Development (Impact) Fees

City of Tucson
Infrastructure Improvements Plan
Streets Facilities

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TABLE OF CONTENTS

- INTRODUCTION 1
  - Service Areas 1
  - Level of Service 3
- NECESSARY PUBLIC SERVICES – EXISTING NEEDS 4
- NECESSARY PUBLIC SERVICES – NEEDS ATTRIBUTABLE TO NEW DEVELOPMENT 9
- TRAVEL DEMAND PER SERVICE UNIT – METHODOLOGY 10
  - Average Trip Length 10
  - ITE Trip Rates 10
  - Primary Trips 10
  - Travel Demand on the Arterial System 12
  - Vehicle-Miles of Travel (VMT) Per Service Unit 12
- PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT 12
- REVENUE CONSIDERATIONS 14
  - Credit for Other Funding Sources Collected or Utilized by the City 16
- LOS BY SERVICE AREA 20
- RECOMMENDED MAXIMUM FEE PER SERVICE UNIT 21

LIST OF EXHIBITS

Exhibit 1 Street Facilities Development Fee Service Areas 2
Exhibit 2 Necessary Street Facilities, Existing and for New Development 5
Exhibit 3 Volume and Capacity Table, 2015 and 2025 7
Exhibit 4 Typical Street Facility Demand per Unit of Land Use 11
Exhibit 5 Estimate of Service Units Through 2024 13
Exhibit 6 Continuing Revenue Sources 15
Exhibit 7 Percent HURF Spent on Capital Projects 17
Exhibit 8 Summary of HURF Credit 17
Exhibit 9 Summary of RTA Sales Tax Credit 18
Exhibit 10 Cost of LOS D Capacity and Fee Calculation 18
Exhibit 11 Estimated Fees and Credits by Land Use Category 19
Exhibit 12 Expected Revenue from New Development (10-Year Total) 20
Exhibit 13 Fee by Benefit Area and LOS Standard 20
Exhibit 14 Fee by Land Use Type and LOS Standard 21

Appendices

A - List of Preparers
B - Panel on Streets Infrastructure
C – Service Area Maps and Projects
D - Bus Pullout Locations (Preliminary, 39 Locations)
E - New Corridor Alignments, Southeast Service Area

■ INTRODUCTION

The City of Tucson collects development fees to offset some of the infrastructure costs associated with growth. The City currently charges fees for four public service categories: (1) streets facilities, (2) parks and recreational facilities, (3) police and (4) fire. In order to continue assessing and collecting the fees, the City must comply with Arizona Revised Statute ARS §9-463.05, as amended. Consequently, the City is preparing new development fee studies, project lists, fee schedules, and a City ordinance.

The statute codifies Senate Bill 1525, and includes major changes in development fee assessment procedures and programs. It also provides greater specificity regarding the types of "necessary public services" that can be funded with development fees. Prior to calculating the fees, two studies must be prepared: a land use assumptions report and an infrastructure improvements plan (IIP) for each fee category. As defined in ARS §9-463.05(T)(5),'Infrastructure improvements plan' means a written plan that identifies each necessary public service or facility expansion that is proposed to be the subject of a development fee and otherwise complies with the requirements of this section, and may be the municipality's capital improvements plan."

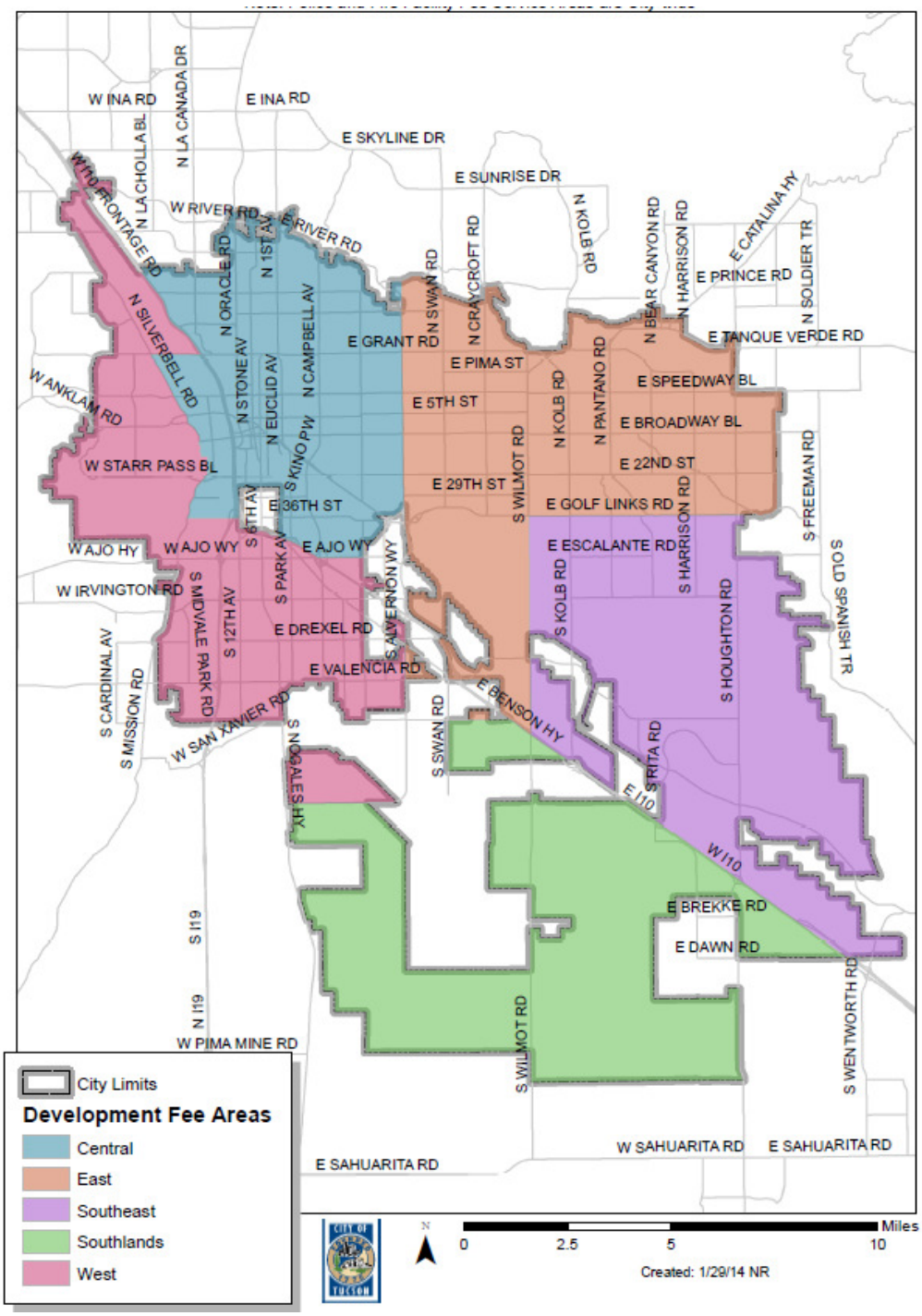
This report identifies the infrastructure needs for streets facilities for a 10-year planning horizon, and provides fee calculations that will be the basis for establishing fees to fund those facilities. The infrastructure needs are based on land use assumptions provided in a companion document. The land use assumptions were used to estimate the amount of new development projected to occur between 2014 and 2024. This report identifies the amount and type of streets infrastructure needed to provide that new development with the same level of streets facilities service as is provided to existing development in the City. This report also provides updated development fee calculations for streets infrastructure, which will be finalized in a subsequent document.

As a matter of policy, the City of Tucson recognizes that complete streets must be planned and implemented with a focus on accommodating alternative forms of transportation. Accordingly, and within the context of enabling legislation, this IIP includes projects that support multiple modes of travel, including motor vehicles, pedestrians, bicycles, and public transit.

Service Areas

As defined in ARS §9-463.05(T)(9), "'Service area' means any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan." The City will utilize the same service areas currently used, with minor adjustments for recent annexations. (See Exhibit 1.)

Exhibit 1 Streets Facilities Development Fee Service Areas



Level of Service

The level of service (or LOS) for streets is typically based on the *Highway Capacity Manual*. LOS is a qualitative measure of system performance using letter grades, similar to academic grades. LOS A is uncongested, free-flowing traffic, whereas LOS F is extreme congestion. In urban areas, LOS D is almost universally adopted as the performance standard. This standard has been consistently utilized by the City of Tucson and the Pima Association of Governments for both planning and design purposes. Accordingly, this IIP incorporates LOS D as the performance standard for streets infrastructure.

As stated in ARS §9-463.05(B)(4), "Costs for necessary public services made necessary by new development **shall be based on the same level of service provided to existing development** in the service area." ARS §9-463.05(B)(5)(d) contains contradictory language, stating that fees may not be used for "Upgrading, updating, expanding, correcting or replacing existing necessary public services to **provide a higher level of service to existing development**." However, the statutes fail to define the term "Level of Service."

Three of the service areas have existing LOS performance better than the adopted standard of LOS D. Both the West and Southeast areas operate now at LOS C, and the Southlands area operates at LOS B. (See Exhibit 1.) Using a uniform performance standard of LOS D throughout the City is recommended for several reasons: consistency with the Regional Transportation Plan; air quality mandates; recognition that the developing service areas are changing to a more urban condition; and retaining the current LOS in the developing areas will result in a substantially higher streets fee, which is addressed later in this report.

■ NECESSARY PUBLIC SERVICES – EXISTING NEEDS

ARS §9-463.05(E)(1) indicates that the IIP for each "necessary public service" must include the following: "A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable." Further, ARS §9-463.05(E)(2) requires "An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."

The City of Tucson and the consulting team identified the "necessary public services" for streets facilities to be included in this IIP. These projects, shown in Exhibit 2, are necessary in part because of projected growth as documented in the Land Use Assumptions report.

Due to the ten-year time period required by the statute, the analysis included years 2015 and 2025 conditions. Projected growth over the ten-year period will require adding an estimated 194 new lane-miles of arterial roadway capacity, based on the typical capacities of urban arterials. This includes widening existing arterials, along with adding or constructing several new corridors in the Southeast area. (See alignments in Appendix E.)

Also included are several capacity enhancement projects that impact and add roadway capacity through the construction of bus pullouts and intersection turn lanes. These improvements increase roadway capacity by reducing delays associated with transit users embarking and debarking from buses, and separating turning and through vehicles at intersections. Sidewalk additions and improvements are associated with these capacity enhancements, which will serve existing and future development. Three-quarters of the sidewalk, bus pullout and intersection capacity project costs were assigned to new development. The remaining one-quarter will be funded with other sources. This apportionment is indicated in Exhibit 2.

