figure 7. Fire 10-Year Growth-Related CIP

10-Year Impact Fee Capital Plan	Units	10-Year Need	Cost per Unit	Cost
New Apparatus				
New Apparatus	Units	4	$573,087	$2,292,347
New Facilities				
New Facilities	Square Feet	6,486	$603	$3,913,578
Total				**$6,205,925**

TRANSPORTATION

The transportation development impact fee is broken down into two CIPs to account for the different methodologies applied to the roadway and pedestrian components. Listed in Figure 8 is the City's the ten-year CIP for roadway expansion. The total CIP cost is $155.9 million, keeping in mind that this CIP has omitted projects that are not impact fee eligible to some extent (projects that do not expand capacity).

Figure 8. Roadway 10-Year Growth-Related CIP

Category	Roadway Projects	Cost*
Intersection	Alpharetta Hwy (@ Hembree Rd)	$900,000
Intersection	Alpharetta Hwy (@ Hill St)	$45,000
Intersection	Alpharetta Hwy (@ Mansell Rd)	$45,000
Intersection	Alpharetta Hwy (@ Norcross St)	$20,000
Intersection	Alpharetta Hwy (@ Upper Hembree Rd)	$20,000
Intersection	Canton Street (@ Webb St)	$900,000
Intersection	Crabapple Road (@ Hembree Rd)	$4,075,000
Intersection	Crossville Road (@ Crabapple Rd)	$35,000
Intersection	Grimes Bridge Road (@ Dogwood Rd)	$1,465,214
Intersection	Hardscrabble Road (@ Etris Rd)	$20,000
Intersection	Hardscrabble Road (@ King Rd)	$4,075,000
Intersection	Holcomb Bridge Road (@ Alpharetta Hwy)	$35,000
Intersection	Holcomb Bridge Road (@ Dogwood Rd)	$19,673,722
Intersection	Holcomb Bridge Road (@ Old Alabama Rd)	$150,000
Intersection	Holcomb Bridge Road (@ Warsaw Rd)	$8,991,743
Intersection	Houze Rd (@ Crabapple Rd)	$50,000
Intersection	Houze Rd (@ Mansell Rd)	$2,000,000
Intersection	Mansell Road (@ Colonial Center Pwky)	$20,000
Intersection	Mansell Road (@ Warsaw Rd)	$50,000
Intersection	Marietta Hwy (@ Willeo Rd)	$20,000
Intersection	Old Alabama Road (@ Roxburgh Dr)	$8,500,000
Intersection	Old Roswell Road (@ Old Roswell Pl)	$350,000
Intersection	Riverside Rd (@ Dogwood Rd)	$4,075,000
Intersection	SR 9/120 (Village Center)	$12,968,467
Intersection	Woodstock Rd (@ Mtn. Park)	$30,000
Realignments	Big Creek Pkwy (Phase III)	$63,956,100
Realignments	Commerce Parkway	$2,081,490
Realignments	Houze Road	$4,827,256
Realignments	Mansell Road	$13,685,230
Realignments	Old Ellis/Sun Valley Connector	$2,119,491
Realignments	Riverwalk Emergency Access	$154,355
Realignments	Sun Valley/Houze Connector	$550,518
Total		$155,888,586

Source: City of Roswell Transportation Master Plan, 2023.

* One a case by case basis the City will determine the extent to which a project is impact fee eligible. The portion of the project that is not expanding the capacity of the parks system is not impact fee eligible.

Figure 9 is the 10-year CIP for pedestrian expansion projects. The total CIP cost is $69.8 million, keeping in mind that this CIP has omitted projects that are not impact fee eligible to some extent (projects that do not expand capacity).

Figure 9. Pedestrian 10-Year Growth-Related CIP

Category	Pedestrian Projects	Cost*
Corridor	Canton Street	$2,500,000
Corridor	Cherry Way	$1,061,333
Corridor	Green Street	$1,988,898
Corridor	Warsaw Road Safety Improvements	$1,662,363
Corridor	Webb Street	$4,561,000
Bicycle/Pedestrian	Canton Street	$126,298
Bicycle/Pedestrian	Crabapple Rd	$2,131,634
Bicycle/Pedestrian	Crabapple Rd/Canton St	$1,720,120
Bicycle/Pedestrian	East Roswell Trail	$3,708,204
Bicycle/Pedestrian	Elkins Rd	$2,737,144
Bicycle/Pedestrian	Grimes Bridge Rd	$2,142,451
Bicycle/Pedestrian	Grimes Bridge Rd	$2,350,536
Bicycle/Pedestrian	Grimes Bridge Rd	$1,521,133
Bicycle/Pedestrian	Hembree Rd	$4,972,250
Bicycle/Pedestrian	Hog Wallow Creek	$2,177,952
Bicycle/Pedestrian	Hog Wallow Creek	$2,726,245
Bicycle/Pedestrian	Hog Wallow Creek	$4,115,609
Bicycle/Pedestrian	Holcomb Bridge Rd	$100,000
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,139,969
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,269,630
Bicycle/Pedestrian	Holcomb Woods Pkwy	$50,000
Bicycle/Pedestrian	Jones Rd	$415,000
Bicycle/Pedestrian	Market Boulevard	$2,713,378
Bicycle/Pedestrian	Mimosa Blvd/Oxbo Rd	$2,597,286
Bicycle/Pedestrian	Norcross St	$1,707,544
Bicycle/Pedestrian	Norcross St	$2,236,178
Bicycle/Pedestrian	N-S Corridor	$2,581,679
Bicycle/Pedestrian	Old Roswell Cemetary Trail	$417,574
Bicycle/Pedestrian	Old Roswell Rd	$1,849,055
Bicycle/Pedestrian	Warsaw Rd	$2,567,271
Bicycle/Pedestrian	Willeo Rd	$1,956,233
Total		$69,803,967

Source: City of Roswell Transportation Master Plan, 2023.

* One a case by case basis the City will determine the extent to which a project is impact fee eligible. The portion of the project that is not expanding the capacity of the parks system is not impact fee eligible.

FUNDING SOURCES FOR CAPITAL IMPROVEMENTS

In determining the proportionate share of capital costs attributable to new development, the Georgia Development Fee Act states that local governments must detail anticipated funding sources for each required improvement. The following are other sources of revenue that were accounted for in the impact fee study:

- The TSPLOST I is a capital projects fund used to track projects funded by Transportation Special Purpose Local Option Sales Tax (TSPLOST). On November 8, 2016, Fulton County voters approved the T-SPLOST referendum to fund transportation projects in their cities. In April 2017, collection of a 0.75% (3/4 of a cent) sales tax was implemented to fund transportation projects specifically recommended by each Fulton County city.
- The TSPLOST II Project Fund is a capital projects fund used to track projects funded by the second round of Transportation Special Purpose Local Option Sales Tax (TSPLOST). At the June 14, 2021, City Council meeting, the City of Roswell's elected officials approved a list of eligible projects for TSPLOST II.
- General Fund transfers are the other major source of capital revenue for the City. The City will continue leveraging this source to help fund portions of future CIPs.
- The City of Roswell has existing balances in its impact fee funds. These balance will be used in the to fund previous growth's portion of the City's CIPs. While future impact fee collection will fund future growth's portion of the CIPs. In this case, a credit is not necessary

RECREATION & PARKS IMPACT FEE

METHODOLOGY

The Georgia Development Fee Act § 36-71-2(17)(C) includes the following public facilities:

> *"Parks, open space and recreation areas, and related facilities."*

The Recreation & Parks impact fee includes components for park improvements and community centers. Both components of the Recreation & Parks impact fee use the incremental expansion methodology. A component for land is not included, as the City does not anticipate purchasing additional park land in the next five years. Rather, the focus will be on improving existing undeveloped park land.

PROPORTIONATE SHARE

TischlerBise recommends allocating 100 percent of the cost of parks infrastructure to residential development since nonresidential development generates negligible demand for parks infrastructure.

SERVICE UNITS

Residential impact fees are calculated on a per capita basis, then converted to an appropriate amount for each type of housing unit based on the number of persons per housing unit (PPHU). As shown in Figure 10, the current PPHU factors are 2.66 persons per single family unit and 1.94 persons per multi-family unit. These factors are based on the U.S. Census Bureau's 2019-2023 American Community Survey (ACS) 5-year estimates (see Appendix B).

Figure 10: Recreation & Parks Service Units

Development Type	Persons per Housing Unit[1]
Single Family	2.66
Multi-Family	1.94

1. See Land Use Assumptions

PARK IMPROVEMENTS – INCREMENTAL EXPANSION

The City of Roswell plans to expand its current inventory of 208 park improvements to serve future development. This analysis allocates 100 percent of demand for park improvements to residential development. Roswell's existing level of service is 0.0023 improvements per person (208 improvements x 100 percent residential share / 92,236 persons).

Based on a total replacement cost of $38,443,300 for Roswell's existing 208 park improvements, the average replacement cost is $184,824 per improvement. For park improvements, the cost is $416.79 per person (0.0023 improvements per person x $184,824 per improvement).

Figure 11: Park Improvements Level of Service

Description	Improvements	Unit Cost	Replacement Cost
Small Diamond Field	11	$638,000	$7,018,000
Large Diamond Field	7	$838,000	$5,866,000
Large Rectangular Field	12	$80,000	$960,000
Artificial Turf Field	7	$1,200,000	$8,400,000
Bocce Court (Outdoor)	3	$12,000	$36,000
Pickleball Court (Outdoor)	4	$191,000	$764,000
Futsal Court (Outdoor)	1	$191,000	$191,000
Tennis Court (Outdoor)	26	$75,000	$1,950,000
Volleyball Court (Outdoor)	2	$50,000	$100,000
Playground	9	$308,000	$2,772,000
Splashpad	2	$400,000	$800,000
Campground	1	$100,000	$100,000
Fitness Area	3	$2,000	$6,000
Disc Golf (Holes)	18	$6,850	$123,300
Boat Launch	4	$80,000	$320,000
Dog Park	3	$15,000	$45,000
Garden	4	$60,000	$240,000
Stage/Ampitheater	3	$115,000	$345,000
Picnic Shelter	25	$20,000	$500,000
Restroom	28	$100,000	$2,800,000
Concessions Building	14	$38,000	$532,000
Basketball Gym	7	$175,000	$1,225,000
Volleyball Court (Indoor)	4	$150,000	$600,000
Meeting Room	9	$250,000	$2,250,000
Pool	1	$500,000	$500,000
Total	**208**	**$184,824**	**$38,443,300**

Cost Allocation Factors	
Cost per Improvement	$184,824

Level-of-Service (LOS) Standards	
Existing Improvements	208
Residential	
Residential Share	100%
2024 Population	92,236
Improvements per Person	0.0023
Cost per Person	**$416.79**

Source: City of Roswell

Community Centers – Incremental Expansion

The City of Roswell plans to expand its current inventory of 191,532 square feet of community centers to serve future development. This analysis allocates 100 percent of demand for community centers to residential development. Roswell's existing level of service is 2.0765 square feet per person (191,532 square feet x 100 percent residential share / 92,236 persons).

Based on the City's Facilities Condition Assessments and conversations with City staff, a total replacement cost of $120,602,787 was determined for Roswell's existing 191,532 square feet of community centers, the average replacement cost is $630 per square foot. For community centers, the cost is $1,307.55 per person (2.0765 square feet per person x $630 per square foot).

Figure 12: Community Centers Level of Service

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Waller Park Community Center	13,288	$630	$8,371,440
Adult Aquatics Facility	13,589	$378	$5,136,642
Groveway Adult Recreation Center	20,561	$588	$12,089,868
Bill Johnson Community Building	32,301	$640	$20,666,180
Roswell River Landing	5,358	$378	$2,025,324
Art Center East	3,094	$630	$1,949,220
Cultural Arts Center	35,000	$840	$29,400,000
Art Center West	13,570	$640	$8,682,086
Physical Activity Building	38,376	$589	$22,618,814
Pool Building	4,278	$589	$2,521,453
Visual Arts Center	12,117	$589	$7,141,760
Total	**191,532**	**$630**	**$120,602,787**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$630

Level-of-Service (LOS) Standards	
Existing Square Feet	191,532
Residential	
Residential Share	100%
2024 Population	92,236
Square Feet per Person	2.0765
Cost per Person	**$1,307.55**

Source: City of Roswell

Projected Demand for Growth-Related Parks Infrastructure

Park Improvements

To accommodate projected development over the next ten years, Roswell will construct additional park improvements as development occurs. Roswell's population is projected to increase by 7,783 persons by

2034. Using the current LOS, future residential development will demand approximately 17.6 additional park improvements (7,783 additional persons x 0.0023 improvements per person). Based on demand for 17.6 park improvements and an average cost of $184,824 per improvement, the growth related expenditure on park improvements is $3,243,741.

