

**Pima County, Arizona
Impact Fee Update**

**Street Facilities
Infrastructure Improvements Plan**

Final Public Report

Prepared by

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TABLE OF CONTENTS

1. INTRODUCTION	1
1.1. Allocation of Growth within Service Areas	2
2. NECESSARY PUBLIC SERVICES	4
2.1. Existing Needs	4
2.2. Projected Needs	17
2.3. Maintenance and Operation of Street Facilities	21
3. TRAVEL DEMAND PER DEMAND UNIT	22
3.1. Land Use Categories	22
3.1.1. Single Family Detached.....	22
3.1.2. Attached Residential/Multi-Family.....	22
3.1.3. Senior Housing.....	22
3.1.4. Assisted Living/Congregate Care	23
3.1.5. Mobile Home Park.....	23
3.1.6. Hotel/Motel.....	23
3.1.7. Retail.....	23
3.1.8. Services	23
3.1.9. High-Traffic Retail/Services	23
3.1.10. Industrial.....	23
3.1.11. Hospital/Clinic	23
3.1.12. Recreational	24
3.1.13. General Office	24
3.1.14. Medical/Dental/Vet Office	24
3.1.15. Public Schools.....	24
3.1.16. Charter/Private Schools.....	24
3.2. ITE Trip Generation Rates	24
3.3. Primary Trips	24
3.4. Average Trip Length	26
3.5. Travel Demand on Pima County Arterial Road Network	26
3.6. Vehicle Miles of Travel Demand	26
3.7. Equivalent Demand per Unit (EDU)	27
4. PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT	28
5. REVENUE CONSIDERATIONS	30

APPENDIX

List of Preparers

Detailed Project Cost Calculations

LIST OF EXHIBITS

Exhibit 1. Streets Service Areas	3
Exhibit 2. Necessary Streets Facilities	6
Exhibit 3. Existing (2019) and Future (2029) Traffic Volumes	14
Exhibit 4. Cost Attributable to Development.....	18
Exhibit 5. Pavement Preservation Costs	21
Exhibit 6. Estimate of Streets Facility Demand per Unit of Land Use.....	25
Exhibit 7. Residential and Employment Land Use Assumptions: 10-Year Growth	28
Exhibit 8. Non-Residential Development Attributes.....	29
Exhibit 9. Anticipated Units by Land Use Type.....	29
Exhibit 10. RTA Credit Calculations	32

1. INTRODUCTION

The Roadway Development Impact Fee in unincorporated Pima County is assessed for new developments to offset some of the infrastructure costs associated with growth. The County currently charges fees for one public category: roadways. To continue assessing and collecting fees, the County must update its program to comply with the new state statute ARS §11-1102. The update of the Roadway Development Impact Fee program includes preparation of new development impact fee studies, project lists, fee schedules, and county ordinance.

Before assessing the development fees, a County must release to the public a written report of the land use assumptions and an infrastructure improvements plan (IIP) for each fee category. As defined in ARS §11-1102 (V)(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 development fees and otherwise complies with the requirements of this section and may be the county’s capital improvements plan”. The statute ARS §11-1102 limits the types of “necessary public services” which impact fees can fund.

This report is a required document that identifies the infrastructure needs for the street facilities in unincorporated Pima County. The analysis only includes arterials and major collectors, since roadways with lower classifications are generally internal to development and are constructed during the development process. This analysis will be used in the subsequent calculation of impact fee rates.

The land use assumptions that are used in this report to evaluate infrastructure needs are documented separately in the Land Use Assumptions report. The Land Use Assumptions report provides a quantification of expected future development within each of the service areas for which impact fees will be assessed.