One of the City's major streets facilities expenditures is to provide local matching funds for the Regional Transportation Authority (RTA) arterial projects. Funding for these projects, including a new half-cent sales tax and the required local match, was committed by the voters of Pima County on May 16, 2006. Use of development fee funds for the local match was assigned through subsequent, project-specific, intergovernmental agreements between the City and the RTA. [1] Traffic volumes and capacities for the proposed roadway projects for both 2015 and 2025 are provided in Exhibit 3. In a few cases (Broadway from Camino Seco to Houghton, for example) future volumes are approximately the same or less than current volumes. This is due to the travel demand model reassigning some trips to new and expanded parallel corridors.

[1] See http://www.rtamobility.com/rtaplan.aspx for information on the RTA Plan and its funding commitments.

Exhibit 2 Necessary Streets Facilities for Existing and New Development

	Road Project	Limits		Project	# of Existing Lanes	# of Lanes	Length (mi)/ Units	New capacity lane-miles	New sidewalk-only miles	Total Project Cost (RTA)	City Contribution to RTA Project	Non-RTA Total Project Cost (Estimated)	Non-RTA Project Cost (Attributed to New Development)	Total Attributed to New Development	Source	Notes
Central	22nd Street	I-10	Tucson Blvd	Widen from 4 lanes to 6	4	6	2.6	5.2		$118,532,400	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Broadway Boulevard	Euclid Ave	Country Club Rd	Widen from 5 lanes to 8	5	8	1.9	7.6		$74,760,600	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	First Avenue	River Rd	Grant Rd	Widen from 4 lanes to 6	4	6	3.1	6.2		$79,372,610	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Grant Road	Oracle Rd	Swan Rd	Widen from 4 lanes to 6	4	6	5.0	10.0		$175,434,650	$6,000,000			**$6,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Country Club Road	Ft. Lowell Rd	Prince Rd	Widen to 5 lanes, add sidewalks	2	5	0.5	1.5				$4,722,449	$1,224,329	**$1,224,329**	RSR Cost Estimation	Based on ratio of increase in volume to increase in capacity, 26% applied to new development
	Campbell Avenue	Grant Rd	Ft. Lowell Rd	Right turn lanes, bus pullouts (will require ROW)	5	5	1.0					$1,800,000	$1,350,000	**$1,350,000**	RTA Built Projects^, RSR Cost Estimation for ROW	75% Applied to New Development
	Speedway Boulevard	Alvernon Wy	Wilmot Rd	Sidewalks	N/A	N/A	3.0		6.0			$3,000,000	$2,250,000	**$2,250,000**	Comparable Sidewalk Projects in TIP	75% Applied to New Development
	Speedway Boulevard	4th Ave	Park Ave	Sidewalks	N/A	N/A	0.5		1.0			$500,000	$375,000	**$375,000**	Comparable Sidewalk Projects in TIP	75% Applied to New Development
	Stone Avenue	Grant Rd	Limberlost Dr	Sidewalks	N/A	N/A	2.3		4.6			$2,300,000	$1,725,000	**$1,725,000**	Comparable Sidewalk Projects in TIP	75% Applied to New Development
	Ft. Lowell Road	Euclid Ave	Oracle Rd	Sidewalks	N/A	N/A	1.00		2.0			$1,000,000	$750,000	**$750,000**	Comparable Sidewalk Projects in TIP	75% Applied to New Development
	Campbell/Prince	Intersection		Right turn lanes, bus pullouts (will require ROW)	N/A	N/A	N/A					$2,500,000	$1,875,000	**$1,875,000**	RTA built projects (http://www.rtamobility.com/documents/intersectionsafetyupgradesscr.pdf) - average of 14 projects	75% Applied to New Development
	Alvernon/Ft. Lowell	Intersection		Right turn lanes, bus pullouts	N/A	N/A	N/A					$2,500,000	$1,875,000	**$1,875,000**	RTA built projects (http://www.rtamobility.com/documents/intersectionsafetyupgradesscr.pdf) - average of 14 projects	75% Applied to New Development
	Modern Streetcar Line Extension (In-Pavement Components, Proposed)	UMC to Tohono T'adai Center		Streetcar Line Extension (Proposed)			4.7			$188,000,000 (Proposed)	$28,000,000			**$28,000,000**	CLA	15% Applied to New Development
	Bus Pullout Program	19 Locations*		New bus pullouts	N/A	N/A	19					$2,850,000	$2,137,500	**$2,137,500**	RTA built projects (http://www.rtamobility.com/documents/pdfs/RTACART/2013/RTACART-2013-07-31-Presentation-BusPulloutReport.pdf)	75% Applied to New Development
									Central Benefit Area Totals:	***$448,100,260***	***$43,000,000***	***$21,172,449***	***$13,561,829***	***$56,561,829***		
West	Silverbell Road	Ina Rd	Grant Rd	Widen from 2 lanes to 4	2	4	7.6	15.2		$61,955,610	$8,000,000			**$8,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Sunset Road	Silverbell Rd	I-10/River Rd	New 3-lane roadway	N/A	3	0.9	2.7		$39,062,010	$5,000,000			**$5,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Grant Road	Silverbell Rd	I-10	Widen from 4 lanes to 6	4	6	1.4	2.8				$11,760,000	$4,014,739	**$4,014,739**	COT Staff	Based on ratio of increase in volume to increase in capacity, 34% applied to new development
	Ironwood Hill	Shannon	Silverbell Rd	Widen from 2 lanes to 4, includes 1 HAWK	2	4	1	2				$15,000,000	$5,508,078	**$5,508,078**	COT Staff	Based on ratio of increase in volume to increase in capacity, 37% applied to new development
	Ajo Way	Park Ave	Mission Rd	Right turn lanes, bus pullouts, sidewalks, access control	N/A	N/A	2.0		4.0			$4,550,000	$3,412,500	**$3,412,500**	RTA Built Projects^	Excludes Holiday Isle to 16th Street 75% Applied to New Development
	Irvington Road	Mission Rd	I-19	Right turn lanes, bus pullouts, sidewalks, access control	N/A	N/A	1.3		2.6			$2,950,000	$2,212,500	**$2,212,500**	RTA Built Projects^	75% Applied to New Development
	12th Avenue	Ajo Wy	Drexel Rd	Right turn lanes, bus pullouts, sidewalks, access control	N/A	N/A	2.0		4.0			$4,250,000	$3,187,500	**$3,187,500**	RTA Built Projects^	75% Applied to New Development
	Campbell Avenue	Irvington Rd	Valencia Rd	2 HAWKs, pedestrian refuges	N/A	N/A	N/A					$400,000	$300,000	**$300,000**	COT Staff	75% Applied to New Development
	Park Avenue	Irvington Rd	Valencia Rd	Bus pullouts	N/A	N/A	N/A					$500,000	$375,000	**$375,000**	COT Staff	75% Applied to New Development
	Drexel Road	12th Ave	Campbell Ave	Curb, sidewalk, bike lanes	N/A	N/A	2.0		4.0			$5,080,000	$3,810,000	**$3,810,000**	RSR per mile costs plus sidewalk costs	75% Applied to New Development
									West Benefit Area Totals:	***$101,017,620***	***$13,000,000***	***$44,490,000***	***$22,820,318***	***$35,820,318***		

Exhibit 2 (continued) Necessary Streets Facilities for Existing and New Development