Figure 13: Growth-Related Demand for Park Improvements

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Park Improvements	0.0023 Improvements	per Person	$184,824

Demand for Park Improvements		
Year	Population	Improvements
2024	92,236	208.0
2025	92,986	209.7
2026	93,743	211.4
2027	94,505	213.1
2028	95,274	214.9
2029	96,049	216.6
2030	96,830	218.4
2031	97,617	220.1
2032	98,411	221.9
2033	99,212	223.7
2034	100,019	225.6
10-Yr Increase	**7,783**	**17.6**

Growth-Related Expenditures	$3,243,741

Community Centers

To accommodate projected development over the next ten years, Roswell plans to renovate and expand capacity within existing community centers-particularly the Crabapple Center- to support program growth, rather than building new stand-alone centers. Roswell's population is projected to increase by 7,783 persons by 2034. Using the current LOS, future residential development will demand approximately 16,161 additional square feet of community center space (7,783 additional persons x 2.0765 square feet per person). Based on demand for 16,161 park improvements and an average cost of $630 per square foot, the growth related expenditure on community centers is $10,176,134.

Figure 14: Growth-Related Demand for Community Centers

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq. Ft.
Community Centers	2.0765 Square Feet	per Person	$630

Demand for Community Centers		
Year	Population	Square Feet
2024	92,236	191,532
2025	92,986	193,090
2026	93,743	194,660
2027	94,505	196,244
2028	95,274	197,840
2029	96,049	199,449
2030	96,830	201,071
2031	97,617	202,706
2032	98,411	204,355
2033	99,212	206,017
2034	100,019	207,693
10-Yr Increase	**7,783**	**16,161**

Growth-Related Expenditures	$10,176,134

CREDITS

The Recreation & Parks impact fee includes a credit for existing debt service. Roswell has a bond financing recent parks facilities obligations. A credit is necessary since new development will pay the parks impact fee and will also generate property tax revenue used to repay existing debt service. As shown in Figure 15, the principal portion of existing debt service equals $22,046,640 over the next 20 years. All the debt service is allocated to residential development since nonresidential development generates negligible demand for parks infrastructure. Annual principal payments are divided by projected population in each year to estimate the principal payment per person. To account for the time value of money, annual principal payments per person are discounted using a net present value formula based on an interest rate of 5.0 percent. The total net present value of future principal payments is $127.11 per person.

Figure 15: Recreation & Parks Debt Credit

Year	Principal Payment 2023 GO Debt	Population	Debt Cost per Capita
2026	$674,520	92,986	$7.25
2027	$708,400	93,743	$7.56
2028	$742,280	94,505	$7.85
2029	$779,240	95,274	$8.18
2030	$819,280	96,049	$8.53
2031	$859,320	96,830	$8.87
2032	$902,440	97,617	$9.24
2033	$948,640	98,411	$9.64
2034	$994,840	99,212	$10.03
2035	$1,044,120	100,019	$10.44
2036	$1,099,560	100,832	$10.90
2037	$1,151,920	101,652	$11.33
2038	$1,207,360	102,479	$11.78
2039	$1,268,960	103,313	$12.28
2040	$1,333,640	104,153	$12.80
2041	$1,386,000	105,000	$13.20
2042	$1,444,520	105,778	$13.66
2043	$1,499,960	106,556	$14.08
2044	$1,561,560	107,334	$14.55
2045	$1,620,080	108,112	$14.99
Total	**$22,046,640**		**$217.17**

Discount Rate	**5.0%**
Net Present Value	**$127.11**

Maximum Allowable Recreation & Parks Impact Fees

Infrastructure components, cost factors, and credits used to calculate maximum allowable Recreation & Parks impact fees are summarized in the upper portion of Figure 16. Residential fees are calculated using a cost of $1,597.23 per person and the average number of persons per housing unit. For example, a single family unit has a fee of $4,249 per unit ($1,597.23 per person x 2.66 persons per single family housing unit).

Figure 16: Maximum Allowable Recreation & Parks Impact Fees

Fee Component	Cost per Person
Park Improvements	$416.79
Community Centers	$1,307.55
Principal Payment Credit	($127.11)
Net Cost per Demand Unit	**$1,597.23**

Residential Development	Fees per Unit				
Development Type	Persons per Housing Unit[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)	Percent Change
Single Family	2.66	**$4,249**	$663	$3,586	541%
Multi-Family	1.94	**$3,099**	$451	$2,648	587%

1. See Land Use Assumptions
2. From current fee schedule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are ≤2,500 sq. ft.

PROJECTED RECREATION & PARKS IMPACT FEE REVENUE

Revenue projections assume implementation of the maximum allowable Recreation & Parks impact fees and that development over the next ten years is consistent with the development projections in Appendix B. To the extent that the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue. As shown in Figure 17, projected fee revenue equals $12,430,660.

Figure 17: Projected Recreation & Parks Impact Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Park Improvements	$3,243,741	$0	$3,243,741
Community Centers	$10,176,134	$0	$10,176,134
Total	**$13,419,875**	**$0**	**$13,419,875**

		Single Family $4,249 per unit	Multi-Family $3,099 per unit
Year		Hsg Unit	Hsg Unit
Base	2024	26,746	10,872
Year 1	2025	26,932	11,004
Year 2	2026	27,151	11,094
Year 3	2027	27,371	11,184
Year 4	2028	27,594	11,275
Year 5	2029	27,819	11,367
Year 6	2030	28,045	11,459
Year 7	2031	28,273	11,552
Year 8	2032	28,503	11,646
Year 9	2033	28,735	11,741
Year 10	2034	28,968	11,837
10-Year Increase		2,222	965
Projected Revenue		**$9,442,014**	**$2,988,645**

Projected Fee Revenue	$12,430,660
Existing Development Share	-$989,215

POLICE IMPACT FEE

METHODOLOGY

The Georgia Development Fee Act § 36-71-2(17)(C) includes the following public facilities:

> *"Public safety facilities, including police, fire, emergency medical and rescue facilities."*

The Police impact fee includes components for police facilities. Police vehicles are not included since the Georgia Development Fee Act limits eligible capital items to those have a useful life of ten years. The police impact fee uses the incremental expansion methodology.

PROPORTIONATE SHARE

TischlerBise recommends using a functional population to allocate the cost of police infrastructure to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population," by accounting for people living and working in a jurisdiction, but also considers commuting patterns and time spent at home and at nonresidential locations. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

Residents that do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents employed in Roswell are assigned 14 hours a day to residential development and 10 hours to nonresidential development. Residents employed outside of Roswell are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2022 functional population data, the residential allocation is 69 percent, and the nonresidential allocation is 31 percent for police facilities and apparatus.

Figure 18: Functional Population

Demand Units in 2022					
Residential				Demand Hours/Day	Person Hours
	Population	92,770			
	Residents Not Working	48,760		20	975,200
	Employed Residents	44,010			
	Residents Employed in Roswell		4,769	14	66,766
	Residents Employed outside Roswell		39,241	14	549,374
				Residential Subtotal	1,591,340
				Residential Share	**69%**
Nonresidential					
	Residents Not Working	48,760		4	195,040
	Jobs Located in Roswell	51,876			
	Residents Employed in Roswell		4,769	10	47,690
	Non-Resident Workers (Inflow Commuters)		47,107	10	471,070
				Nonresidential Subtotal	713,800
				Nonresidential Share	**31%**
				Total	2,305,140

Source: U.S. Census Bureau, OnTheMap 6.25.1 Application and LEHD Origin-Destination Employment Statistics.

SERVICE UNITS

Residential impact fees are calculated on a per capita basis, then converted to an appropriate amount for each type of housing unit based on the number of persons per housing unit (PPHU). As shown in Figure 19, the current PPHU factors are 2.66 persons per single family unit and 1.94 persons per multi-family unit. These factors are based on the U.S. Census Bureau's 2019-2023 American Community Survey (ACS) 5-year estimates (see Appendix B).

Nonresidential police impact fees are calculated on a per vehicle trip basis, then converted to an appropriate amount for each type of nonresidential development based on the number of vehicle trip ends generated per 1,000 square feet of floor area. Trip generation rates are used because vehicle trips are highest for retail developments, such as shopping centers, and lowest for industrial development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for public safety services from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, public safety development fees would be disproportionately high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, public safety development fees would be disproportionately high for industrial development.

A trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip ends for nonresidential development are calculated per thousand square feet and require an adjustment factor to avoid double counting each trip at both the origin and destination points. As shown below, the current vehicle trip generation factors per 1,000 square feet of floor area are 1.69 trips for industrial, 12.21 trips for commercial, 5.42 trips for office and other services, and 5.39 trips for institutional. These factors are defined in *Trip Generation, 11th Edition*, published in 2021 by the Institute of Transportation Engineers (further discussed in Appendix A).

Figure 19: Police Service Units

Development Type	Persons per Housing Unit[1]
Single Family	2.66
Multi-Family	1.94

1. See Land Use Assumptions

Development Type	Avg Wkdy Veh Trip Ends[1]	Trip Rate Adjustment	Average Weekday Vehicle Trips
Industrial	3.37	50%	1.69
Commercial	37.01	33%	12.21
Office & Other Service	10.84	50%	5.42
Institutional	10.77	50%	5.39

1. See Land Use Assumptions

Police Facilities – Incremental Expansion

The City of Roswell plans to expand its current inventory of police facilities to serve future development. As shown in Figure 20, Roswell's existing police facilities total 75,974 square feet. Functional population provides the proportionate share of demand for police facilities from residential and nonresidential development. Roswell's existing level of service for residential development is 0.5683 square feet per person (75,974 square feet x 69 percent residential share / 92,236 persons). Roswell's existing level of service for nonresidential development is 0.1594 square feet per vehicle trip (75,974 square feet x 31 percent residential share / 147,710 vehicle trips).

The construction of a replacement police station is estimated to cost $600 per square foot based on Roswell's Facility Condition Assessments and conversations with City staff. For police facilities, the cost is $341.00 per person (0.5683 square feet per person x $600 per square foot) and $95.67 per vehicle trip (0.1594 square feet per vehicle trip x $600 per square foot).

Figure 20: Police Facilities Level of Service

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Police Shared Evidence	10,500	$490	$5,145,000
Police Storage Building	4,056	$420	$1,703,520
911 Dispatch Center	7,500	$636	$4,767,000
Summit Building (Police Share)	53,918	$630	$33,968,340
Total	**75,974**	**$600**	**$45,583,860**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$600

Level-of-Service (LOS) Standards	
Existing Square Feet	75,974
Residential	
Residential Share	69%
2024 Population	92,236
Police Square Feet per Person	0.5683
Cost per Person	**$341.00**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Square Feet per Vehicle Trip	0.1594
Cost per Vehicle Trip	**$95.67**

Source: Roswell Police Department

Projected Demand for Growth-Related Police Infrastructure

Police Facilities

To accommodate projected development over the next ten years, Roswell will construct additional police facilities as development occurs. Roswell's population is projected to increase by 7,783 persons by 2034,

and nonresidential vehicle trips are projected to increase by 8,757 vehicle trips in the same time period. Using the current LOS, future residential development will demand approximately 4,423 additional square feet of police facilities (7,783 additional persons x 0.5683 square feet per person) and future nonresidential development will demand 1,396 additional square feet of police facilities (8,757 additional vehicle trips x 0.1594 square feet per vehicle trip). Based on demand for 5,820 square feet of new police facilities and an average cost of $600 per square feet, the growth related expenditure on police facilities is $3,491,686.