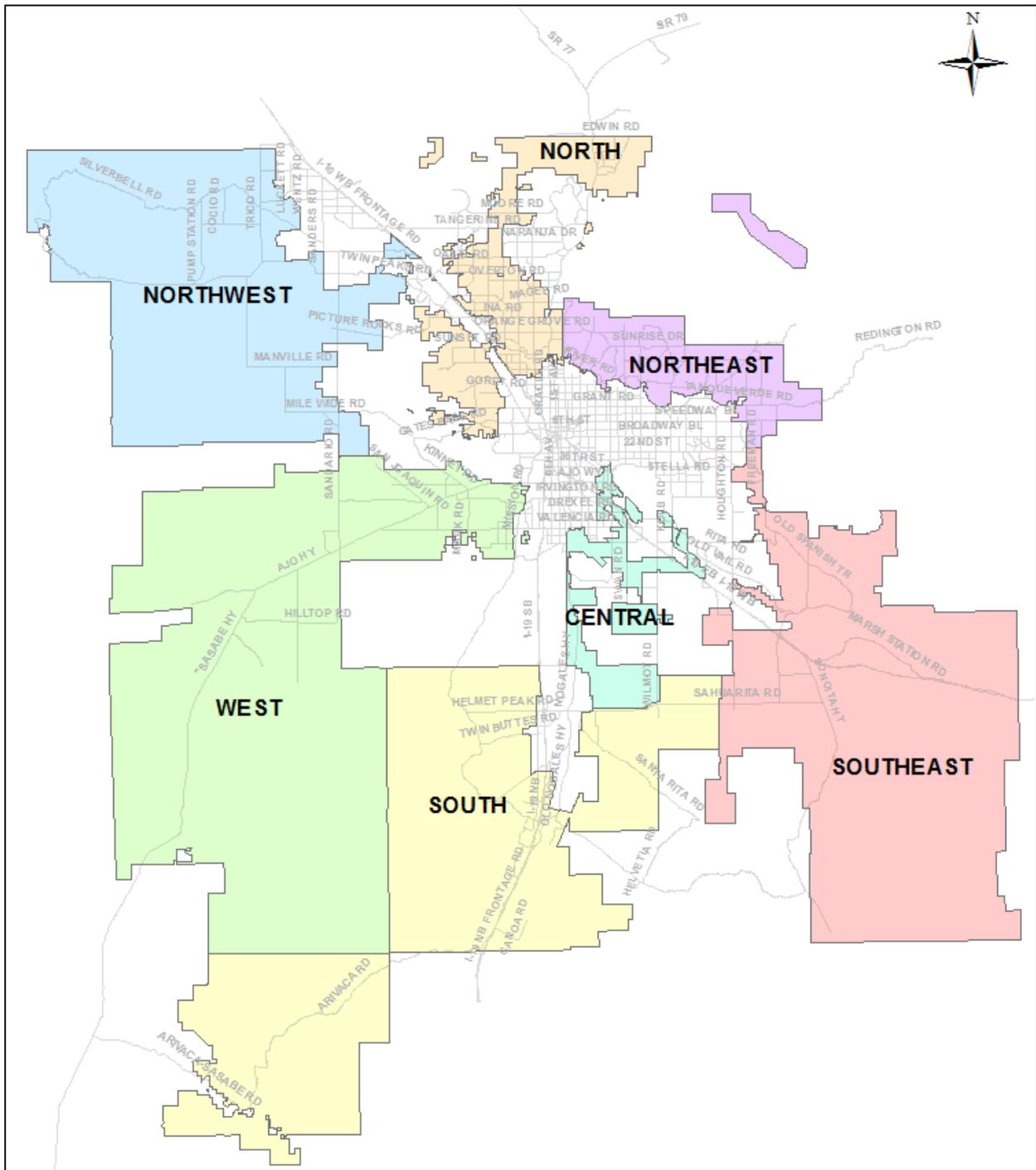
1.1. ALLOCATION OF GROWTH WITHIN SERVICE AREAS

As defined in ARS §11-1102 (V)(9), “Service area’ means any specified area within the boundaries of a county 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 existing impact fee program includes ten service areas in unincorporated Pima County: Altar Valley, Avra Valley, Catalina Foothills, Cañada del Oro, San Xavier, Santa Cruz, Silverbell-Tortolita, Southeast, Southwest, and Tucson Mountains. The County reviewed the existing service areas and modified the boundaries to better align development patterns and projects and to ensure a substantial nexus as required by the statute.

The new program generally excludes federal lands, tribal lands, and other conservation areas that are not expected to be developed. As a guideline, major roadways and topographic features were considered when delineating service areas. A map of the seven proposed service areas in unincorporated Pima County is shown in Exhibit 1.

Exhibit 1. Streets Service Areas



2. NECESSARY PUBLIC SERVICES

As defined in ARS §11-1102 (V)(7)(c), necessary public services include any “street facilities located in the service area, including arterial or collector streets or roads that have been designated on an officially adopted plan of the county, traffic signals and rights-of-way and improvements thereon. Improvements to rights-of-way do not include streetcars, railways or other forms of transportation and their corresponding tracks.” Necessary public services must include facilities that “have a life expectancy of three or more years and that are owned and operated by or on behalf of the county”.

This IIP includes funding for additional travel lanes, turn lanes and other intersection improvements, and right-of-way acquisition for future roadway projects.