	Road Project	Limits		Project	# of Existing Lanes	# of Lanes	Length (mi)/ Units	New capacity lane-miles	New sidewalk-only miles	Total Project Cost (RTA)	City Contribution to RTA Project	Total Project Cost (Estimated)	Project Cost (Attributed to New Development)		Source	Notes
East	22nd Street	Camino Seco	Old Spanish Tr	Widen from 2 lanes to 4	2	4	1.2	2.4		$15,144,000	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	22nd Street	Old Spanish Tr	Houghton Rd	Widen from 2 lanes to 3	2	3	0.8	0.8						**$0**	RTA	Only City Contribution applied to Devel Fee Calc
	Broadway Boulevard	Camino Seco	Houghton Rd	Widen from 3 lanes to 4	3	4	2.0	2.0		$16,086,800	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Houghton Road	Golf Links Rd	Tanque Verde Rd	Widen from 2 lanes to 4	2	4	4.1	8.2		$62,290,133	$5,676,923			**$5,676,923**	RTA	Cost of Houghton Road project is $197,505,300. This represents proportional cost based on length (4.1 of 13 miles).
	Speedway Boulevard	Camino Seco	Houghton Rd	Widen from 2/3 lanes to 4	2/3	4	2.0	4.0		$17,127,000	$3,000,000			**$3,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Valencia Road	Alvernon Wy	Kolb Rd	Widen from 4 lanes to 6	4	6	4.3	8.6		$51,124,970	$5,676,923			**$5,676,923**	RTA	Only City Contribution applied to Devel Fee Calc
	Camino Seco	Wrightstown Rd	Speedway Blvd	Widen from 2 lanes to 4	2	4	0.6	1.2				$5,000,000	$993,803	**$993,803**	COT Staff	Based on ratio of increase in volume to increase in capacity, 20% applied to new development
	Pantano Road	22nd St	Golf Links Rd	Sidewalks	N/A	N/A	1.3		2.6			$1,300,000	$975,000	**$975,000**	RTA Built Projects	75% Applied to New Development
	22nd Street	Alvernon Wy	Wilmot Rd	Sidewalks	N/A	N/A	3.0		6.0			$3,000,000	$2,250,000	**$2,250,000**	RTA Built Projects	75% Applied to New Development
	Wilmot Road	22nd St	Speedway Blvd	Sidewalks, 2 HAWKs	N/A	N/A	2.0		4.0			$2,240,000	$1,680,000	**$1,680,000**	RTA Built Projects	75% Applied to New Development
	Speedway Boulevard	Alvernon Wy	Wilmot Rd	Sidewalks with ROW	N/A	N/A	3.0		6.0			$4,500,000	$3,375,000	**$3,375,000**	RTA Built Projects, RSR Cost Estimation for ROW	75% Applied to New Development
	Rosemont Boulevard	Speedway Blvd	Broadway Blvd	Right turn lanes, sidewalks, 2 HAWKs	3	3	1.0		2.0			$2,350,000	$1,762,500	**$1,762,500**	RTA Built Projects^	75% Applied to New Development
	Pima Street	Alvernon Wy	Swan Rd	Sidewalks	N/A	N/A	1.0		2.0			$1,000,000	$750,000	**$750,000**	RTA Built Projects	75% Applied to New Development
	Speedway Boulevard/Craycroft Road	Intersection		Intersection Improvements	N/A	N/A	N/A					$5,000,000	$3,750,000	**$3,750,000**	COT Staff	75% Applied to New Development
	Speedway Boulevard/Swan Road	Intersection		Intersection Improvements	N/A	N/A	N/A					$5,000,000	$3,750,000	**$3,750,000**	COT Staff	75% Applied to New Development
	Golf Links Road/Swan Road	Intersection		Intersection Improvements	N/A	N/A	N/A					$5,000,000	$3,750,000	**$3,750,000**	COT Staff	75% Applied to New Development
	River Road/Craycroft Road	Intersection		Intersection Improvements	N/A	N/A	N/A					$1,000,000	$750,000	**$750,000**	COT Staff	75% Applied to New Development
	Broadway Boulevard/Pantano Road	Intersection		Intersection Improvements	N/A	N/A	N/A					$5,000,000	$3,750,000	**$3,750,000**	COT Staff	75% Applied to New Development
	Bus Pullout Program	20 Locations*		New bus pullouts	N/A	N/A	20					$3,000,000	$2,250,000	**$2,250,000**	RTA Built Projects	75% Applied to New Development
									East Benefit Area Totals:	***$161,772,903***	***$20,353,846***	***$43,390,000***	***$29,786,303***	***$50,140,149***		
Southeast	Houghton Road	I-10	Old Vail Rd	Widen from 2 lanes to 4	2	4	1.8	3.6		$135,215,167	$12,323,077			**$12,323,077**	RTA	Cost of Houghton Road project is $197,505,300. This represents proportional cost based on length (8.9 of 13 miles).
	Houghton Road	Old Vail Rd	Golf Links Rd	Widen from 2 lanes to 6	2	6	7.2	28.8							RTA	
	Valencia Road	Kolb Rd	Houghton Rd	Widen from 2 lanes to 6	2	6	4.6	18.4		$38,251,000	$5,000,000			**$5,000,000**	RTA	Only City Contribution applied to Devel Fee Calc
	Poorman Road	Houghton Rd	Valencia Rd	New 4-lane roadway	2**	4	2.0	6.7				$12,595,455	$12,595,455	**$12,595,455**	COT Staff	All Applied to new development
	Valencia Road	Houghton Rd	City Limits	New 4-lane roadway	N/A	4	2.0	8.0				$12,303,136	$7,449,447	**$7,449,447**	Designer Cost Estimate	Only City Contribution applied to Devel Fee Calc
	Val Vista	Valencia Rd	Mary Ann Cleveland Wy	New 4-lane roadway	N/A	4	4.5	18.0				$29,922,955	$29,922,955	**$29,922,955**		All Applied to new development
	Rita Road	Houghton Rd	Val Vista	New 4-lane roadway	N/A	4	2.5	10.0				$18,722,727	$18,722,727	**$18,722,727**		All Applied to new development
	Old Vail Road	Rita Road	Houghton Rd	Widen from 2 lanes to 4	2	4	1.6	3.2				$8,960,000	$4,823,996	**$4,823,996**		Based on ratio of increase in volume to increase in capacity, 54% applied to new development
	Mary Ann Cleveland Way	Houghton Rd	City Limits	Widen from 2 lanes to 4	2	4	3.0	6.0				$16,800,000	$8,980,237	**$8,980,237**		Based on ratio of increase in volume to increase in capacity, 44% applied to new development
	Irvington Road	Pantano Rd	Camino Seco	Widen from 2 lanes to 4	2	4	2.0	4.0				$11,200,000	$3,267,122	**$3,267,122**		Based on ratio of increase in volume to increase in capacity, 29% applied to new development
	Irvington Road	Camino Seco	Houghton Rd	Widen from 2 lanes to 4	2	4	2.0	4.0				$11,200,000	$5,986,825	**$5,986,825**		Based on ratio of increase in volume to increase in capacity, 53% applied to new development
									Southeast Benefit Area Totals:	***$173,466,167***	***$17,323,077***	***$121,704,272***	***$91,748,764***	***$109,071,841***		
Southlands	Wilmot Road	I-10	End of Road (1.5 Miles)	Widen from 2 lanes to 4	2	4	1.5	3.0				$8,400,000	$6,300,000	**$6,300,000**	COT Staff	75% Applied to new development
									Southlands Benefit Area Totals:	***$0***	***$0***	***$8,400,000***	***$6,300,000***	***$6,300,000***		
							TOTALS	**194.12**	**50.80**	**$1,072,356,950**	**$93,676,923**	**$239,156,721**	**$164,217,213**	**$257,894,136**		

*See Appendix for list of locations
**Poorman Rd is currently paved from Houghton Rd approximately 3,500 feet east
^Right turn lane cost was estimated based on bus pullout costs due to similar project type.

New Dev Cost = $257,894,136

Exhibit 3 Traffic Volume and Capacity Table, 2015 and 2025

	Road Project	Limits		# of Existing Lanes	# of Lanes	Classification	Speed Limit (mph)	Existing Volume (veh/day)	Existing Capacity (veh/day)	2030 PAG Model	Future Volume (veh/day)	Future Capacity (veh/day)
Central	22nd Street	I-10	Tucson Blvd	4	6	Arterial	35	38,363	30,420	46,139	43,386	45,810
	Broadway Boulevard	Euclid Ave	Country Club Rd	5	8	Arterial	35	39,823	30,420	63,210	54,188	61,290
	First Avenue	River Rd	Grant Rd	4	6	Arterial	45/40	38,178	35,820	56,190	49,398	53,910
	Grant Road	Oracle Rd	Swan Rd	4	6	Arterial	40	37,382	35,820	64,802	53,944	53,910
	Country Club	Ft. Lowell Rd	Prince Rd	2	5	Arterial	35	20,135	15,930	28,346	25,292	35,820
	Cambell Avenue	Grant Rd	Ft. Lowell Rd	N/A								
	Speedway Boulevard	Alvernon Wy	Wilmot Rd									
	Speedway Boulevard	4th Ave	Park Ave									
	Stone Avenue	Grant Rd	Limberlost Dr									
	Ft. Lowell Road	Euclid Ave	Oracle Rd									
	Campbell/Prince	Intersection										
	Alvernon/Ft. Lowell	Intersection										
	Bus Pullout Program	19 Locations										
West	Silverbell Road	Ina Rd	Grant Rd	2	4	Arterial	45	13,776	15,930	31,310	23,814	35,820
	Sunset Road	Silverbell Rd	I-10/River Rd	N/A	3	Arterial	N/A	N/A	N/A	24,625	20,954	16,727
	Grant Road	Silverbell Rd	I-10	4	6	Arterial	40	33,592	35,820	43,269	39,768	53,910
	Ironwood Hill	Painted Hills	Silverbell Rd	2	4	Arterial	40	23,437	15,930	35,206	30,740	35,820
	Ajo Way	Park Ave	Mission Rd	N/A								
	Irvington Road	Mission Rd	I-19									
	12th Avenue	Ajo Wy	Drexel Rd									
	Campbell Avenue	Irvington Rd	Valencia Rd									
	Park Avenue	Irvington Rd	Valencia Rd									
	Drexel Road	12th Ave	Campbell Ave									

Exhibit 3 (continued) Traffic Volume and Capacity Table, 2015 and 2025

	Road Project	Limits		# of Existing Lanes	# of Lanes	Classification	Speed Limit (mph)	Existing Volume (veh/day)	Existing Capacity (veh/day)	2030 PAG Model	Future Volume (veh/day)	Future Capacity (veh/day)
East	22nd Street	Camino Seco	Old Spanish Tr	2	4	Arterial	40	19,900	15,930	25,223	23,307	35,820
	22nd Street	Old Spanish Tr	Houghton Rd	2	3	Arterial	40	8,713	15,930	9,501	9,231	16,727
	Broadway Boulevard	Camino Seco	Houghton Rd	3	4	Arterial	40	31,120	16,727	23,240	25,616	35,820
	Houghton Road	Golf Links Rd	Tanque Verde Rd	2	4	Arterial	45	25,892	15,930	57,652	44,150	35,820
	Speedway Boulevard	Camino Seco	Houghton Rd	2	4	Arterial	40	19,342	15,930	22,696	21,518	35,820
	Valencia Road	Alvernon Wy	Kolb Rd	4	6	Arterial	50	44,596	35,820	81,215	66,505	53,910
	Camino Seco	Wrightstown Rd	Speedway Blvd	2	4	Arterial	25	6,685	15,930	13,420	10,638	35,820
	Pantano Road	22nd St	Golf Links Rd	N/A								
	22nd Street	Alvernon Wy	Wilmot Rd									
	Wilmot Road	22nd St	Speedway Blvd									
	Speedway Boulevard	Alvernon Wy	Wilmot Rd									
	Rosemont Boulevard	Speedway Blvd	Broadway Blvd									
	Pima Street	Alvernon Wy	Swan Rd									
	Speedway Blvd/Craycroft Rd	Intersection										
	Speedway Blvd/Swan Rd	Intersection										
	Golf Links Road/Swan Road	Intersection										
	River Road/Craycroft Road	Intersection										
	Broadway Blvd/Pantano Rd	Intersection										
	Bus Pullout Program	20 Locations										
Southeast	Houghton Road	I-10	Old Vail Rd	2	4	Arterial	55	16,917	15,930	46,927	33,398	35,820
	Houghton Road	Old Vail Rd	Golf Links Rd	2	6	Arterial	50	32,200	15,930	88,300	63,085	53,910
	Valencia Road	Kolb Rd	Houghton Rd	2	6	Arterial	50	23,472	15,930	78,436	52,464	53,910
	Poorman Road	Houghton Rd	Valencia Rd	2*	4	Arterial	35	N/A	N/A	23,966	17,148	30,420
	Valencia Road	Houghton Rd	City Limits	N/A	4	Arterial	45	N/A	N/A	55,910	40,005	35,820
	Val Vista	Valencia Rd	Mary Ann Cleveland Way	N/A	4	Arterial	35	N/A	N/A	29,179	20,878	30,420
	Rita Road	Houghton Rd	Val Vista	N/A	4	Arterial	40	N/A	N/A	42,028	30,072	35,820
	Old Vail Road	Rita Rd	Houghton Rd	3	4	Arterial	45	5,623	16,727	26,744	15,903	35,820
	Mary Ann Cleveland Way	Houghton Rd	East City Limit	2	4	Arterial	40	10,159	15,930	25,934	18,976	35,820
	Irvington Road	Pantano Rd	Camino Seco	2	4	Arterial	45	13,901	15,930	23,457	19,703	35,820
	Irvington Road	Camino Seco	Houghton Rd	2	4	Arterial	45	13,449	15,930	32,223	24,081	35,820
South Lands	Wilmot Road	I-10	End of Road (1.5 Miles)	2	4	Arterial	45	8,657	15,930	36,786	22,711	35,820

*Poorman Road is a paved two-lane roadway from Houghton Road approximately 3,500 feet east. The remaining section is unpaved.

Necessary public services were estimated by calculating the daily roadway capacity for one lane-mile of a typical arterial roadway. The general daily capacity per lane ranges from 7,000 vehicles per lane per day (vplpd) to 9,000 vplpd, depending on the facility, access control measures, and whether the roadway is within an urban, suburban, or rural setting. Level of service (LOS) D is the performance standard for most urban areas in the U.S. and is the performance standard utilized in this study. LOS D allows limited congestion during peak periods and free-flowing conditions during off-peak periods.