Figure 21: Growth-Related Demand for Police Facilities

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Police Facilities	0.5683 Square Feet	per Person	$600
	0.1594 Square Feet	per Vehicle Trip	

Demand for Police Facilities					
Year	Population	Nonresidential Vehicle Trips	Police Station Square Feet		
			Residential	Nonresidential	Total
2024	92,236	147,710	52,422	23,552	75,974
2025	92,986	148,559	52,848	23,687	76,536
2026	93,743	149,414	53,278	23,824	77,102
2027	94,505	150,275	53,712	23,961	77,673
2028	95,274	151,142	54,148	24,099	78,248
2029	96,049	152,014	54,589	24,238	78,827
2030	96,830	152,893	55,033	24,378	79,411
2031	97,617	153,777	55,481	24,519	80,000
2032	98,411	154,668	55,932	24,661	80,593
2033	99,212	155,564	56,387	24,804	81,191
2034	100,019	156,467	56,845	24,948	81,794
10-Yr Increase	**7,783**	**8,757**	**4,423**	**1,396**	**5,820**
Growth-Related Expenditures			$2,653,907	$837,779	$3,491,686

CREDITS

The police impact fee includes a credit for existing debt service. Roswell has a bond financing recent police facilities and apparatus obligations. A credit is necessary since new development will pay the police impact fee and will also generate property tax revenue used to repay existing debt service. As shown in Figure 22, the principal portion of existing debt service equals $3,820,065 over the next 20 years. Functional population provides the proportionate share of debt service from residential and nonresidential development. Annual principal payments are divided by projected population and vehicle trips in each year to estimate the principal payment per person and vehicle trip. To account for the time value of money, annual principal payments per person and vehicle trip are discounted using a net present value formula based on an interest rate of 5.0 percent. The total net present value of future principal payments is $17.96 per person and $5.12 per vehicle trip.

Figure 22: Police Debt Credit

Year	Principal Payment 2024 Police Tahoe Debt	Principal Payment 2023 GO Debt	Res. Share 69%	Population	Debt Cost per Capita	Nonres. Share 31%	Nonres. Vehicle Trips	Debt Cost per Trip
2026	$255,365	$83,111	$233,548	92,986	$2.51	$104,927	148,559	$0.71
2027	$268,593	$87,285	$245,556	93,743	$2.62	$110,322	149,414	$0.74
2028	$282,506	$91,460	$258,036	94,505	$2.73	$115,929	150,275	$0.77
2029	$297,140	$96,014	$271,276	95,274	$2.85	$121,878	151,142	$0.81
2030		$100,947	$69,653	96,049	$0.73	$31,294	152,014	$0.21
2031		$105,881	$73,058	96,830	$0.75	$32,823	152,893	$0.21
2032		$111,194	$76,724	97,617	$0.79	$34,470	153,777	$0.22
2033		$116,886	$80,651	98,411	$0.82	$36,235	154,668	$0.23
2034		$122,579	$84,579	99,212	$0.85	$37,999	155,564	$0.24
2035		$128,651	$88,769	100,019	$0.89	$39,882	156,467	$0.25
2036		$135,482	$93,482	100,832	$0.93	$41,999	157,376	$0.27
2037		$141,933	$97,934	101,652	$0.96	$43,999	158,291	$0.28
2038		$148,764	$102,647	102,479	$1.00	$46,117	159,212	$0.29
2039		$156,354	$107,884	103,313	$1.04	$48,470	160,139	$0.30
2040		$164,324	$113,383	104,153	$1.09	$50,940	161,073	$0.32
2041		$170,775	$117,835	105,000	$1.12	$52,940	162,013	$0.33
2042		$177,986	$122,810	105,778	$1.16	$55,176	162,959	$0.34
2043		$184,817	$127,523	106,556	$1.20	$57,293	163,912	$0.35
2044		$192,407	$132,760	107,334	$1.24	$59,646	164,871	$0.36
2045		$199,617	$137,736	108,112	$1.27	$61,881	165,837	$0.37
Total	**$1,103,604**	**$2,716,461**	**$2,635,845**		**$26.55**	**$1,184,220**		**$7.60**

Discount Rate	5.0%		5.0%
Net Present Value	$17.96		$5.12

MAXIMUM ALLOWABLE POLICE IMPACT FEES

Infrastructure components, cost factors, and credits used to calculate maximum allowable police impact fees are summarized in the upper portion of Figure 23. Residential fees are calculated using a cost of $323.05 per person and the average number of persons per housing unit. Nonresidential fees are calculated using a cost of $90.55 per vehicle trip and the average number of vehicle trips per 1,000 square feet of floor area.

Maximum allowable police impact fees for residential development are assessed according to the number of persons per housing unit. For example, the single-family unit fee of $859 is calculated using a cost of $323.05 per person multiplied by 2.66 persons per housing unit.

Maximum allowable Police impact fees for nonresidential development are assessed according to the number of vehicle trips per 1,000 square feet of floor area. For example, the industrial development fee of $153 per 1,000 square feet of floor area is calculated using a cost of $90.55 per vehicle trip multiplied by 1.69 vehicle trips per 1,000 square feet of floor area.

Figure 23: Maximum Allowable Police Impact Fees

Fee Component	Cost per Person	Cost per Trip
Police Facilities	$341.00	$95.67
Principal Payment Credit	($17.96)	($5.12)
Net Cost per Demand Unit	**$323.05**	**$90.55**

Residential Development	Fees per Unit			
Development Type	**Persons per Housing Unit[1]**	**Maximum Allowable Fees**	Current Fees[2]	Increase or (Decrease)
Single Family	2.66	**$859**	$0	$859
Multi-Family	1.94	**$627**	$0	$627

Nonresidential Development	Fees per 1,000 Square Feet			
Development Type	**Average Wkdy Vehicle Trips[1]**	**Maximum Allowable Fees**	Current Fees[2]	Increase or (Decrease)
Industrial	1.69	**$153**	$0	$153
Commercial	12.21	**$1,106**	$0	$1,106
Office & Other Service	5.42	**$491**	$0	$491
Institutional	5.39	**$488**	$0	$488

1. See Land Use Assumptions
2. Currently no impact fee assessed for Police.

Projected Police Impact Fee Revenue

Revenue projections assume implementation of the maximum allowable police impact fees and that development over the next ten years is consistent with the development projections in Appendix B. To the extent that the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue. As shown in Figure 24, projected fee revenue equals $3,307,099.

Figure 24: Projected Police Impact Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Police Facilities	$3,491,686	$0	$3,491,686
Total	$3,491,686	$0	$3,491,686

		Single Family $859 per unit	Multi-Family $627 per unit	Industrial $153 per KSF	Commercial $1,106 per KSF	Office & Other $491 per KSF	Institutional $488 per KSF
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	26,746	10,872	4,296	6,409	7,516	3,986
Year 1	2025	26,932	11,004	4,332	6,443	7,552	4,018
Year 2	2026	27,151	11,094	4,368	6,478	7,589	4,050
Year 3	2027	27,371	11,184	4,404	6,513	7,626	4,082
Year 4	2028	27,594	11,275	4,441	6,548	7,663	4,114
Year 5	2029	27,819	11,367	4,477	6,583	7,701	4,147
Year 6	2030	28,045	11,459	4,515	6,619	7,738	4,180
Year 7	2031	28,273	11,552	4,552	6,654	7,776	4,213
Year 8	2032	28,503	11,646	4,589	6,690	7,814	4,247
Year 9	2033	28,735	11,741	4,627	6,727	7,853	4,280
Year 10	2034	28,968	11,837	4,665	6,763	7,892	4,314
10-Year Increase		2,222	965	370	355	376	328
Projected Revenue		$1,909,692	$604,468	$56,378	$392,045	$184,559	$159,958

Projected Fee Revenue	$3,307,099
Existing Development Share	$184,587
Total Expenditures	$3,491,686

FIRE IMPACT FEE

METHODOLOGY

The Georgia Development Fee Act § 36-71-2(17)(C) includes the following public facilities:

> *"Public safety facilities, including police, fire, emergency medical and rescue facilities."*

The Fire impact fee includes components for fire facilities and fire apparatus. Both components of the fire impact fee use the incremental expansion methodology.

PROPORTIONATE SHARE

TischlerBise recommends using a functional population to allocate the cost of fire infrastructure to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population," by accounting for people living and working in a jurisdiction, but also considers commuting patterns and time spent at home and at nonresidential locations. OnTheMap is a web-based mapping and reporting application that shows where workers are employed and where they live. OnTheMap was developed through a unique partnership between the U.S. Census Bureau and its Local Employment Dynamics (LED) partner states.

Residents that do not work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents employed in Roswell are assigned 14 hours a day to residential development and 10 hours to nonresidential development. Residents employed outside of Roswell are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2022 functional population data, the residential allocation is 69 percent, and the nonresidential allocation is 31 percent for police facilities and apparatus.

Figure 25: Functional Population

Demand Units in 2022					
Residential				Demand Hours/Day	Person Hours
	Population	92,770			
	Residents Not Working	48,760		20	975,200
	Employed Residents	44,010			
	Residents Employed in Roswell		4,769	14	66,766
	Residents Employed outside Roswell		39,241	14	549,374
				Residential Subtotal	1,591,340
				Residential Share	**69%**
Nonresidential					
	Residents Not Working	48,760		4	195,040
	Jobs Located in Roswell	51,876			
	Residents Employed in Roswell		4,769	10	47,690
	Non-Resident Workers (Inflow Commuters)		47,107	10	471,070
				Nonresidential Subtotal	713,800
				Nonresidential Share	**31%**
				Total	2,305,140

Source: U.S. Census Bureau, OnTheMap 6.25.1 Application and LEHD Origin-Destination Employment Statistics.

SERVICE UNITS

Residential impact fees are calculated on a per capita basis, then converted to an appropriate amount for each type of housing unit based on the number of persons per housing unit (PPHU). As shown in Figure 26, the current PPHU factors are 2.66 persons per single family unit and 1.94 persons per multi-family unit. These factors are based on the U.S. Census Bureau's 2019-2023 American Community Survey (ACS) 5-year estimates (see Appendix B).

Nonresidential fire impact fees are calculated on a per vehicle trip basis, then converted to an appropriate amount for each type of nonresidential development based on the number of vehicle trip ends generated per 1,000 square feet of floor area. Trip generation rates are used because vehicle trips are highest for retail developments, such as shopping centers, and lowest for industrial development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for public safety services from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, public safety development fees would be disproportionately high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, public safety development fees would be disproportionately high for industrial development.

A trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip ends for nonresidential development are calculated per thousand square feet and require an adjustment factor to avoid double counting each trip at both the origin and destination points. As shown below, the current vehicle trip generation factors per 1,000 square feet of floor area are 1.69 trips for industrial, 12.21 trips for commercial, 5.42 trips for office and other services, and 5.39 trips for institutional. These factors are defined in *Trip Generation, 11th Edition*, published in 2021 by the Institute of Transportation Engineers (further discussed in Appendix A).

Figure 26: Fire Service Units

Development Type	Persons per Housing Unit[1]
Single Family	2.66
Multi-Family	1.94

1. See Land Use Assumptions

Development Type	Avg Wkdy Veh Trip Ends[1]	Trip Rate Adjustment	Average Weekday Vehicle Trips
Industrial	3.37	50%	1.69
Commercial	37.01	33%	12.21
Office & Other Service	10.84	50%	5.42
Institutional	10.77	50%	5.39

1. See Land Use Assumptions

FIRE FACILITIES – INCREMENTAL EXPANSION

The City of Roswell plans to expand its current inventory of fire facilities to serve future development. As shown in Figure 27, Roswell's existing fire facilities total 84,680 square feet. Functional population provides the proportionate share of demand for fire facilities from residential and nonresidential development. Roswell's existing level of service for residential development is 0.6335 square feet per person (84,680 square feet x 69 percent residential share / 92,236 persons). Roswell's existing level of service for nonresidential development is 0.1777 square feet per vehicle trip (84,680 square feet x 31 percent residential share / 147,710 vehicle trips).