Current Florida Department of Transportation (FDOT) LOS standards[2] suggest that the LOS D criteria be similar to the current per lane service volumes used by the City of Tucson. The FDOT LOS standards are widely applied by planning and transportation departments across the U.S. to estimate planning level capacities for arterial roadways. To establish a consistent performance measure, it is recommended using a LOS D standard, based on FDOT's 2012 Generalized Service Volumes Tables**.**

■ NECESSARY PUBLIC SERVICES – NEEDS ATTRIBUTABLE TO NEW DEVELOPMENT

ARS §9-463.05(E)(3) requires "A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."

Statutes allow development fee funding for streets improvements beyond merely widening or extending facilities to provide vehicular capacity. Fundable streets facilities are defined in ARS 9-463.05(T)(7()e) as "[s]treet facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the municipality, traffic signals and rights-of-way and improvements thereon." This IIP includes funding primarily for additional lane-miles, but also for capacity-enhancing bus pullouts and pedestrian facility expansions in denser areas where additional arterial and collector lane-miles are infeasible.

As indicated in Exhibit 2, there are an estimated 194 lane-miles of roadway widening capacity projects and several other capacity enhancement projects, including sidewalk expansions, bus pullouts and intersection improvements. The cost of these projects attributable to new development is estimated to be $257,894,136. The cost of preparing the updates every five years, based on the estimated cost of this study, is $90,000 ($45,000 X 2). Therefore the total cost for providing these necessary public streets facilities is $257,984,136 over the ten-year time frame.

[2] Florida DOT is a leader in capacity analysis. Its procedures are used widely, including in eastern Pima County. The procedures rely on the USDOT's Highway Capacity Manual.

■ TRAVEL DEMAND PER SERVICE UNIT – METHODOLOGY

ARS §9-463.05(E)(4) requires "A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."

Typical land use categories are used in calculating trip generation for the residential, commercial and other land uses. Each of these land uses has documented trip rate data from the current edition of the Institute of Transportation Engineers' (ITE) *Trip Generation*. The PAG four-step travel demand model also includes trip generation as part of its process, and it applies rates similar to those of ITE. The land uses included in the fee study, and the associated daily trip generation rates, other factors and the calculated Service Units (SUs), are shown in Exhibit 4. The following factors are used to develop the unit demand.

Average Trip Length

The average trip length for a particular land use is based on trip length data from the 2009 National Household Travel Survey (NHTS), the nation's inventory of daily and long-distance travel. The survey includes demographic characteristics of households, people, and vehicles, as well as detailed information on daily and longer-distance travel for all purposes by all modes. NHTS survey data are collected from a sample of U.S. households, and expanded to provide national estimates of trips and miles by travel mode, trip purpose and a host of household attributes.

ITE Trip Rates

The ITE *Trip Generation* document contains trip rate data per unit of land use measurement for over 170 land uses. The current ITE *Trip Generation* (9th Edition) was produced in 2012. Daily weekday rates have been applied in the demand unit calculations.

Primary Trips

Primary trips are one-way movements to or from a land use that the driver intended to make without consideration to other stops along the way (i.e., the primary purpose of the trip). Drivers may also divert their path from the primary purpose destination to another destination. These diverted trips are called "pass-by" trips if the secondary trip destination is along the arterial network the driver intended to traverse on his/her primary trip. Alternatively, a "diverted trip" is one in which the driver diverts from his/her primary destination path to an alternative path. The fee calculation methodology used in this study is based on the primary trip data for each land use, as provided in the *Trip Generation* document.

Exhibit 4 Typical Streets Facilities Demand per Unit of Land Use

Land Use Category		Unit	% Primary Trips	Average Weekday Trip Rate per Unit	Average Trip Length	% Travel Demand on Tucson Arterial	Vehicle Miles of Travel Demand per Unit	Representative ITE Category	Service Units (SU) per Unit of Development
Residential									
	Single Family Residential	Dwelling Unit	100%	9.52	9.5	60%	54	210	1.0
	Condo/Townhouse	Dwelling Unit	100%	6.65	9.5	60%	38	220	0.7
	Multi-family/Apartments	Dwelling Unit	100%	5.63	9.7	60%	33	320	0.6
Retail	*Average, all uses*	1000 sf	35%	85	6.2	60%	111	820	2.0
Office	*Average, all uses*	1000 sf	75%	11.03	13.4	60%	66	710	1.2
Industrial	*Average, all uses*	1000 sf	70%	4.01	9.7	60%	16	110, 120, 150	0.3

Travel Demand on the Arterial System

Only trips on the arterial system are considered in the derivation of the development fee amounts. For most of the categories, 60% of the travel is assumed to occur on City arterials, and the rest is either on local and collector streets, on the freeway, or extraterritorial (i.e., outside the City of Tucson limits). Exceptions include student housing, senior multi-family housing, and mini-storage uses, which will have a higher estimated proportion (70%) of travel within the city.

Vehicle-Miles of Travel (VMT) Per Service Unit

This is the product of the four factors applied in Exhibit 4 and discussed above. The VMT demand per service unit is calculated as follows, using the single-family residential unit as an example: *Multiply the per cent primary trips (1.0 or 100%) times the average weekday trip rate (9.52 per unit) times the average trip length (9.5 miles) times the percent travel made on Tucson arterials (60% or .6) which yields 54.3 which is rounded to 54.* The number 54 is assigned a service unit value of 1.0. The vehicle miles of travel for all other land use categories are compared to this value to establish an equivalency in service units. For example, the VMT per 1000 square feet of "Retail" is 111. The number of service units per 1000 square feet of Retail is therefore calculated as 111/54, or 2.0.

■ PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT

ARS§ 9-463.05(E)(5) requires *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."* Further, ARS 9-463.05(E)(6) requires *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Residential and non-residential growth projections are provided in the Land Use Assumptions report, Exhibits 6 and 11, respectively. These show an additional 30,555 housing units and 38 million square feet of nonresidential floor area by 2024, which is equivalent to a total of 56,924 new service units, as shown in Exhibit 5. This exhibit also shows the number of service units per development unit, taken from Exhibit 4.

The number of service units was obtained by multiplying the amount of new development by the weighting factor, for each land use category. For example, in the Central service area, for office use, multiply 3,188 (1000s square feet) times 1.2 to get 3,826 new service units of office use in the Central area.

Exhibit 5 Estimate of Service Units Through 2024

		SFR	Condo/TH	MFR/APT	Retail	Office	Industrial	*Totals*
Land Development by Service Area in Dwelling Units or 1000s of sf (From Land Use Assumptions Report	Central	2,605	998	3,175	1,380	3,188	571	*11,917*
	West	2,188	645	1,682	553	1,384	10,644	*17,096*
	East	4,012	845	1,030	782	2,433	379	*9,481*
	Southeast	9,378	1,382	2,317	1,770	5,212	8,164	*28,223*
	Southlands	190	58	51	123	663	831	*1,916*
	Totals	*18,373*	*3,928*	*8,255*	*4,608*	*12,880*	*20,589*	*68,633*

	SFR	Condo/TH	MFR/APT	Retail	Office	Industrial
Service Unit Weight Factors , All Areas (From Exhibit 4)	1.00	0.70	0.60	2.00	1.20	0.30

		SFR	Condo/TH	MFR/APT	Retail	Office	Industrial	*Totals*
Service Units by Service Area	Central	2,605	699	1,905	2,760	3,826	171	*11,966*
	West	2,188	452	1,009	1,106	1,661	3,193	*9,609*
	East	4,012	592	618	1,564	2,920	114	*9,820*
	Southeast	9,378	967	1,390	3,540	6,254	2,449	*23,978*
	Southlands	190	41	31	246	796	249	*1,553*
	Totals	*18,373*	*2,751*	*4,953*	*9,216*	*15,456*	*6,177*	*56,926*

The current fee schedule for streets (prior to this update) includes a 23% reduction for the Central service area. The 2007 fee studies justified this reduction because "78% of Central Core residents take private motor vehicles to work"[3]. No reductions are currently applied to the other service areas. For this update, it is recommend that all service areas be assessed 100% of the fees, because while the needs in the dense Central service area are not necessarily less, they are different. For example, the Central city area has an estimated walk score of 70 and a bike score of 85, compared to an overall average of 39 and 64 respectively for the entire City.[4] Therefore, it is appropriate to expand capacity through effective strategies that remove impediments to vehicular travel (bus pullouts, intersection improvements) and support alternative means of travel (bus pullouts and pedestrian capacity expansion).

Recent research documented in the 2010 *Highway Capacity Manual* includes procedures for assessing the capacities of alternate mode facilities, including pedestrian, bicycle and transit facilities. The Central service area includes many alternate modes facilities, such as bus stops, bus pullouts, sidewalks and bicycle lanes. More of these projects are planned for the area because traditional road widening is infeasible. As indicated earlier, three-quarters of the costs of these alternate mode capacity improvement projects have been applied to new development. These facilities are included in the proposed projects list used to calculate the development fees for each of the service areas. Based on the above, it is recommended that all benefit areas be assessed 100% of the proposed fees.

■ REVENUE CONSIDERATIONS

ARS §9-463.05(E)(7) requires "A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."

The equitable imposition of a streets development fee requires that credits be considered as well as costs. This is because streets facilities are typically funded by multiple sources. To the extent that new development contributes to the various funding sources for new infrastructure, credit must be assigned to avoid over-charging, as new development already contributes its fair share of infrastructure costs through development fees. Exhibit 6 shows existing continuing revenue sources, most of which are not creditable against the streets development fee because they are either not used for capacity expansion, are intermittent and unreliable, or are paid for by others. Similarly, the cost of correcting existing deficiencies cannot be imposed on new development. The City typically mitigates existing deficiencies through use of maintenance bonds, regional funds, and federal grants, all of which are intermittent and unreliable.

[3] Duncan and Associates, Tucson Road and Park Impact Fee Study, June 15, 2004, page 7.
[4] See http://www.walkscore.com/AZ/Tucson

Exhibit 6 Continuing Revenue Sources

Revenue Source	Current Rate/Formula	Applicability	Used for Street Expansion or Capacity
Municipal Property Tax	$1.43 per $100 net assessed valuation[5]	All Real Property	No
Sales Tax (Transaction Privilege Tax)	2%[6]	Commercial Development	No
Construction Sales Tax (CST)	Tucson does not currently assess a CST.	All Development	No
Regional Transportation Authority of Pima County Sales Tax	0.5% applied to all taxable transactions in Pima County	All Development	Yes
Tucson HURF	FY 2013 budget amounts/FY 2013 population = state shared revenue per capita	All Road Users and Vehicle Owners	Yes
State Grant Revenues	Undeterminable and Intermittent	Not Applicable	Yes
Federal Grant Revenues	Undeterminable and Intermittent	Not Applicable	Yes
City of Tucson Streets Bonds	Include in municipal property tax rate, above	All Real Property	Maintenance only; not capacity
Pima County 1997 HURF Revenue Bonds[7]	Similar to HURF above; project constrained	Unincorporated Pima County revenues shared with Tucson	Yes, but not using City funding

[5] See http://www.pima.gov/Taxes/A_Tax.html. Includes primary, secondary, and involuntary tort judgments (self-insurance).

[6] Base rate; other rates apply. See http://www.modelcitytaxcode.org/pdf/CombinedRateSheet.pdf

[7] See - http://webcms.pima.gov/UserFiles/Servers/Server_6/File/Government/Administration/Bonds/Bond%20Projects/CIP.BondUpdate3.13.PROOF7.pdf

Credit for Other Funding Sources Collected or Utilized by the City

The City has one continuous revenue source that is creditable as an offset against development fees, the state-shared Highway User Revenue Fund (HURF)[8]. The HURF is dedicated almost exclusively to road repair, with little left for capacity expansion. Tucson received $401,037,621 from fiscal year (FY) 2006 through FY 2013. Of that amount, the City applied an average 3.46% per year to capital and/or capacity projects, as shown in Exhibit 7. The trend is downward, meaning that over time a smaller portion has been allocated to capital projects and a larger portion to maintenance.

For the portion used for capital projects, the credit calculation assumes a 20-year design life, an FY 2015 HURF forecast of $80.28/per capita[9], and the 3.46% toward capital projects. For a detached single family residence with an average of 2.8 persons, the credited amount is $156, for a condo/attached unit the amount is $106, and for multi-family/apartment/mobile home housing the amount is $94[10]. Exhibit 8 is a summary of HURF credits applied to residential development.

A credit for the RTA sales tax imposed on new development is provided. The tax rate of 0.5%, and is applied to the taxable value of new construction. The taxable value is 65% of contract amount pursuant to state law. Then the tax paid is adjusted to reflect the share that RTA projects in this IIP represent of the overall RTA plan. See Exhibit 9 for the calculations.

The cost of new capacity calculation is shown in Exhibit 10, and discussed below. The net fees per service area and land use type are provided in Exhibit 11.

Note that Pima County Bonds, which partially fund some projects within City limits, are paid for with revenues collected from the unincorporated population[11]. These bonds are not being retired using City funds or City HURF, therefore no credit can be provided. The County has several General Obligation bond programs authorized in 1997, 2004, and 2006, none of which include roadway projects[12].

Similarly, the City's prior general obligation (GO) bonds for streets purposes were considered for credit purposes. While these bonds rely on the general fund for debt service, they are not used for capacity projects, and therefore, credit is not appropriate.

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[8] Information about the HURF, its collection and distribution is available at https://www.azdot.gov/about/FinancialManagementServices/transportation-funding

[9] Based on projected HURF revenues of $43,121,000 and a population of 537,129.

[10] As an example calculation for a single family residence, the credit is 2.8 persons/home x $80.28 per person x 20 years x 3.46% = $155.55, which is rounded to $156.

[11] For an explanation of why County funds are being spent within the City, see the first footnote in Arizona Auditor General's report at http://www.azauditor.gov/Reports/Counties/Pima/Financial_Audits/County-Wide/Special_Review_1997_Transportation_Bond_Improvement_Plan/Pima_County_1997_Transportation_Bond_Improvement_Plan_Special%20Review.pdf

[12] See http://www.azauditor.gov/Reports/Counties/Pima/Financial_Audits/County-Wide/Specials/Pima_Cty_Gen_Obl_Bd_Programs_Jan_2013.pdf

Exhibit 7 Percent HURF Spent on Capital Projects

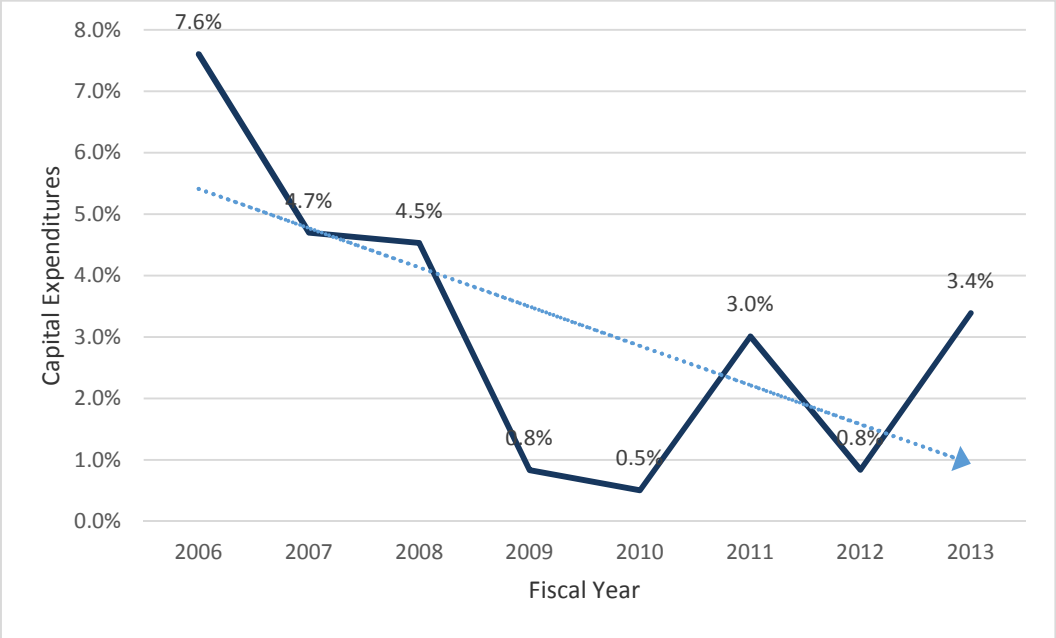


Exhibit 8 Summary of HURF Credit

Revenue Source	Creditable Amount ($156 per Residential SU)	Applicability
Tucson Allocation of State Shared Revenues (HURF)	$156 for a typical Service Unit (i.e., SFR) $106 per condo/attached unit $94 per multi-family/apartment/mobile home	All Residential Development

Exhibit 9 Summary of RTA Sales Tax Credit

Land Use Category	Unit	Cost per Unit	Taxable Cost per Unit (65%)	RTA Sales Tax (@ 0.5%)	RTA Sales Tax Credit Factor	RTA Sales Tax Credit per Unit	RTA Sales Tax Credit per Unit, Rounded
Residential							
Single Family Detached	Dwelling Unit	$237,572	$154,421.80	$772.11	42.2%	$325.83	**$326.00**
Condo/Townhouse	Dwelling Unit	$111,701	$72,605.65	$363.03	42.2%	$153.20	**$153.00**
Manufactured Housings and Apartments	Dwelling Unit	$111,701	$72,605.65	$363.03	42.2%	$153.20	**$153.00**
Non-Residential							
Retail	1000 Sq. Ft.	$102,390	$66,553.50	$332.77	42.2%	$140.43	**$140.00**
Office	1000 Sq. Ft.	$139,200	$90,480.00	$452.40	42.2%	$190.91	**$191.00**
Industrial	1000 Sq. Ft.	$139,200	$90,480.00	$452.40	42.2%	$190.91	**$191.00**

RTA credit factor is the RTA plan cost estimated for the Development Fee funded arterial projects divided by the RTA plan revenue forecast.

$886,043,350/$2,100,000,000 = 42.2%

Exhibit 10 Cost of LOS D Capacity and Fee Calculation

Cost per Lane Mile of capacity	$1,400,000
Capacity per lane mile	8000 vehicles per day
Cost per VMT	$175
Example, single-family residential use	
Trip Rate	9.52 trips per day
Trip Length	9.5 miles
% Travel on Arterial System	60%
Fee per SU	$9,496
Trips with residential origin/destination	65%
Adjust Fee per SU, residential	$6,173
Less HURF Credit per residential SU	$156
Less RTA Credit per SU	$326
Net Fee per SU (Residential, rounded)	$5,691
Example, retail use	
Service Unit Weight Factor, retail	2.0
Fee per retail, prior to adjustments	$18,992
Trips with nonresidential origin/ destination	35%
Adjusted Fee (Retail, rounded)	$6,647
Less RTA Credit	$140
Net Fee per SU (Retail, rounded)	$6,507

Using a single-family residence as an example, the net fee per service unit is calculated as follows: the capital cost per lane mile ($1,400,000 [13]) is divided by the capacity per lane mile in vehicles per day (8,000) to get a cost of $175 per daily vehicle mile of arterial capacity. This number is then multiplied by the percent of primary trips per day (100% or 1), then multiplied by the trip generation rate (9.52 trips per day), then multiplied by the average trip length (9.5 miles), and then multiplied by the percent travel on the arterial/major collector system (60% or 0.60). The fee per service unit obtained is $9,496.

The next-to-final calculation allocates trips to the residential and non-residential sectors, which is split 65%/35%. Without such allocation, there would be a double accounting of travel demand and an over-collection of fees. Therefore, the net adjusted fee for residential development is $9,496 x 0.65 = $6,173. Finally, the HURF credit of $156 and RTA credit of $326 are then subtracted to get the net fee per single family residence, which is rounded to $5,691.

The fee for non-residential uses is calculated as follows, using the retail use as an example. The net fee per service unit (i.e., for one single-family residential unit) is $9,496. This is multiplied by the service unit weight factor for retail, which is 2.0 (see Exhibit 5), which yields $18,992. This number is then multiplied by the percentage of trips allocated to non-residential uses, which is 35% or 0.35, to yield $6,647 (rounded). Then, the RTA credit of $140 is subtracted to yield a net fee of $6,507.

Exhibit 11 shows the estimated fees and credits for the various land use categories. Exhibit 11 also shows the City's current fees, for comparison purposes. Exhibit 12 shows the expected revenues over the ten-year period. The expected revenues are obtained by multiplying the development fees times the number of units in each service area. The total estimated revenue is approximately $256 million over the ten-year period, which is close to the estimated $258 million in capacity needs identified in Exhibit 2.

Exhibit 11 Estimated Fees and Credits by Land Use Category

	SFR	Condo/TH	MFR/APT	Retail	Office	Industrial
Estimated Fee, W/O Deduction for Credits, per Service Unit	$6,172.53	$4,320.77	$3,703.52	$6,647.34	$3,988.40	$997.10
HURF Credit	$156.00	$109.20	$93.60	$0.00	$0.00	$0.00
RTA Credit	$326.00	$153.00	$153.00	$140.00	$191.00	$191.00
Estimated Fee, with Deduction for Credits, per Service Unit	$5,690.53	$4,058.57	$3,456.92	$6,507.34	$3,797.40	$806.10
Estimated Fee, with Deduction for Credits, per Service Unit, Rounded	$5,691	$4,059	$3,457	$6,507	$3,797	$806
Current Fee, per Service Unit	$5,160	$3,870	$2,749	$4,282	$5,087	$2,196

[13] Unit costs are based on the PAG Regionally Significant Routes Study, which demonstrates a typical inclusive cost of up to $2.5 million per lane- mile for major urban arterials. For further information, see http://www.pagnet.org/documents/transportation/rsc/RSC-FinalReport-2014-01-28.pdf.