The construction of a replacement fire station is estimated to cost $603 per square foot based on Roswell's Facility Condition Assessments and conversations with City staff. For fire facilities, the cost is $382.00 per person (0.6335 square feet per person x $603 per square foot) and $107.23 per vehicle trip (0.1777 square feet per vehicle trip x $603 per square foot).

Figure 27: Fire Facilities Level of Service

Description	Square Feet	Cost/Sq. Ft.*	Total Cost*
Station 21	16,368	$661	$10,815,974
Station 22	2,900	$1,120	$3,248,000
Station 23	3,000	$1,120	$3,360,000
Station 24	14,090	$630	$8,876,700
Station 25	7,258	$498	$3,617,387
Station 26	8,217	$560	$4,601,520
Station 27	9,947	$630	$6,266,610
Fire RAPSTC	10,314	$497	$5,126,058
Fire Training Burn Building	3,504	$498	$1,746,394
Summit Building (Fire Share)	9,082	$378	$3,432,996
Total	**84,680**	**$603**	**$51,091,639**

*City's Facilities Condition Assessment adjusted 40% to reflect current construction costs (conversations with City)

Cost Allocation Factors	
Cost per Square Foot	$603

Level-of-Service (LOS) Standards	
Existing Square Feet	84,680
Residential	
Residential Share	69%
2024 Population	92,236
Square Feet per Person	0.6335
Cost per Person	**$382.21**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Square Feet per Vehicle Trip	0.1777
Cost per Vehicle Trip	**$107.23**

Source: Roswell Fire Department

Fire Apparatus – Incremental Expansion

The City of Roswell plans to expand its current inventory of fire apparatus to serve future development. As shown in Figure 28, Roswell's existing fire fleet includes 47 units of apparatus with an average replacement cost of $573,087 per vehicle. Functional population provides the proportionate share of demand for fire apparatus from residential and nonresidential development. Roswell's existing level of service for residential development is 0.0004 units per person (47 apparatus units x 69 percent residential share / 92,236 persons). Roswell's existing level of service for nonresidential development is 0.0001 units per vehicle trip (47 apparatus units x 31 percent residential share / 147,710 vehicle trips).

The purchase of a unit of fire apparatus is estimated to cost $573,087 per unit on average based on conversations with City staff. For fire apparatus, the cost is $201.50 per person (0.0004 units per person x $573,087 per unit) and $56.53 per vehicle trip (0.0001 units per vehicle trip x $573,087 per unit).

Figure 28: Fire Apparatus Level of Service

Description	Count	Cost Per Unit	Total Cost
Engine	9	$1,080,676	$9,726,084
Aerial	4	$2,249,520	$8,998,080
Heavy Rescue	1	$2,704,000	$2,704,000
Pick Up	16	$165,000	$2,640,000
SUV	11	$96,538	$1,061,918
Med Unit	3	$400,000	$1,200,000
Brush/Truck	1	$230,000	$230,000
CRR	1	$250,000	$250,000
Rescue Boat	1	$125,000	$125,000
TOTAL	**47**	**$573,087**	**$26,935,082**

Cost Allocation Factors	
Total Vehicles	47
Total Cost	$26,935,082
Cost per Vehicle	**$573,087**

Level-of-Service (LOS) Standards	
Existing Vehicles	47
Residential	
Residential Share	69%
2024 Population	92,236
Vehicles per Person	0.0004
Cost per Person	**$201.50**
Nonresidential	
Nonresidential Share	31%
2024 Vehicle Trips	147,710
Vehicles per Vehicle Trip	0.0001
Cost per Vehicle Trip	**$56.53**

Source: Roswell Fire Department

PROJECTED DEMAND FOR GROWTH-RELATED FIRE INFRASTRUCTURE

Fire Facilities

To accommodate projected development over the next ten years, Roswell will construct additional fire facilities as development occurs. Roswell's population is projected to increase by 7,783 persons by 2034, and nonresidential vehicle trips are projected to increase by 8,757 vehicle trips in the same time period. Using the current LOS, future residential development will demand approximately 4,930 additional square feet of fire facilities (7,783 additional persons x 0.6335 square feet per person) and future nonresidential

development will demand 1,556 additional square feet of fire facilities (8,757 additional vehicle trips x 0.1777 square feet per vehicle trip). Based on demand for 6,486 square feet of new fire facilities and an average cost of $603 per square feet, the growth related expenditure on fire facilities is $3,913,578.

Figure 29: Growth-Related Demand for Fire Facilities

Type of Infrastructure	Level of Service	Demand Unit	Cost per Sq Ft
Fire Facilities	0.6335 Square Feet	per Person	$431
	0.1777 Square Feet	per Vehicle Trip	

Demand for Fire Facilities					
Year	Population	Nonresidential Vehicle Trips	Fire Station Square Feet		
			Residential	Nonresidential	Total
2024	92,236	147,710	58,429	26,251	84,680
2025	92,986	148,559	58,904	26,402	85,306
2026	93,743	149,414	59,384	26,554	85,937
2027	94,505	150,275	59,867	26,707	86,573
2028	95,274	151,142	60,353	26,861	87,214
2029	96,049	152,014	60,844	27,016	87,860
2030	96,830	152,893	61,339	27,172	88,511
2031	97,617	153,777	61,838	27,329	89,167
2032	98,411	154,668	62,341	27,487	89,828
2033	99,212	155,564	62,848	27,647	90,495
2034	100,019	156,467	63,359	27,807	91,166
10-Yr Increase	**7,783**	**8,757**	**4,930**	**1,556**	**6,486**
Growth-Related Expenditures			$2,124,694	$670,719	$2,795,413

Fire Apparatus

To accommodate projected development over the next ten years, Roswell will purchase additional fire apparatus as development occurs. Roswell's population is projected to increase by 7,783 persons by 2034, and nonresidential vehicle trips are projected to increase by 8,757 vehicle trips in the same time period. Using the current LOS, future residential development will demand approximately 2.7 additional units of fire apparatus (7,783 additional persons x 0.0004 units per person) and future nonresidential development will demand 0.9 additional units of fire apparatus (8,757 additional vehicle trips x 0.0001 square feet per vehicle trip). Based on demand for 3.6 units of new fire apparatus and an average cost of $573,087 per unit, the growth related expenditure on fire apparatus is $2,063,205.

Figure 30: Growth-Related Demand for Fire Apparatus

Type of Infrastructure	Level of Service	Demand Unit	Cost per Unit
Fire Apparatus	0.0004 Units	per Person	$573,087
	0.0001 Units	per Vehicle Trip	

Demand for Fire Apparatus					
Year	Population	Nonresidential Vehicle Trips	Units		
			Residential	Nonresidential	Total
2024	92,236	147,710	32.4	14.6	47.0
2025	92,986	148,559	32.7	14.7	47.3
2026	93,743	149,414	33.0	14.7	47.7
2027	94,505	150,275	33.2	14.8	48.1
2028	95,274	151,142	33.5	14.9	48.4
2029	96,049	152,014	33.8	15.0	48.8
2030	96,830	152,893	34.0	15.1	49.1
2031	97,617	153,777	34.3	15.2	49.5
2032	98,411	154,668	34.6	15.3	49.9
2033	99,212	155,564	34.9	15.3	50.2
2034	100,019	156,467	35.2	15.4	50.6
10-Yr Increase	**7,783**	**8,757**	**2.7**	**0.9**	**3.6**
Growth-Related Expenditures			$1,568,169	$495,036	$2,063,205

CREDITS

The fire impact fee includes a credit for existing debt service. Roswell has a bond financing recent fire facilities and apparatus obligations. A credit is necessary since new development will pay the fire impact fee and will also generate property tax revenue used to repay existing debt service. As shown in Figure 31, the principal portion of existing debt service equals $4,466,236 over the next 20 years. Functional population provides the proportionate share of debt service from residential and nonresidential development. Annual principal payments are divided by projected population and vehicle trips in each year to estimate the principal payment per person and vehicle trip. To account for the time value of money, annual principal payments per person and vehicle trip are discounted using a net present value formula based on an interest rate of 5.0 percent. The total net present value of future principal payments is $20.61 per person and $5.89 per vehicle trip.

Figure 31: Fire Debt Credit

Year	Principal Payment 2016 Fire Truck Debt	Principal Payment 2023 GO Debt	Principal Payment 2019 Fire Truck Debt	Principal Payment 2022 Fire Truck Debt	Res. Share 69%	Population	Debt Cost per Capita	Nonres. Share 31%	Nonres. Vehicle Trips	Debt Cost per Trip
2026	$54,484	$83,111	$122,212	$82,780	$236,385	92,986	$2.54	$106,202	148,559	$0.71
2027		$87,285	$125,194	$85,429	$205,557	93,743	$2.19	$92,352	149,414	$0.62
2028		$91,460	$128,249	$88,163	$212,431	94,505	$2.25	$95,440	150,275	$0.64
2029		$96,014	$131,378	$90,984	$219,679	95,274	$2.31	$98,697	151,142	$0.65
2030		$100,947		$93,896	$134,441	96,049	$1.40	$60,401	152,014	$0.40
2031		$105,881		$96,900	$139,919	96,830	$1.44	$62,862	152,893	$0.41
2032		$111,194		$100,001	$145,724	97,617	$1.49	$65,470	153,777	$0.43
2033		$116,886		$103,201	$151,860	98,411	$1.54	$68,227	154,668	$0.44
2034		$122,579		$106,504	$158,067	99,212	$1.59	$71,015	155,564	$0.46
2035		$128,651		$109,912	$164,608	100,019	$1.65	$73,954	156,467	$0.47
2036		$135,482		$113,429	$171,748	100,832	$1.70	$77,162	157,376	$0.49
2037		$141,933		$117,059	$178,704	101,652	$1.76	$80,287	158,291	$0.51
2038		$148,764			$102,647	102,479	$1.00	$46,117	159,212	$0.29
2039		$156,354			$107,884	103,313	$1.04	$48,470	160,139	$0.30
2040		$164,324			$113,383	104,153	$1.09	$50,940	161,073	$0.32
2041		$170,775			$117,835	105,000	$1.12	$52,940	162,013	$0.33
2042		$177,986			$122,810	105,778	$1.16	$55,176	162,959	$0.34
2043		$184,817			$127,523	106,556	$1.20	$57,293	163,912	$0.35
2044		$192,407			$132,760	107,334	$1.24	$59,646	164,871	$0.36
2045		$199,617			$137,736	108,112	$1.27	$61,881	165,837	$0.37
Total	**$54,484**	**$2,716,461**	**$507,035**	**$1,188,257**	**$3,081,703**		**$30.99**	**$1,384,533**		**$8.89**

Discount Rate	5.0%		5.0%
Net Present Value	$20.61		$5.89

MAXIMUM ALLOWABLE FIRE IMPACT FEES

Infrastructure components, cost factors, and credits used to calculate maximum allowable fire impact fees are summarized in the upper portion of Figure 32. Residential fees are calculated using a cost of $563.09 per person and the average number of persons per housing unit. Nonresidential fees are calculated using a cost of $157.86 per vehicle trip and the average number of vehicle trips per 1,000 square feet of floor area.

Maximum allowable fire impact fees for residential development are assessed according to the number of persons per housing unit. For example, the single-family unit fee of $1,498 is calculated using a cost of $563.09 per person multiplied by 2.66 persons per housing unit.

Maximum allowable fire impact fees for nonresidential development are assessed according to the number of vehicle trips per 1,000 square feet of floor area. For example, the industrial development fee of $266 per 1,000 square feet of floor area is calculated using a cost of $157.86 per vehicle trip multiplied by 1.69 vehicle trips per 1,000 square feet of floor area.

Figure 32: Maximum Allowable Fire Impact Fees

Fee Component	Cost per Person	Cost per Trip
Fire Facilities	$382.21	$107.23
Fire Apparatus	$201.50	$56.53
Principal Payment Credit	($20.61)	($5.89)
Net Cost Per Demand Unit	**$563.09**	**$157.86**

Residential Development	Fees per Unit				
Development Type	Persons per Housing Unit[1]	Maximum Allowable Fees	Current Fees[2]	Increase or (Decrease)	Percent Change
Single Family	2.66	**$1,498**	$1,086	$412	38%
Multi-Family	1.94	**$1,092**	$738	$354	48%

Nonresidential Development	Fees per 1,000 Square Feet				
Development Type	Average Wkdy Vehicle Trips[1]	Maximum Allowable Fees	Current Fees[3]	Increase or (Decrease)	Percent Change
Industrial	1.69	**$266**	$180	$86	48%
Commercial	12.21	**$1,928**	$260	$1,668	642%
Office & Other Services	5.42	**$856**	$320	$536	167%
Institutional	5.39	**$850**	$320	$530	166%

1. See Land Use Assumptions
2. From current fee schedule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are ≤2,500 sq. ft.
3. From current fee schedule; assuming Institutional development currently falls under the Office & Other Services

Projected Fire Impact Fee Revenue

Revenue projections assume implementation of the maximum allowable fire impact fees and that development over the next ten years is consistent with the development projections in Appendix B. To the extent that the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue. As shown in Figure 33, projected fee revenue equals $5,764,789.

Figure 33: Projected Fire Impact Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Fire Facilities	$3,913,578	$0	$3,913,578
Fire Apparatus	$2,063,205	$0	$2,063,205
Total	$5,976,783	$0	$5,976,783

Year		Single Family $1,498 per unit	Multi-Family $1,092 per unit	Industrial $266 per KSF	Commercial $1,928 per KSF	Office & Other $856 per KSF	Institutional $850 per KSF
		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	26,746	10,872	4,296	6,409	7,516	3,986
Year 1	2025	26,932	11,004	4,332	6,443	7,552	4,018
Year 2	2026	27,151	11,094	4,368	6,478	7,589	4,050
Year 3	2027	27,371	11,184	4,404	6,513	7,626	4,082
Year 4	2028	27,594	11,275	4,441	6,548	7,663	4,114
Year 5	2029	27,819	11,367	4,477	6,583	7,701	4,147
Year 6	2030	28,045	11,459	4,515	6,619	7,738	4,180
Year 7	2031	28,273	11,552	4,552	6,654	7,776	4,213
Year 8	2032	28,503	11,646	4,589	6,690	7,814	4,247
Year 9	2033	28,735	11,741	4,627	6,727	7,853	4,280
Year 10	2034	28,968	11,837	4,665	6,763	7,892	4,314
10-Year Increase		2,222	965	370	355	376	328
Projected Revenue		$3,328,708	$1,053,624	$98,292	$683,515	$321,771	$278,880

Projected Fee Revenue	$5,764,789
Existing Development Share	$211,993
Total Expenditures	$5,976,783

TRANSPORTATION IMPACT FEE

The Georgia Development Fee Act § 36-71-2(17)(C) includes the following public facilities:

> *"Roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways."*

The Transportation impact fee includes components for street improvements and pedestrian improvements. The planned based methodology is used to calculate the components for street improvements.

Proportionate Share

The Transportation impact fee will allocate the cost of capital improvements between residential and nonresidential development based on trip generation rates and trip adjustment factors.

Service Area

The transportation impact fee service area will be citywide.

TRANSPORTATION DEMAND INDICATORS

Roswell will use both average weekday vehicle trips and average weekday person trips as the demand units for transportation impact fees. Components used to determine average weekday vehicle trips include average weekday vehicle trip generation rates and adjustments for commuting patterns and pass-by trips. Components used to determine average weekday person trips include average weekday vehicle trip generation rates, average vehicle occupancy rates, vehicle mode shares, and adjustments for commuting patterns and pass-by trips.

Residential Trip Generation Rates

For residential development, TischlerBise uses trip generation rates published in Trip Generation, Institute of Transportation Engineers (ITE), 11th Edition (2021). The prototype for single-family development is Single-Family Detached Housing (ITE 210) which generates 9.43 average weekday vehicle trip ends per dwelling unit. The prototype for multi-family development is Multifamily Housing Low-Rise (ITE 220) which generates 6.74 average weekday vehicle trip ends per dwelling unit.

Nonresidential Trip Generation Rates

For nonresidential development, TischlerBise also uses trip generation rates published in Trip Generation, Institute of Transportation Engineers (ITE), 11th Edition (2021). The prototype for industrial development is Industrial Park (ITE 130) which generates 3.37 average weekday vehicle trip ends per 1,000 square feet of floor area. For office and other services development, the proxy is General Office (ITE 710), and it generates 10.84 average weekday vehicle trip ends per 1,000 square feet of floor area. Institutional development uses Hospital (ITE 610) and generates 10.77 average weekday vehicle trip ends per 1,000 square feet of floor area. The prototype for commercial development is Shopping Center (ITE 820) which generates 37.01 average weekday vehicle trips per 1,000 square feet of floor area.

Figure 34: Average Weekday Vehicle Trip Ends by Land Use

ITE Code	Land Use Group	Demand Unit	Avg Wkdy Trip Ends Per Demand Unit[1]
130	Industrial Park	1,000 Sq Ft	3.37
610	Hospital	1,000 Sq Ft	10.77
710	General Office (avg size)	1,000 Sq Ft	10.84
820	Shopping Center (avg size)	1,000 Sq Ft	37.01

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Trip Rate Adjustments

To calculate transportation impact fees, trip generation rates require an adjustment factor to avoid double counting each trip at both the origin and destination points. Therefore, the basic trip adjustment factor is 50 percent. As discussed further in this section, the impact fee methodology includes additional adjustments to make the fees proportionate to the infrastructure demand for particular types of development.

Commuter Trip Adjustment

Residential development has a larger trip adjustment factor of 66 percent to account for commuters leaving Roswell for work. According to the 2022 National Household Travel Survey (see Table 8-2) weekday work trips are typically 36 percent of production trips (i.e., all out-bound trips, which are 50 percent of all trip ends). As shown in Figure 35, the U.S. Census Bureau's OnTheMap web application indicates 89 percent of resident workers traveled outside of Roswell for work in 2022. In combination, these factors (0.36 x 0.50 x 0.89 = 0.16) support the additional 16 percent allocation of trips to residential development.

Figure 35: Commuter Trip Adjustment

Trip Adjustment Factor for Commuters[1]	
Employed Residents	44,010
Residents Living and Working in Roswell	4,769
Residents Commuting Outside Roswell for Work	39,241
Percent Commuting out of Roswell	89%
Additional Production Trips[2]	16%
Residential Trip Adjustment Factor	66%

1. U.S. Census Bureau, OnTheMap Application (version 6.6) and LEHD Origin-Destination Employment Statistics, 2019.

2. According to the National Household Travel Survey (2022)*, published in January 2024 (see Table 8-2), home-based work trips are typically 36.0 percent of "production" trips, in other words, out-bound trips (which are 50 percent of all trip ends). Also, LED OnTheMap data from 2022 indicate that 89 percent of Roswell workers travel outside the city for work. In combination, these factors (0.360 x 0.50 x 0.89 = 0.16) account for 16 percent of additional production trips. The total adjustment factor for residential includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (16 percent of production trips) for a total of 66 percent.
*http://nhts.ornl.gov/publications.shtml ; Summary of Travel Trends - Table "Travel Characteristics for Weekday vs. Weekend"

Adjustment for Pass-By Trips

For commercial and institutional development, the trip adjustment factor is less than 50 percent because these types of development attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE data indicate 34 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66 percent of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66 percent multiplied by 50 percent, or approximately 33 percent of the trip ends.

Estimated Average Weekday Vehicle Trips

Shown below in Figure 36, multiplying average weekday vehicle trip ends and trip adjustment factors (discussed on the previous page) by Roswell's existing development units provides the average weekday vehicle trips generated by existing development. As shown below, existing development in Roswell generates 362,535 vehicle trips on an average weekday.

Figure 36: Average Weekday Vehicle Trips by Land Use

Development Type	Dev Unit	ITE Code	Avg Wkday VTE	Trip Adjustment	2024 Dev Units	2024 Veh Trips
Single Family	HU	210	9.43	66%	26,746	166,462
Multi-Family	HU	220	6.74	66%	10,872	48,363
Industrial	KSF	130	3.37	50%	4,296	7,238
Commercial	KSF	820	37.01	33%	6,409	78,272
Office & Other Services	KSF	710	10.84	50%	7,516	40,735
Institutional	KSF	610	10.77	50%	3,986	21,464
Total						362,535

Mode Share and Vehicle Occupancy

Data from the National Household Travel Survey (NHTS) is used to approximate the percentage split of total person trips by transportation modes in the City of Roswell. NHTS has been conducting stratified, random surveys for nearly 50 years with the aim to understand the modes and purposes of travel in the US. For this study, the most recent survey, 2022, is refined to create a database of survey responses that is both from similar cities to Roswell and statistically significant. Initially, the national database of responses is refined by location and population, the results are limited to areas in the South Atlantic region (DE, FL, GA, MD, NC, SC, WV, VA) with over one million residents within a metropolitan statistical area with heavy rail. The database is further filtered to only include responses from urban areas. Lastly, only responses for trips on weekdays are included. As a result, there are 1,130 NHTS responses in the database that are used to approximate the mode splits and vehicle occupancy.

Data from the NHTS indicates the purpose of a trip which allows for the mode share and vehicle occupancy to be calculated for residential and nonresidential land uses separately. It is assumed that trips for residential and nonresidential purposes have different characteristics, so by calculating separately the analysis results in more accurate trip factors. There are 622 survey responses that are attributed to residential and 508 responses attributed to nonresidential land uses.

The transportation mode split for residential purpose trips is listed in Figure 37. Of the 622 total trips, 88.9 percent are by vehicle, 4.0 percent by transit, and 7.1% are non-motorized. Additionally, during the vehicle trips there were 860 passengers, resulting in an average vehicle occupancy of 1.56 passengers per vehicle trip.

Figure 37: Residential Purpose Person Trips by Mode

Mode	Trips	%
Vehicle	553	88.9%
Transit	25	4.0%
Non-Motorized	44	7.1%
Total	622	100.0%

Source: National Household Travel Survey, 2022; TischlerBise analysis.

The transportation mode split for nonresidential purpose trips is listed in Figure 38. Of the 508 total trips, 86.0 percent are by vehicle, 4.5 percent by transit, and 9.4% are non-motorized. Additionally, during the vehicle trips there were 734 passengers, resulting in an average vehicle occupancy of 1.68 passengers per vehicle trip.

Figure 38: Nonresidential Purpose Person Trips by Mode

Mode	Trips	%
Vehicle	437	86.0%
Transit	23	4.5%
Non-Motorized	48	9.4%
Total	508	100.0%

Source: National Household Travel Survey, 2022; TischlerBise analysis.

Calculation of Person Trips

The total person trip end rate for each land use can be calculated using the vehicle trip end rate, vehicle occupancy rate, and vehicle mode share. To calculate the daily person trip rate for each land use, the analysis inputs the vehicle trip rate, vehicle occupancy, and vehicle mode share factors found in earlier sections. For example, the daily person trip end rate for a single family home is 16.49 ([9.43 vehicle trips ends x 1.56 vehicle occupancy rate] / 88.91 percent vehicle mode share). This is then converted into average weekday person trips by multiplying by the trip adjustment factors. For example, a single family home generates 10.89 average weekday person trips (16.49 average weekday person trip ends x 66 percent trip adjustment factor). Figure 39 lists the calculated average weekday person trips for each land use.

Figure 39: Average Weekday Person Trips by Mode

Development Type	Avg Weekday Vehicle Trip Ends	Vehicle Occupancy Rate	Vehicle Mode Share	Avg Weekday Person Trip Ends	Trip Adjustment Factor	Avg Weekday Person Trips
Residential (per housing unit)						
Single-Family	9.43	1.56	88.91%	16.49	66%	10.89
Multi-Family	6.74	1.56	88.91%	11.79	66%	7.78
Nonresidential (per 1,000 square feet)						
Industrial	3.37	1.68	86.02%	6.58	50%	3.29
Commercial	37.01	1.68	86.02%	72.26	33%	23.85
Office & Other Services	10.84	1.68	86.02%	21.17	50%	10.58
Institutional	10.77	1.68	86.02%	21.03	50%	10.51

Source: Trip Generation, Institute of Transportation Engineers, 11th Edition (2021); National Household Travel Survey data, 2022; TischlerBise analysis.