Exhibit 12 Expected Revenue from New Development (10-Year Total)

		SFR	Condo/TH	MFR/APT	Retail	Office	Industrial	Total
Estimated Development Fees for Streets (Ten Year Total, 2014$)	Central	$ 14,825,055	$ 2,835,617	$ 6,585,585	$ 17,959,320	$ 14,525,803	$ 138,068	$ 56,869,448
	West	$ 12,451,908	$ 1,832,639	$ 3,488,804	$ 7,196,742	$ 6,306,058	$ 2,573,719	$ 33,849,870
	East	$ 22,832,292	$ 2,400,899	$ 2,136,426	$ 10,176,948	$ 11,085,721	$ 91,642	$ 48,723,928
	Southeast	$ 53,370,198	$ 3,926,677	$ 4,805,921	$ 23,034,780	$ 23,747,957	$ 1,974,055	$ 110,859,588
	Southlands	$ 1,081,290	$ 164,795	$ 105,784	$ 1,600,722	$ 3,020,893	$ 200,936	$ 6,174,421
	Total	$ 104,560,743	$ 11,160,626	$ 17,122,521	$ 59,968,512	$ 58,686,432	$ 4,978,420	$ 256,477,255

■ LOS BY SERVICE AREA

As mentioned earlier, the existing system performance varies by service area. Continuing to provide the existing LOS in the West, Southeast, and Southlands areas, which is comparatively higher than in other areas of the city, would result in a significantly higher fee than the average fee calculated for LOS D performance, which is the typical standard for urban areas. Exhibit 13 shows the implications of maintaining the existing LOS in those areas, for a single-family residence. The estimates in the table are based on the $1.4 million per lane-mile of arterial capacity at LOS D, factored by the ratio of arterial capacity at LOS C and LOS B as compared to LOS D. As indicated, fees would more than double in the West and Southeast areas, and triple in the Southlands area.

Exhibit 13 Fee by Benefit Area and LOS Standard

Service Area	Proposed Streets Fee with LOS D (per SU)	Existing LOS	Estimated Fee With Current LOS (per SU)	Increase (Per SU)
Central	$5,691	D	$5,691	$0
West	$5,691	C	$12,715	$7,025
East	$5,691	D	$5,691	$0
Southeast	$5,691	C	$12,715	$7,025
South Lands	$5,691	B	$18,437	$12,748

Expanding this table to include the different land use types would result in the following fees by LOS standard shown in Exhibit 14.

Exhibit 14 Fee by Land Use Type and LOS Standard

		Fees by Land Use					
	Service Areas	**SFR**	**Condo/TH**	**MFR/APT**	**Retail**	**Office**	**Industrial**
LOS B	Southlands	$18,437	$13,150	$11,230	$21,084	$12,304	$2,612
LOS C	West, Southeast	$12,715	$9,069	$7,745	$14,541	$8,485	$1,801
LOS D	Central, East	$5,691	$4,059	$3,457	$6,507	$3,797	$806

■ RECOMMENDED MAXIMUM FEE PER SERVICE UNIT

Adopting fees no greater than those shown in Exhibit 11 for LOS D performance in all service areas is recommended as the most reasonable and beneficial for the City of Tucson, current residents and the development community.

Once a service unit fee(s) is established, it will be used to expand the land use categories and create a more detailed fee table for inclusion in the required Streets Fee Study.

Appendices

A - List of Preparers

Curtis Lueck & Associates
Curtis C. Lueck, P.E., Ph.D.
Marcos U. Esparza, P.E.

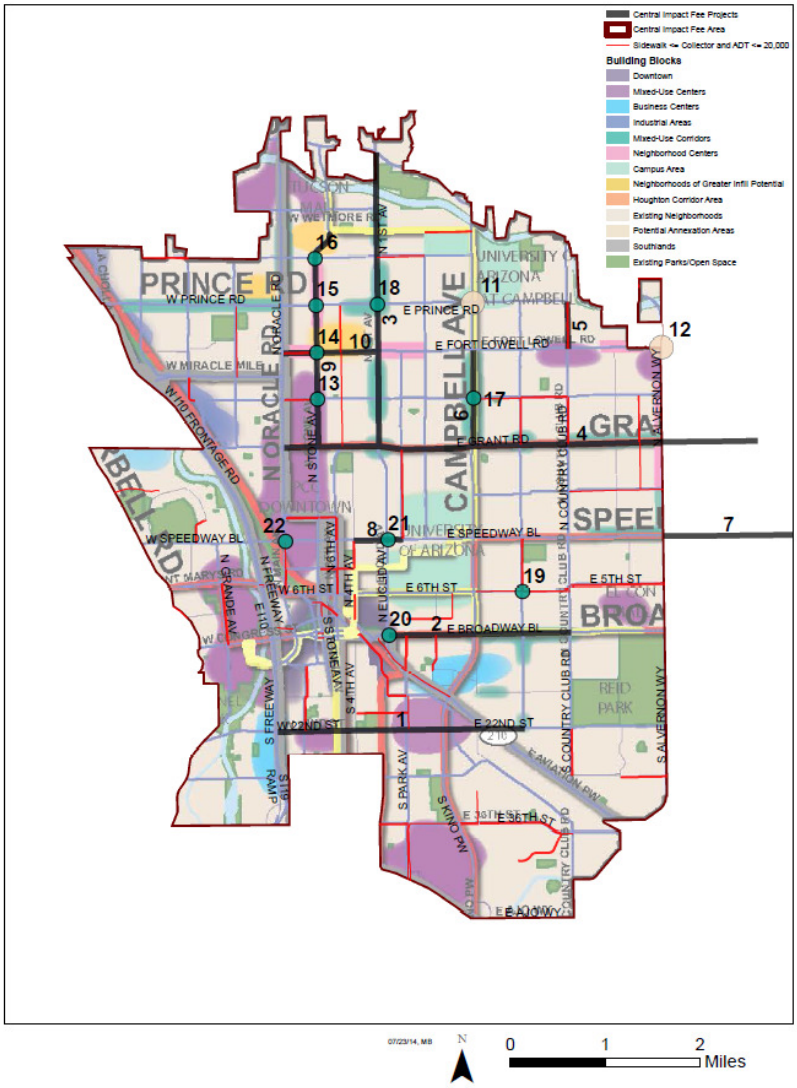
Psomas
Alejandro Angel, P.E., PTOE, Ph.D.
Darlene Danehy, P.E., PTOE, LEED AP

B - Panel on Streets Infrastructure

City of Tucson
Nicole Ewing-Gavin, AICP, Director, Office of Integrated Planning
Andrew McGovern, P.E., Administrator, TDOT
Roy Cuaron, Finance Manager, TDOT
Lynne Birkinbine, Manager, Office of Integrated Planning
Joanne Hershenhorn, Project Coordinator, Office of Integrated Planning