Estimated Average Weekday Person Trips

Shown below in Figure 40, multiplying average weekday person trip ends and trip adjustment factors (discussed in the previous section) by Roswell's existing development units provides the average weekday vehicle trips generated by existing development. As shown below, existing development in Roswell generates 664,178 vehicle trips on an average weekday.

Figure 40: Annual Weekday Person Trips by Mode

Development Type	Dev Unit	ITE Code	Avg Wkday PTE	Trip Adjustment	2024 Dev Units	2024 Pers Trips
Single Family	HU	210	16.49	66%	26,746	291,174
Multi-Family	HU	220	11.79	66%	10,872	84,596
Industrial	KSF	130	6.58	50%	4,296	14,133
Commercial	KSF	820	72.26	33%	6,409	152,829
Office & Other Services	KSF	710	21.17	50%	7,516	79,536
Institutional	KSF	610	21.03	50%	3,986	41,909
Total						664,178

PROJECTED TRAVEL DEMAND

As shown in Appendix B, Roswell's housing stock is expected to increase by 3,187 units and nonresidential floor area is expected to increase by 1,428,000 square feet over the next 10 years.

Based on the trip generation factors shown in Figure 36, projected development generates an additional 26,879 average weekday vehicle trips over the next 10 years.

Figure 41: Projected Travel Demand – Vehicle Trips

	Roswell, GA	Base	1	2	3	4	5	10	10-Year Increase
		2024	2025	2026	2027	2028	2029	2034	
Development	Single Family Units	26,746	26,932	27,151	27,371	27,594	27,819	28,968	2,222
	Multi-Family Units	10,872	11,004	11,094	11,184	11,275	11,367	11,837	965
	Industrial KSF	4,296	4,332	4,368	4,404	4,441	4,477	4,665	370
	Commercial KSF	6,409	6,443	6,478	6,513	6,548	6,583	6,763	355
	Office & Other Services KSF	7,516	7,552	7,589	7,626	7,663	7,701	7,892	376
	Institutional KSF	3,986	4,018	4,050	4,082	4,114	4,147	4,314	328
Avg Weekday Vehicle Trips	Single-Family Trips	166,462	167,617	168,980	170,354	171,740	173,137	180,293	13,832
	Multi-Family Trips	48,363	48,951	49,350	49,751	50,156	50,563	52,654	4,291
	Residential Trips	214,825	216,568	218,330	220,105	221,896	223,700	232,947	18,122
	Industrial Trips	7,238	7,299	7,360	7,421	7,482	7,544	7,861	623
	Commercial Trips	78,272	78,692	79,115	79,541	79,969	80,401	82,602	4,330
	Office & Other Services Trips	40,735	40,933	41,132	41,332	41,534	41,737	42,773	2,038
	Institutional Trips	21,464	21,635	21,808	21,981	22,156	22,332	23,230	1,767
	Nonresidential Trips	147,710	148,559	149,414	150,275	151,142	152,014	156,467	8,757
	Total Vehicle Trips	**362,535**	**365,127**	**367,744**	**370,380**	**373,037**	**375,715**	**389,414**	**26,879**

Based on trip generation factors shown in Figure 39, projected development generates an additional 48,798 average weekday person trips over the next 10 years.

Figure 42: Projected Travel Demand – Person Trips

	Roswell, GA	Base	1	2	3	4	5	10	10-Year Increase
		2024	2025	2026	2027	2028	2029	2034	
Development	Single Family Units	26,746	26,932	27,151	27,371	27,594	27,819	28,968	2,222
	Multi-Family Units	10,872	11,004	11,094	11,184	11,275	11,367	11,837	965
	Industrial KSF	4,296	4,332	4,368	4,404	4,441	4,477	4,665	370
	Commercial KSF	6,409	6,443	6,478	6,513	6,548	6,583	6,763	355
	Office & Other Services KSF	7,516	7,552	7,589	7,626	7,663	7,701	7,892	376
	Institutional KSF	3,986	4,018	4,050	4,082	4,114	4,147	4,314	328
Avg Weekday Person Trips	Single-Family Trips	291,174	293,194	295,579	297,983	300,407	302,850	315,368	24,194
	Multi-Family Trips	84,596	85,626	86,322	87,024	87,732	88,445	92,101	7,505
	Residential Trips	375,771	378,820	381,901	385,007	388,139	391,296	407,470	31,699
	Industrial Trips	14,133	14,251	14,370	14,489	14,610	14,731	15,349	1,216
	Commercial Trips	152,829	153,649	154,474	155,306	156,142	156,985	161,283	8,454
	Office & Other Services Trips	79,536	79,922	80,311	80,702	81,096	81,493	83,516	3,980
	Institutional Trips	41,909	42,243	42,580	42,919	43,260	43,604	45,358	3,449
	Nonresidential Trips	288,407	290,066	291,735	293,416	295,108	296,812	305,506	17,099
	Total Person Trips	**664,178**	**668,886**	**673,636**	**678,423**	**683,247**	**688,108**	**712,976**	**48,798**

Analysis of Capacity, Usage, and Costs of Existing Public Services

Roadway Improvements

Roswell plans to construct various roadway improvements to serve existing and future development over the next 10 years. The planned improvements will add capacity to the street network. The total eligible cost of planned street improvements within the service area is $155,888,586.

Figure 43: Planned Roadway Improvements

Category	Roadway Projects	Cost
Intersection	Alpharetta Hwy (@ Hembree Rd)	$900,000
Intersection	Alpharetta Hwy (@ Hill St)	$45,000
Intersection	Alpharetta Hwy (@ Mansell Rd)	$45,000
Intersection	Alpharetta Hwy (@ Norcross St)	$20,000
Intersection	Alpharetta Hwy (@ Upper Hembree Rd)	$20,000
Intersection	Canton Street (@ Webb St)	$900,000
Intersection	Crabapple Road (@ Hembree Rd)	$4,075,000
Intersection	Crossville Road (@ Crabapple Rd)	$35,000
Intersection	Grimes Bridge Road (@ Dogwood Rd)	$1,465,214
Intersection	Hardscrabble Road (@ Etris Rd)	$20,000
Intersection	Hardscrabble Road (@ King Rd)	$4,075,000
Intersection	Holcomb Bridge Road (@ Alpharetta Hwy)	$35,000
Intersection	Holcomb Bridge Road (@ Dogwood Rd)	$19,673,722
Intersection	Holcomb Bridge Road (@ Old Alabama Rd)	$150,000
Intersection	Holcomb Bridge Road (@ Warsaw Rd)	$8,991,743
Intersection	Houze Rd (@ Crabapple Rd)	$50,000
Intersection	Houze Rd (@ Mansell Rd)	$2,000,000
Intersection	Mansell Road (@ Colonial Center Pwky)	$20,000
Intersection	Mansell Road (@ Warsaw Rd)	$50,000
Intersection	Marietta Hwy (@ Willeo Rd)	$20,000
Intersection	Old Alabama Road (@ Roxburgh Dr)	$8,500,000
Intersection	Old Roswell Road (@ Old Roswell Pl)	$350,000
Intersection	Riverside Rd (@ Dogwood Rd)	$4,075,000
Intersection	SR 9/120 (Village Center)	$12,968,467
Intersection	Woodstock Rd (@ Mtn. Park)	$30,000
Realignments	Big Creek Pkwy (Phase III)	$63,956,100
Realignments	Commerce Parkway	$2,081,490
Realignments	Houze Road	$4,827,256
Realignments	Mansell Road	$13,685,230
Realignments	Old Ellis/Sun Valley Connector	$2,119,491
Realignments	Riverwalk Emergency Access	$154,355
Realignments	Sun Valley/Houze Connector	$550,518
Total		$155,888,586

Source: City of Roswell Transportation Master Plan, 2023.

Pedestrian Improvements

Roswell plans to construct various pedestrian improvements to serve existing and future development over the next 10 years. The planned improvements will add capacity to the transportation network. The total eligible cost of planned pedestrian improvements within the service area is $69,803,967.

Figure 44: Planned Pedestrian Improvements

Category	Pedestrian Projects	Cost
Corridor	Canton Street	$2,500,000
Corridor	Cherry Way	$1,061,333
Corridor	Green Street	$1,988,898
Corridor	Warsaw Road Safety Improvements	$1,662,363
Corridor	Webb Street	$4,561,000
Bicycle/Pedestrian	Canton Street	$126,298
Bicycle/Pedestrian	Crabapple Rd	$2,131,634
Bicycle/Pedestrian	Crabapple Rd/Canton St	$1,720,120
Bicycle/Pedestrian	East Roswell Trail	$3,708,204
Bicycle/Pedestrian	Elkins Rd	$2,737,144
Bicycle/Pedestrian	Grimes Bridge Rd	$2,142,451
Bicycle/Pedestrian	Grimes Bridge Rd	$2,350,536
Bicycle/Pedestrian	Grimes Bridge Rd	$1,521,133
Bicycle/Pedestrian	Hembree Rd	$4,972,250
Bicycle/Pedestrian	Hog Wallow Creek	$2,177,952
Bicycle/Pedestrian	Hog Wallow Creek	$2,726,245
Bicycle/Pedestrian	Hog Wallow Creek	$4,115,609
Bicycle/Pedestrian	Holcomb Bridge Rd	$100,000
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,139,969
Bicycle/Pedestrian	Holcomb Bridge Rd	$4,269,630
Bicycle/Pedestrian	Holcomb Woods Pkwy	$50,000
Bicycle/Pedestrian	Jones Rd	$415,000
Bicycle/Pedestrian	Market Boulevard	$2,713,378
Bicycle/Pedestrian	Mimosa Blvd/Oxbo Rd	$2,597,286
Bicycle/Pedestrian	Norcross St	$1,707,544
Bicycle/Pedestrian	Norcross St	$2,236,178
Bicycle/Pedestrian	N-S Corridor	$2,581,679
Bicycle/Pedestrian	Old Roswell Cemetary Trail	$417,574
Bicycle/Pedestrian	Old Roswell Rd	$1,849,055
Bicycle/Pedestrian	Warsaw Rd	$2,567,271
Bicycle/Pedestrian	Willeo Rd	$1,956,233
Total		$69,803,967

Source: City of Roswell Transportation Master Plan, 2023.

Cost Allocation

The planned roadway improvements provide a benefit to existing and future development, so the analysis allocates the total eligible cost of the planned roadway improvements to year 2034 total average weekday

vehicle trips generated in Roswell. The planned pedestrian improvements provide a benefit to existing and future development, so the analysis allocates the total eligible cost of the planned pedestrian improvements to year 2034 total average weekday person trips generated in Roswell. The roadway improvements cost is $400.32 per vehicle trip ($155,888,586 / 389,414 total average weekday vehicle trips in 2034). The pedestrian improvements cost is $97.91 per person trip ($69,803,967 / 712,976 total average weekday person trips in 2034).

Figure 45: Cost Allocation

Cost Factors	
Roadway Projects Cost	$155,888,586
Pedestrian Projects Cost	$69,803,967

Level-of-Service (LOS) Standards	
2034 Vehicle Trips	389,414
Cost per Vehicle Trip	$400.32
2034 Person Trips	712,976
Cost per Person Trip	$97.91

CREDITS

The transportation impact fee includes a credit for future revenue dedicated to transportation funding. Roswell is expected to receive transportation project funding from the Transportation Special Purpose Local Option Sales Tax (TSPLOST). A credit is necessary since new development will pay the transportation impact fee and will also generate sales tax revenue used to fund transportation projects. As shown in Figure 46, the expected TSPLOST III revenue equals $80,000,000 over the next 10 years. The percentage split of project costs for roadway and pedestrian projects provides the proportionate share of expected transportation funding for roadway and pedestrian projects. Annual TSPLOST revenues are divided by projected vehicle trips and person trips in each year to estimate the expected revenue per vehicle trip and person trip. To account for the time value of money, annual TSPLOST revenues per vehicle trip and person trip are discounted using a net present value formula based on an interest rate of 3.0 percent. The total net present value of future TSPLOST revenues is $130.40 per vehicle trip and $31.88 per person trip.