C – Service Area Maps and Projects

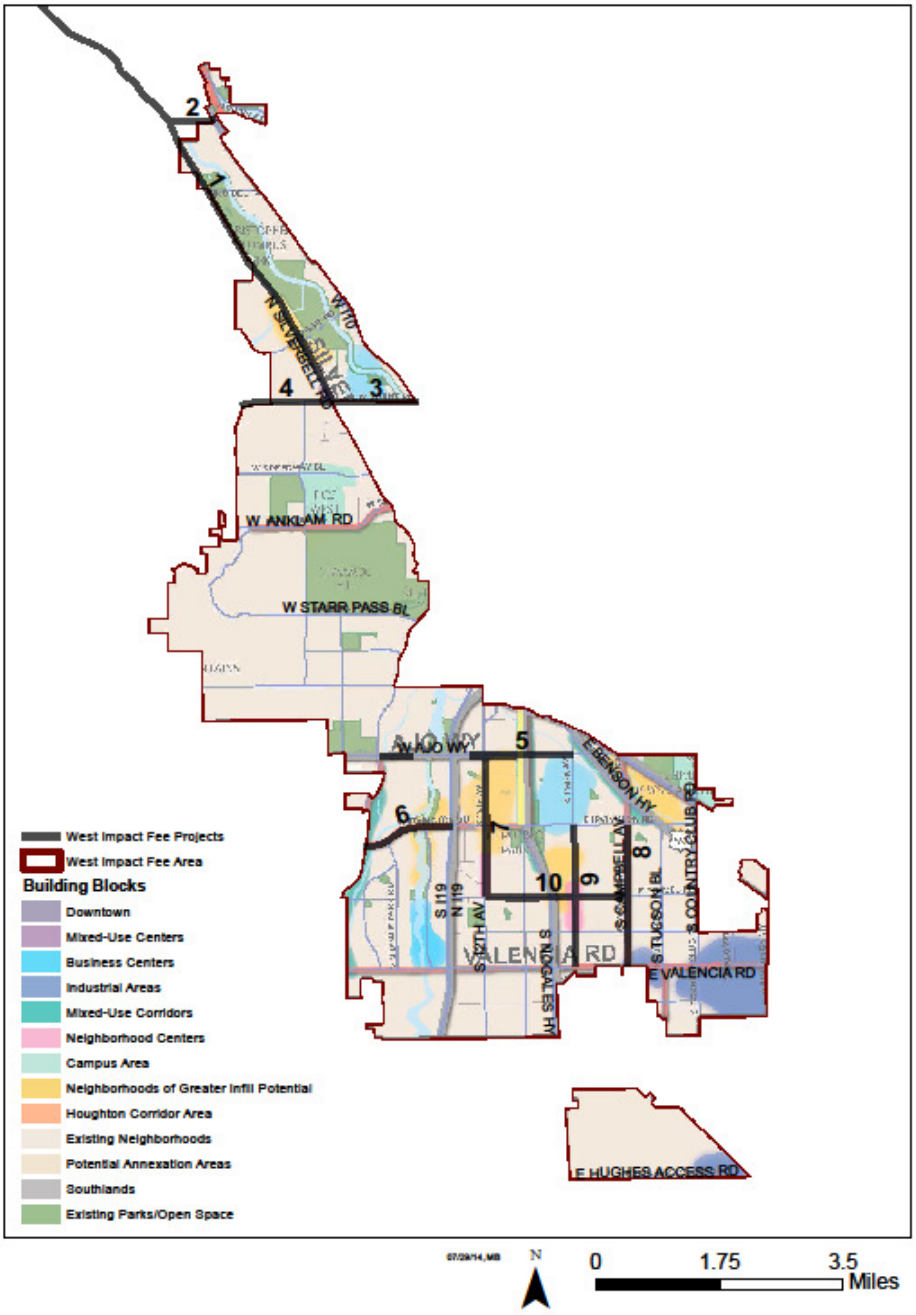
Central Impact Fee Area



Central Service Area Projects

Number	Project	Description
1	22nd from I-10 to Tucson	Widen from four to six lanes
2	Broadway from Euclid to Country Club	Widen from five to eight lanes
3	1st from River to Grant	Widen from four to six lanes
4	Grant from Oracle to Swan	Widen from four to six lanes
5	Country Club from Ft. Lowell to Prince	Widen to five lanes, sidewalks
6	Campbell from Grant to Ft. Lowell	Access control, bus pullouts, sidewalks
7	Speedway from Alvernon to Wilmot	Sidewalks
8	Speedway from 4th to Park	Sidewalks
9	Stone from Grant to Limberlost	Sidewalks
10	Ft. Lowell from Euclid to Oracle	Sidewalks
11	Campbell/Prince Intersection	Right turn lanes and bus pullouts, will require r/w acquisition
12	Alvernon/Ft. Lowell Intersection	Right turn lanes and bus pullouts
Bus Pullouts		
13	Stone at Glenn	Northbound, Southbound
14	Stone at Ft. Lowell	Northbound, Southbound
15	Stone at Prince	Northbound, Southbound
16	Stone at Roger	Northbound, Southbound
17	Campbell at Glenn	Southbound, Westbound
18	Prince at 1st Ave	Eastbound, Westbound
19	6th St at Tucson Blvd	Eastbound, Westbound
20	Euclid at Broadway	Northbound
21	Euclid at Speedway	Northbound, Southbound
22	Speedway at Grande	Eastbound, Westbound

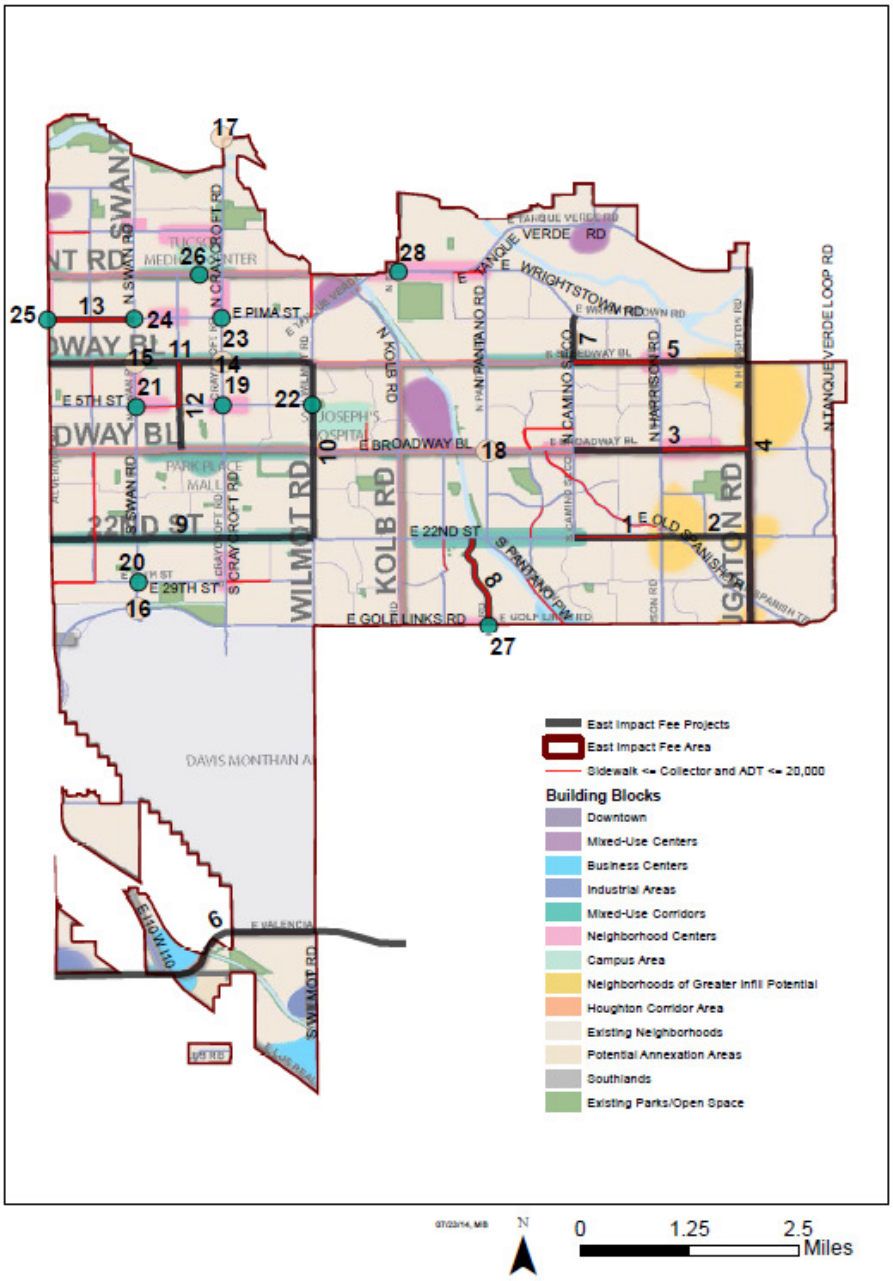
West Impact Fee Area



West Service Area Projects

Number	Project	Description
1	Silverbell from Ina to Grant	Widen from 2 to 4 lanes
2	Sunset from Silverbell to I-10	New 3-lane roadway
3	Grant from Silverbell to I-10	Widen from 4 to 6 lanes
4	Ironwood Hill from City Limits to Silverbell	4 lane divided roadway with curbs, sidewalks, bike lanes, streetlights and 1 Hawk
5	Ajo from Park to Mission (excluding Holiday Isle to 16th)	Right turn lanes, bus pullouts, sidewalks, access control
6	Irvington from Mission to I-19	Right turn lanes, bus pullouts, sidewalks, access control
7	12th Ave from Ajo to Drexel	Right turn lanes, bus pullouts, sidewalks, access control
8	Campbell from Irvington to Valencia	Right turn lanes, 2 Hawks, pedestrian refuges
9	Park from Irvington to Valencia	Bus pullouts
10	Drexel from 12th Avenue to Campbell Avenue	Curb, Sidewalks, and Bike Lanes

East Impact Fee Area

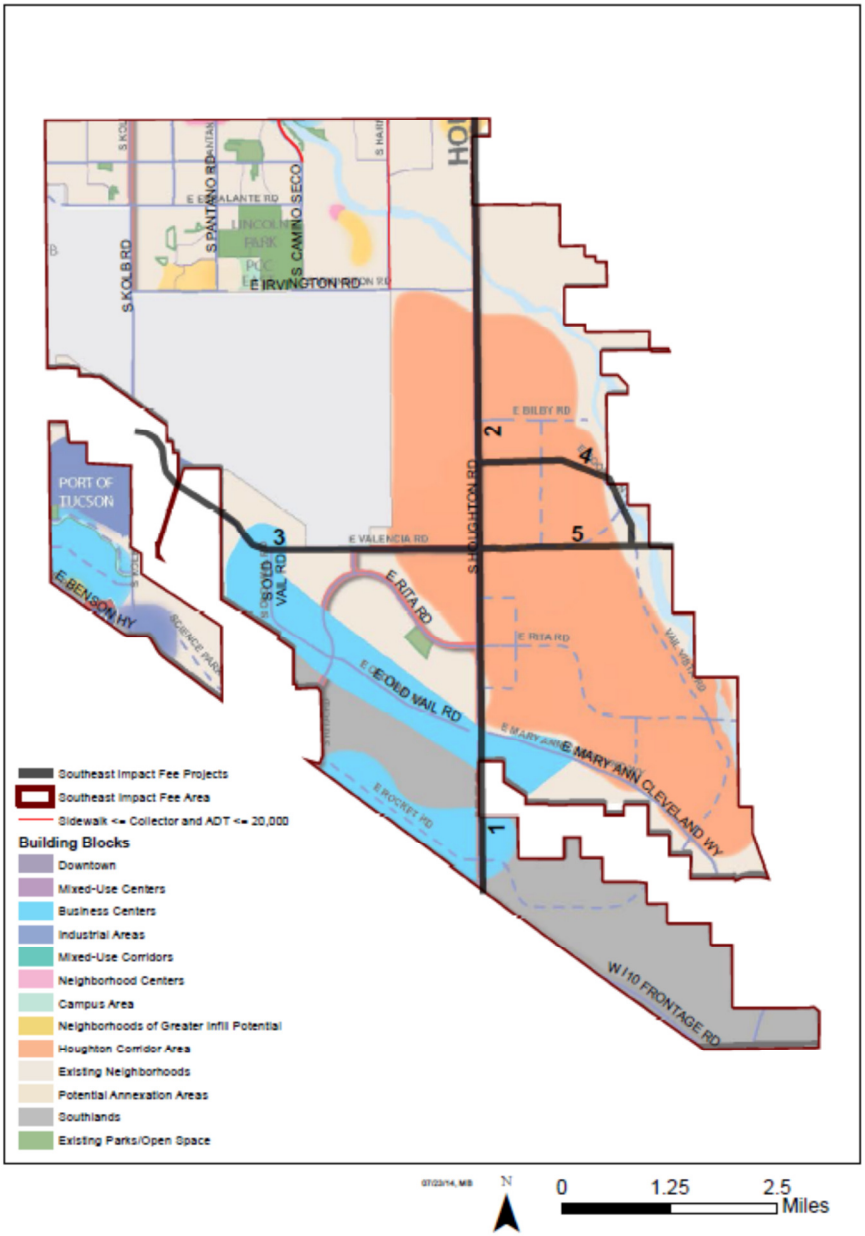


See Next Page for Project List

East Service Area Projects

Number	Project	Description
1	22nd from Camino Seco to Old Spanish Tr	Widen from 2 to 4 lanes
2	22nd from Old Spanish Tr to Houghton	Widen from 2 to 3 lanes
3	Broadway from Camino Seco to Houghton	Widen from 3 to 4 lanes
4	Houghton from Golf Links to Tanque Verde	Widen from 2 to 4 lanes
5	Speedway from Camino Seco to Houghton	Widen from 2-3 lanes to 4 lanes
6	Valencia from Alvernon to Kolb	Widen from 4 to 6 lanes
7	Camino Seco from Wrightstown to Speedway	Widen from 2 to 4 lanes
8	Pantano from 22nd to Golf Links	Sidewalks
9	22nd from Alvernon to Wilmot	Sidewalks
10	Wilmot from 22nd to Speedway	Sidewalks and 2 Hawks
11	Speedway from Alvernon to Wilmot	Sidewalks with ROW acquisition
12	Rosemont from Speedway to Broadway	Right turn lanes, sidewalks, and 2 Hawks
13	Pima from Alvernon to Swan	Sidewalks
14	Speedway/Craycroft Intersection	
15	Speedway/Swan Intersection	
16	Golf Links/Swan Intersection	
17	River/Craycroft Intersection	
18	Broadway/Pantano Intersection	
Bus Pullouts		
19	5th St. at Craycroft	Westbound
20	29th at Swan	Eastbound, Westbound
21	5th St. at Swan	Northbound, Southbound, Eastbound, Westbound
22	5th St. at Wilmot	Northbound, Westbound
23	Pima at Craycroft	Eastbound, Westbound
24	Pima at Swan	Eastbound, Westbound
25	Pima at Alvernon	Eastbound, Westbound
26	Grant at Beverly	Eastbound, Westbound
27	Golf Links at Pantano Rd.	Eastbound, Westbound
28	Tanque Verde at Sabino Canyon	Eastbound

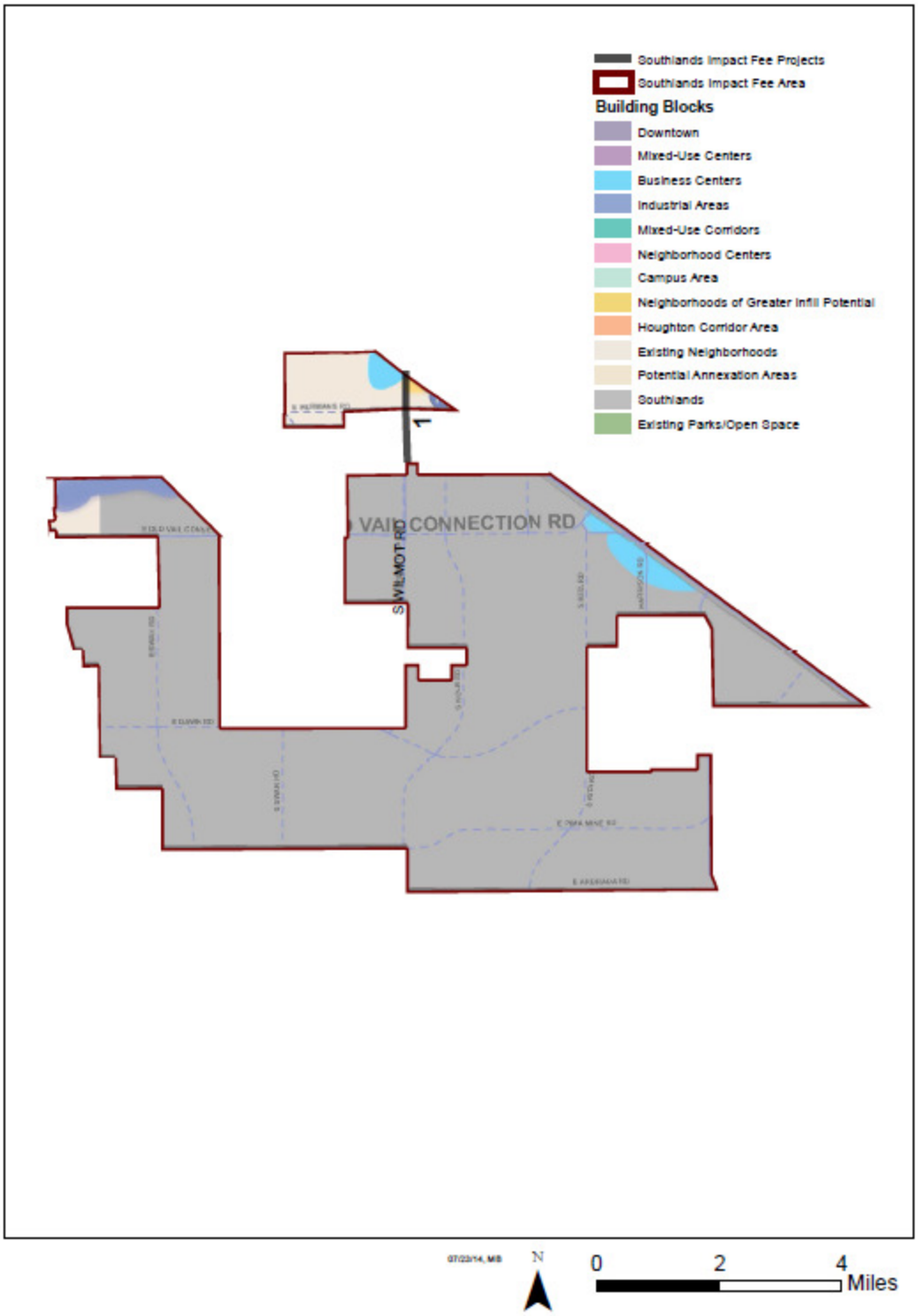
Southeast Impact Fee Area



Southeast Service Area Projects

Number	Project	Description
1	Houghton from I-10 to Old Vail Rd	Widen from 2 lanes to 4
2	Houghton from Old Vail Rd to Golf Links Rd	Widen from 2 lanes to 6
3	Valencia from Kolb to Houghton	Widen from 2 lanes to 6
4	Poorman Rd from Houghton to Valencia	New 4-lane roadway
5	Valencia from Houghton to City Limits	New 4-lane roadway
6	Val Vista from Valencia to Mary Ann Cleveland	New 4-lane roadway
7	Rita Rd from Houghton to Val Vista	New 4-lane roadway
8	Old Vail Rd from Rita Rd to Houghton	Widen from 2 lanes to 4
9	Mary Ann Cleveland from Houghton to City Limits	Widen from 2 lanes to 4
10	Irvington from Pantano to Camino Seco	Widen from 2 lanes to 4
11	Irvington from Camino Seco to Houghton	Widen from 2 lanes to 4

Southlands Impact Fee Area



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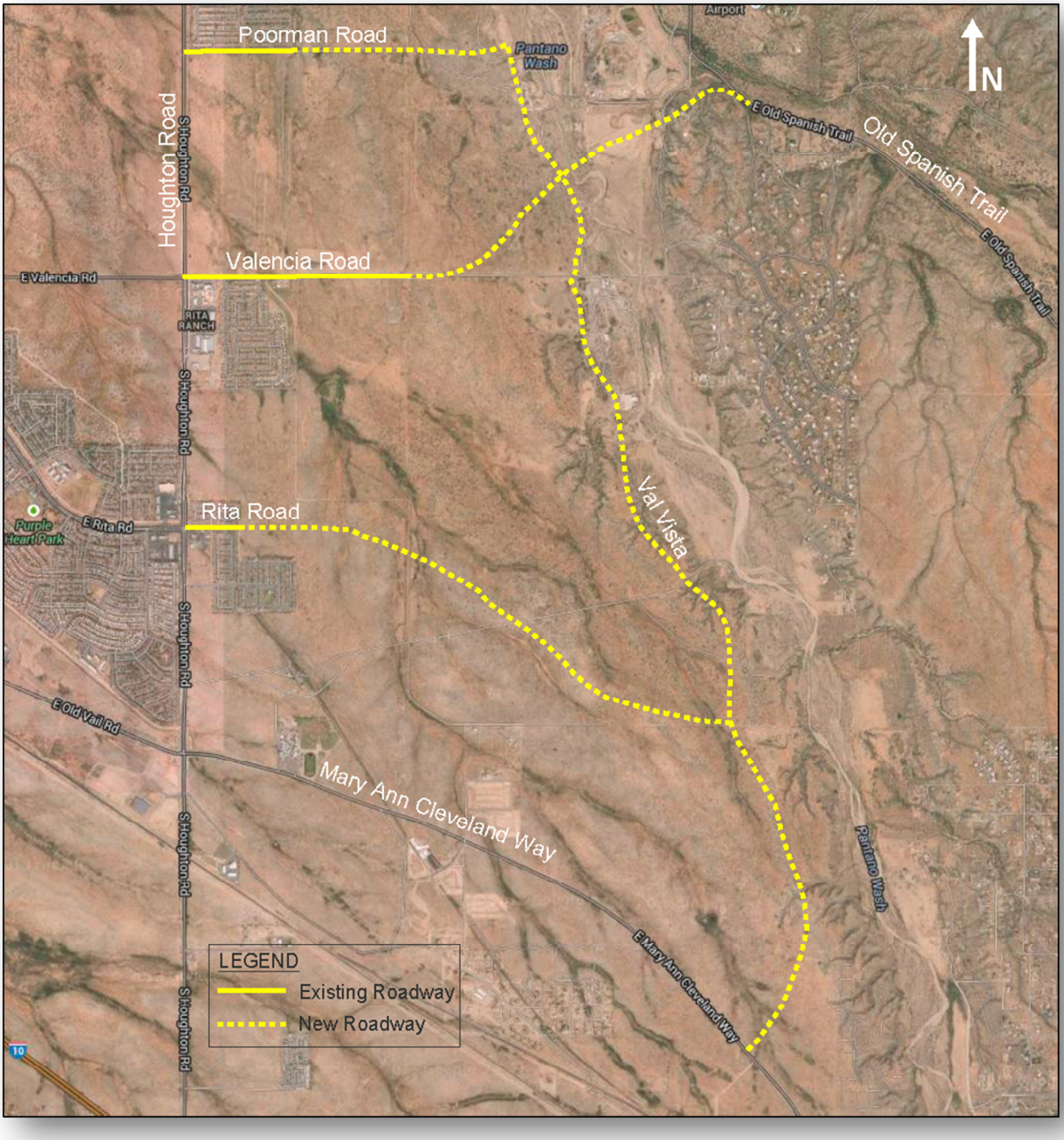
N

0 2 4 Miles

Southlands Service Area Project

Number	Project	Description
1	Wilmot from I-10 to End of Road (1.5 Miles)	Widen from 2 to 4 lanes

D - Proposed Bus Pullout Locations (Preliminary, 39 Pullouts)

		Direction of Travel			
		Northbound	*Southbound*	*Eastbound*	*Westbound*
CENTRAL SERVICE AREA	Stone at Glenn	X	X		
	Stone at Ft. Lowell	X	X		
	Stone at Prince	X	X		
	Stone at Roger	X	X		
	Campbell at Glenn		X		X
	Prince at First Ave			X	X
	6th Street at Tucson Blvd			X	X
	Euclid at Broadway	X			
	Euclid at Speedway	X	X		
	Speedway at Grande			X	X
EAST SERVICE AREA	5th Street at Craycroft				X
	29th at Swan			X	X
	5th Street at Swan	X	X	X	X
	5th Street at Wilmot	X			X
	Pima at Craycroft			X	X
	Pima at Swan			X	X
	Pima at Alvernon			X	X
	Grant at Beverly			X	X
	Golf Links at Pantano Road			X	X
	Tanque Verde at Sabino Canyon			X	

E - New Arterial Alignments (Southeast Service Area)