Figure 46: Transportation TSPLOST III Credit

TSPLOST III Credit							
Fiscal Year	Annual Debt Service	Roadway Share	Vehicle Trips	Payment per Veh Trip	Pedestrian Share	Person Trips Trips	Payment per Per Trip
2024	$0	$0	362,535	$0.00	$0	664,178	$0.00
2025	$13,333,333	$9,209,495	365,127	$25.22	$4,123,838	668,886	$6.17
2026	$13,333,333	$9,209,495	367,744	$25.04	$4,123,838	673,636	$6.12
2027	$13,333,333	$9,209,495	370,380	$24.86	$4,123,838	678,423	$6.08
2028	$13,333,333	$9,209,495	373,037	$24.69	$4,123,838	683,247	$6.04
2029	$13,333,333	$9,209,495	375,715	$24.51	$4,123,838	688,108	$5.99
2030	$13,333,333	$9,209,495	378,413	$24.34	$4,123,838	693,006	$5.95
2031	$0	$0	381,131	$0.00	$0	697,941	$0.00
2032	$0	$0	383,871	$0.00	$0	702,915	$0.00
2033	$0	$0	386,632	$0.00	$0	707,926	$0.00
2034	$0	$0	389,414	$0.00	$0	712,976	$0.00
Total	$80,000,000	$55,256,971		$148.67	$24,743,029		$36.34

Rate	3.00%	Credit per Vehicle Trip	$130.40	Credit per Person Trip	$31.88

MAXIMUM ALLOWABLE TRANSPORTATION IMPACT FEES

Infrastructure components cost factors, and credits for the transportation impact fees are summarized in the upper portion of Figure 47. The cost per service units are $269.92 per vehicle trip and $66.03 per person trip.

Transportation impact fees for residential development are assessed according to average weekday vehicle trips and person trips generated per housing unit. For example, the single-family fee of $2,399 is calculated using a cost per vehicle trip of $269.92 multiplied by a demand unit of 6.22 average weekday vehicle trips per housing unit plus a cost per person trip of $66.03 multiplied by a demand unit of 10.89 average weekday person trips per housing unit.

Nonresidential impact fees are calculated using average weekday vehicle trips and person trips as the service units. The fee of $4,871 per 1,000 square feet of commercial development is derived from a cost per vehicle trip of $269.92 multiplied by a demand unit of 12.21 average weekday vehicle trips per 1,000

square feet plus a cost per person trip of $66.03 multiplied by a demand unit of 23.85 average weekday person trips per 1,000 square feet.

Figure 47: Maximum Allowable Transportation Impact Fees

Fee Component	Cost per Vehicle Trip	Cost per Person Trip
Roadway	$400.32	$0.00
Pedestrian	$0.00	$97.91
TSPLOST III Credit	($130.40)	($31.88)
Total	$269.92	$66.03

Residential Fees per Unit								
Unit Type	Average Weekday Vehicle Trips[1]	Average Weekday Person Trips[1]	Roadway	Pedestrian	Maximum Allowable Fees	Current Fees[2]	Increase / (Decrease)	Percent Change
Single Family	6.22	10.89	$1,680	$719	$2,399	$2,004	$395	20%
Multi-Family	4.45	7.78	$1,201	$514	$1,714	$1,363	$351	26%

Nonresidential Fees per 1,000 Square Feet								
Development Type	Average Weekday Vehicle Trips[1]	Average Weekday Person Trips[1]	Roadway	Pedestrian	Maximum Allowable Fees	Current Fees[3]	Increase / (Decrease)	Percent Change
Industrial	1.69	3.29	$455	$217	$672	$865	($193)	-22%
Commercial	12.21	23.85	$3,297	$1,574	$4,871	$2,718	$2,153	79%
Office & Other Services	5.42	10.58	$1,463	$699	$2,162	$1,176	$986	84%
Institutional	5.39	10.51	$1,453	$694	$2,148	$1,176	$972	83%

1. See Land Use Assumptions
2. From current fee schudule; assuming Single Family homes are >2,500 sq. ft. and Multi-Family homes are ≤2,500 sq. ft.
3. From current fee schedule; assuming Institutional development currently falls under the Office & Other Services category.

PROJECTED TRANSPORTATION IMPACT FEE REVENUE

Projected fee revenue shown in Figure 48 is based on the development projections in Appendix B and the transportation impact fees for Roswell. If development occurs faster than projected, the demand for infrastructure will increase along with impact fee revenue. If development occurs slower than projected, the demand for infrastructure will decrease and impact fee revenue will decrease at a similar rate. Projected impact fee revenue equals $10,477,019 and projected expenditures equal $225,692,553.

Figure 48: Transportation Impact Fee Revenue

Fee Component	Growth Share	Existing Share	Total
Roadway	$7,255,144	$148,633,442	$155,888,586
Pedestrian	$3,221,875	$66,582,092	$69,803,967
Total	$10,477,019	$215,215,534	$225,692,553

		Single Family $2,399 per unit	Multi-Family $1,714 per unit	Industrial $672 per KSF	Commercial $4,871 per KSF	Office & Other $2,162 per KSF	Institutional $2,148 per KSF
Year		Hsg Unit	Hsg Unit	KSF	KSF	KSF	KSF
Base	2024	26,746	10,872	4,296	6,409	7,516	3,986
Year 1	2025	26,932	11,004	4,332	6,443	7,552	4,018
Year 2	2026	27,151	11,094	4,368	6,478	7,589	4,050
Year 3	2027	27,371	11,184	4,404	6,513	7,626	4,082
Year 4	2028	27,594	11,275	4,441	6,548	7,663	4,114
Year 5	2029	27,819	11,367	4,477	6,583	7,701	4,147
Year 6	2030	28,045	11,459	4,515	6,619	7,738	4,180
Year 7	2031	28,273	11,552	4,552	6,654	7,776	4,213
Year 8	2032	28,503	11,646	4,589	6,690	7,814	4,247
Year 9	2033	28,735	11,741	4,627	6,727	7,853	4,280
Year 10	2034	28,968	11,837	4,665	6,763	7,892	4,314
10-Year Increase		2,222	965	370	355	376	328
Projected Revenue		$5,330,772	$1,653,590	$248,326	$1,726,840	$812,925	$704,565

Projected Fee Revenue	$10,477,019
Existing Development Share	$215,215,534

APPENDIX A: LAND USE DEFINITIONS

RESIDENTIAL DEVELOPMENT

As discussed below, residential development categories are based on data from the U.S. Census Bureau, American Community Survey. Impact fees will be assessed to all new residential units. One-time impact fees are determined by site capacity (i.e., number of residential units).

Single Family:

1. Single-family detached is a one-unit structure detached from any other house, that is, with open space on all four sides. Such structures are considered detached even if they have an adjoining shed or garage. A one-family house that contains a business is considered detached as long as the building has open space on all four sides.
2. Single-family attached (townhouse) is a one-unit structure that has one or more walls extending from ground to roof separating it from adjoining structures. In row houses (sometimes called townhouses), double houses, or houses attached to nonresidential structures, each house is a separate, attached structure if the dividing or common wall goes from ground to roof.
3. Mobile home includes both occupied and vacant mobile homes, to which no permanent rooms have been added. Mobile homes used only for business purposes or for extra sleeping space and mobile homes for sale on a dealer's lot, at the factory, or in storage are not counted in the housing inventory.

Multi-Family:

1. Includes units in structures containing two or more housing units, further categorized as units in structures with "2, 3 or 4, 5 to 9, 10 to 19, 20 to 49, and 50 or more apartments."
2. Includes any living quarters occupied as a housing unit that does not fit the other categories (e.g., houseboats, railroad cars, campers, and vans). Recreational vehicles, boats, vans, railroad cars, and the like are included only if they are occupied as a current place of residence.

NONRESIDENTIAL DEVELOPMENT

The proposed general nonresidential development categories (defined below) can be used for all new construction. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates and employment densities (i.e., jobs per thousand square feet of floor area).

Commercial: Establishments primarily selling merchandise, eating/drinking places, entertainment, and lodging uses. By way of example, commercial includes shopping centers, supermarkets, pharmacies, restaurants, bars, nightclubs, automobile dealerships, and movie theaters.

Industrial: Establishments primarily engaged in the processing or production of goods, along with warehousing, transportation, communications, and utilities. By way of example, industrial includes manufacturing plants, distribution warehouses, trucking companies, utility substations, power generation facilities, and telecommunications buildings.

Institutional: Public and quasi-public buildings providing educational, social assistance, or religious services. By way of example, institutional includes schools, universities, churches, and public buildings

Office and Other Services: Establishments providing management, administrative, professional, or business services; personal and health care services. By way of example, office and other services includes offices, health care, and business services.

APPENDIX B: LAND USE ASSUMPTIONS

The estimates and projections of residential and nonresidential development in this *Land Use Assumptions* document are for Roswell, Georgia. The current demographic estimates and future development projections will be used in the calculation of impact fees. Current demographic data estimates for 2025 are used in calculating levels of service (LOS) provided to existing development in Roswell.

SUMMARY OF GROWTH INDICATORS

Key land use assumptions for the Roswell Impact Fee Report are housing units, employment, and nonresidential floor area projections. TischlerBise projects housing units in Roswell using permit data from the Roswell Department of Community Development. Employment estimates were obtained by using ACS data to determine jobs per housing unit and multiplying by housing unit projections. For nonresidential development in Roswell, TischlerBise projects nonresidential floor area using employment density factors published by the Institute of Transportation Engineers (ITE) and multiplying by projected employment by sector. The projections contained in this document provide the foundation for the Impact Fee Report. These metrics are the service units and demand indicators used in the Impact Fee Report.

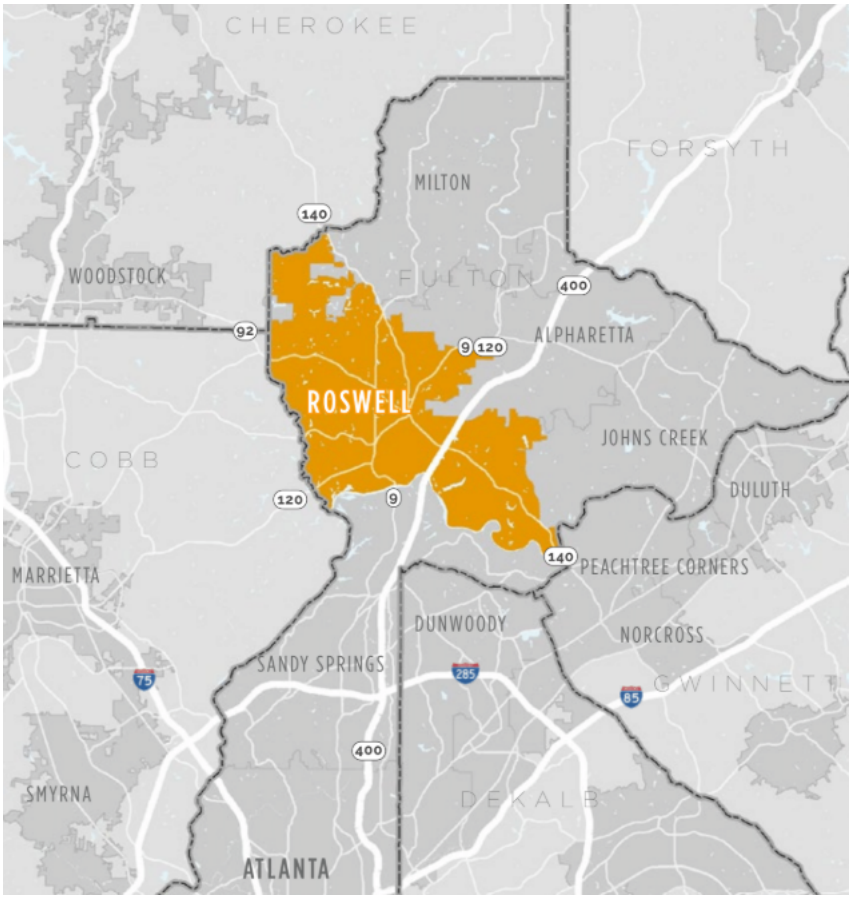
Development projections summarized in Figure B8 are used to estimate impact fee revenue and to indicate the anticipated need for growth-related infrastructure. Impact fee methodologies are designed to reduce sensitivity to development projections in the determination of the proportionate share fee amounts. If actual development is slower than projected, fee revenue will decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, fee revenue will increase, but Roswell will also need to accelerate infrastructure improvements to keep pace with the actual rate of development.

During the next 10 years, residential development projections indicate an additional 1,578 housing units, and nonresidential development projections indicate an employment increase of 2,003 jobs, and approximately 856,000 square feet of nonresidential floor area.

SERVICE AREAS

The impact fee service area will be the City of Roswell, shown below.

Figure B1: Proposed Impact Fee Service Area



Source: City of Roswell 2040 Comprehensive Plan

RESIDENTIAL DEVELOPMENT

This section details current estimates and future projections of residential development.

Persons per Housing Unit

According to the U.S. Census Bureau, a household is a housing unit occupied by year-round residents. Impact fees often use per capita standards and persons per housing unit (PPHU) or persons per household (PPHH) to derive proportionate share fee amounts. When PPHU is used in the fee calculations, infrastructure standards are derived using year-round population. When PPHH is used in the fee calculations, the impact fee methodology assumes a higher percentage of housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards.

Occupancy calculations require data on population and the types of units by structure. Starting in 2010 the census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS), which has limitations due to sample-size constraints. For example, data on detached housing units are now combined with attached single units (commonly known as townhouses, which share a common sidewall, but are constructed on an individual parcel of land).

Figure B2 below shows the occupancy estimates for Roswell based on 2019-2023 American Community Survey 5-Year Estimates. The average occupancy for all housing units in Roswell was 2.45 persons per housing unit.

Figure B2: Persons per Housing Unit

Housing Type	Persons	Households	Persons per Household	Housing Units	Persons per Housing Unit	Housing Mix	Vacancy Rate
Single-Family Units[1]	70,882	25,826	2.74	26,682	**2.66**	71.1%	3.20%
Multi-Family Units[2]	21,123	9,610	2.20	10,870	**1.94**	28.9%	11.60%
Total	92,005	35,436	2.60	37,552	**2.45**	100.0%	5.60%

Source: U.S. Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

1. Includes detached, attached (i.e. townhouses), and mobile home units.
2. Includes dwellings in structures with two or more units.

Residential Estimates

Based on ACS estimates, there were 37,552 housing units in Roswell in 2023. Using building permit data provided by City staff, the 2024 estimate for total housing units is 37,618.

Figure B3: Issued Residential Building Permits from 2020-2024

Roswell, GA	Building Permit Data						
	2020	2021	2022	2023	2024	**Total**	*Avg*
Single Family	74	75	98	64	89	**400**	*80*
Multifamily	154	124	29	2	76	**385**	*77*
Total	228	199	127	66	165	**785**	***157***

Residential Projections

Housing unit projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease.

To project residential development in Roswell, TischlerBise used permit data from City staff. The total permits per year issued were used for the total housing unit projection and the ratio of single family to multi-family units from the base year was then applied to the total housing unit projection to ascertain projections for each type of unit. In the next 10 years, Roswell is expected to add 1,122 single family units and 456 multifamily units.

The base year PPHU is then used to derive population estimates based on projected housing growth. For example: in 2034 we project there to be 11,328 multi-family housing units and 27,868 single family housing units, using the PPHU values of 1.94 and 2.66 respectively we can say there should be 21,976 residents living in multi-family units and 74,129 residents living in single family homes for a total projected population of 96,105.

Figure B4: Residential Development Projections

Roswell, GA	2024	2025	2026	2027	2028	2029	2034	10-Year Increase
	Base Year	1	2	3	4	5	10	
Population	**92,236**	**92,620**	**93,026**	**93,411**	**93,796**	**94,181**	**96,105**	**3,869**
Housing Units								
Single Family	26,746	26,835	26,975	27,087	27,199	27,310	27,868	**1,122**
Multi-Family	10,872	10,948	10,965	11,010	11,055	11,101	11,328	**456**
Total	**37,618**	**37,783**	**37,940**	**38,097**	**38,254**	**38,411**	**39,196**	**1,578**

NONRESIDENTIAL DEVELOPMENT

This section details current estimates and future projections of nonresidential development including jobs and nonresidential floor area.

Nonresidential Square Footage Estimates

TischlerBise uses the term jobs to refer to employment by place of work. In Figure B5, gray shading indicates the nonresidential development prototypes used by TischlerBise to derive employment densities. For nonresidential development, TischlerBise uses data published in Trip Generation, Institute of Transportation Engineers, 11th Edition (2021). The prototype for industrial development, Industrial Park (ITE 130), has 864 square feet of floor area per employee. Institutional development uses Hospital (ITE 610) and has 350 square feet of floor area per employee. For office & other services development, the proxy is General Office (ITE 710), it has 307 square feet of floor area per employee. The prototype for commercial development is Shopping Center (ITE 820), which has 471 square feet of floor area per employee.

Figure B5: Nonresidential Demand Units

ITE Code	Land Use Group	Demand Unit	Avg Wkdy Trip Ends Per Demand Unit[1]	Avg Wkdy Trip Ends Per Employee[1]	Employees Per Demand Unit	Square Feet Per Employee
110	Light Industrial	1,000 Sq Ft	4.87	3.10	1.57	637
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	4.75	2.51	1.89	528
150	Warehousing	1,000 Sq Ft	1.71	5.05	0.34	2,953
254	Assisted Living	bed	2.60	4.24	0.61	na
310	Hotel	room	7.99	14.34	0.56	na
565	Day Care	student	4.09	21.38	0.19	na
610	Hospital	1,000 Sq Ft	10.77	3.77	2.86	350
620	Nursing Home	bed	3.06	3.31	0.92	na
710	General Office (avg size)	1,000 Sq Ft	10.84	3.33	3.26	307
720	Medical-Dental Office	1,000 Sq Ft	36.00	8.71	4.13	242
730	Government Office	1,000 Sq Ft	22.59	7.45	3.03	330
750	Office Park	1,000 Sq Ft	11.07	3.54	3.13	320
820	Shopping Center (avg size)	1,000 Sq Ft	37.01	17.42	2.12	471

1. Trip Generation, Institute of Transportation Engineers, 11th Edition (2021).

Nonresidential Estimates

Based on data published by Esri Business Analyst, the 2024 employment estimate for Roswell includes 47,756 jobs. Based on commercial real estate data from CoStar, the 2024 nonresidential floor area estimate for Roswell includes 22,206,139 square feet.

Figure B6: Nonresidential Estimates

Nonresidential Category	2024 Jobs[1]	Percent of Total Jobs	Square Feet per Job[2]	2024 Floor Area[3]	Jobs per 1,000 Sq. Ft.[2]
Industrial[4]	**6,111**	13%	864	**4,295,798**	1.16
Commercial[5]	**10,762**	23%	471	**6,408,791**	2.12
Office & Other Service[6]	**17,492**	37%	307	**7,515,695**	3.26
Institutional[7]	**13,391**	28%	350	**3,985,855**	2.86
Total	**47,756**	100%		**22,206,139**	

1. Esri Business Analyst Online, Business Summary, 2023.
2. Trip Generation, Institute of Transportation Engineers, 11th Edition (2022).
3. CoStar, 2024.
4. Major sectors are Construction; Transportation & Warehousing.
5. Major sectors are Retail Trade; Accommodation & Food Services.
6. Major sectors are Other Services; Professional, Scientific & Tech Services.
7. Major sectors are Health Care, Social Assistance; Public Administration; Educational Services.

Nonresidential Projections

Employment and floor area projections are used to illustrate the possible future pace of service demands, revenues, and expenditures. To the extent these factors change, the projected need for infrastructure will also change. If development occurs at a more rapid rate than projected, the demand for infrastructure will increase at a corresponding rate. If development occurs at a slower rate than projected, the demand for infrastructure will also decrease.

To project employment for Roswell, TischlerBise used the employment projections from the 2050 Metropolitan Transportation Plan for the Atlanta MPO, which includes Roswell, to estimate an annual growth rate of 0.6787% for employment. This annual growth rate was then applied to the projection period, starting with the base year employment. The 10-year projections for Roswell include an additional 3,342 total jobs.

To convert employment to floor area, square feet per employee multipliers shown in Figure B5 are applied to the employment projections shown in Figure B7. For example, the 10-year increase of 753 commercial jobs is multiplied by 471 square feet per job to equal approximately 355,000 additional nonresidential square feet. Based on these assumptions, the 10-year projections for Roswell include an additional 1,428,000 square feet of nonresidential floor area.

Figure B7: Nonresidential Development Projections

Roswell, GA	2024	2025	2026	2027	2028	2029	2034	10-Year
	Base Year	1	2	3	4	5	10	Increase
Employment								
Industrial	6,111	6,152	6,194	6,236	6,279	6,321	6,539	**428**
Commercial	10,762	10,835	10,909	10,983	11,057	11,132	11,515	**753**
Office & Other Services	17,492	17,611	17,730	17,851	17,972	18,094	18,716	**1,224**
Institutional	13,391	13,482	13,573	13,666	13,758	13,852	14,328	**937**
Total	**47,756**	**48,080**	**48,406**	**48,735**	**49,066**	**49,399**	**51,098**	**3,342**
Nonresidential Sq Ft (x1,000)								
Industrial	4,296	4,332	4,368	4,404	4,441	4,477	4,665	**370**
Commercial	6,409	6,443	6,478	6,513	6,548	6,583	6,763	**355**
Office & Other Services	7,516	7,552	7,589	7,626	7,663	7,701	7,892	**376**
Institutional	3,986	4,018	4,050	4,082	4,114	4,147	4,314	**328**
Total	**22,206**	**22,345**	**22,484**	**22,624**	**22,766**	**22,908**	**23,634**	**1,428**

Development Projections

Provided below is a summary of development projections. Development projections are used to illustrate a possible future pace of demand for service units and cash flows resulting from revenues and expenditures associated with those demands.

Figure B8 Development Projections Summary

Roswell, Georgia	2024	2025	2026	2027	2028	2029	2034	10-Year
	Base Year	1	2	3	4	5	10	Increase
Population	**92,236**	**92,620**	**93,026**	**93,411**	**93,796**	**94,181**	**96,105**	**3,869**
Housing Units								
Single Family	26,746	26,835	26,975	27,087	27,199	27,310	27,868	**1,122**
Multi-family	10,872	10,948	10,965	11,010	11,055	11,101	11,328	**456**
Total Housing Units	**37,618**	**37,783**	**37,940**	**38,097**	**38,254**	**38,411**	**39,196**	**1,578**
Employment								
Industrial	6,111	6,152	6,194	6,236	6,279	6,321	6,539	**428**
Commercial	10,762	10,835	10,909	10,983	11,057	11,132	11,515	**753**
Office & Other Service	17,492	17,611	17,730	17,851	17,972	18,094	18,716	**1,224**
Institutional	13,391	13,482	13,573	13,666	13,758	13,852	14,328	**937**
Total Employment	**47,756**	**48,080**	**48,406**	**48,735**	**49,066**	**49,399**	**51,098**	**3,342**
Nonres. Floor Area (x1,000)								
Industrial	4,296	4,332	4,368	4,404	4,441	4,477	4,665	**370**
Commercial	6,409	6,443	6,478	6,513	6,548	6,583	6,763	**355**
Office & Other Service	7,516	7,552	7,589	7,626	7,663	7,701	7,892	**376**
Institutional	3,986	4,018	4,050	4,082	4,114	4,147	4,314	**328**
Total Nonres. Floor Area (x1,000)	**22,206**	**22,345**	**22,484**	**22,624**	**22,766**	**22,908**	**23,634**	**1,428**