2.1. EXISTING NEEDS

For each necessary public service for which impact fees will be used, this document shall include the following:

Per ARS §11-1102 (F)(1):

- “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. The description shall be prepared by qualified professionals who are licensed in this state, as applicable.”

Per ARS §11-1102 (F)(2):

- “An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services. The analysis shall be prepared by qualified professionals who are licensed in this state, as applicable.”

Pima County and the consultant team identified the roadway projects which will be included in the development fee study as necessary public services. These projects, summarized in Exhibit 2, are necessary mainly due to the expected growth which was documented in the Land Use Assumptions report. The table includes the costs for all projects, and the detailed cost calculations and assumptions for new projects are included in the appendix. The total cost of these projects is \$201,947,891. The projects include the following:

- Central
 - Valencia Road, 0.9 miles east of Kolb Road to 0.8 miles west of Old Vail Road (RTA)
 - This project will widen Valencia Road to a 6-lane divided roadway with shoulders, sidewalks, and drainage improvements.
 - Swan Road/Los Reales Road intersection
 - This project will provide intersection improvements including necessary turn lanes and the construction of either a traffic signal or a roundabout. The exact improvements will not be known until a detailed traffic study can be completed.
 - ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
 - Country Club Road, I-10 to Valencia Road
 - This project consists of purchasing right-of-way along Country Club Road in preparation for a future widening to 4 lanes. A separate ADOT project is planned to construct a new traffic interchange at I-10 and Country Club Road.
- Southeast
 - Houghton Road, 0.2 mi south of Golf Links Road to Escalante Road (RTA)
 - This is a portion of the larger RTA project which spans 13 miles from Tanque Verde Road to I-10. Improvements in this section include widening to a 6-lane divided roadway with shoulders, drainage improvements, and sidewalks.

Exhibit 2. Necessary Streets Facilities

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost
CENTRAL	1	Valencia Road	0.9 mi east of Kolb Road	0.8 mi west of Old Vail Road	Widening	6	0.7	\$12,600,000
	2	Swan Road/Los Reales Road	N/A	N/A	Intersection Improvements	N/A	1.0	\$2,000,000
	3	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	17	\$733,771
	4	Country Club Road	I-10	Valencia Road	ROW Purchase	N/A	N/A	\$5,424,518
	Central Service Area Total							
SOUTHEAST	5	Houghton Road	0.2 mi south of Golf Links Road	Escalante Road	Widening	6	0.8	\$14,400,000
	6	Valencia Road	Houghton Road	Old Spanish Trail	New Construction	2	2.6	\$16,000,000
	7	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	2	\$86,326
	8	Houghton Road	I-10	Andrada Polytech	Widening	4	2.9	\$34,800,000
	9	Colossal Cave Road - 2 Locations	Mary Ann Cleveland Way	Camino Loma Alta	Turn Lanes/ Intersection Improvements	N/A	2	\$3,068,410
Southeast Service Area Total								\$68,354,736

Exhibit 2 (cont'd). Necessary Streets Facilities

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost
NORTH	10	Silverbell Road	Sunset Road	Sunset Dunes	Widening	3	2.0	\$18,000,000
			Benjamen Road	Abington Road				
	11	Orange Grove Road	La Cañada Drive	Oracle Rd	Widening	4	0.9	\$10,800,000
	12	Sunset Road	I-10	River Road	New Construction	3	0.3	\$11,381,500
	13	Linda Vista Road - 3 Locations	Hartman Road	Camino de Oeste	Turn Lanes	N/A	3	\$900,000
	14	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	38	\$1,640,194
North Service Area Total								\$42,721,694
NORTHEAST	15	1st Avenue	Orange Grove Road	Ina Road	Widening	4	1.0	\$6,556,000
	16	Houghton Road	Speedway Boulevard	Drachman Street	Widening	4	0.3	\$9,000,000
	17	Houghton Road/ Catalina Highway	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000
	18	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	26	\$1,122,238
	19	Tanque Verde Road/ Soldier Trail	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000
	20	Orange Grove Road	1st Avenue	Camino de Michael	Widening	4	0.45	\$5,400,000
	Northeast Service Area Total							

Exhibit 2 (cont'd). Necessary Streets Facilities

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost
NORTHWEST	21	Sandario Road/Picture Rocks Road	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000
	22	Twin Peaks Road	Twin Peaks Road	Saguaro Highlands	Widening	4	0.55	\$6,600,000
	North Service Area Total							\$8,600,000
SOUTH	23	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	8	\$345,304
	24	Andrada Road	West Access for Hook M	1 mile west of Houghton	New Construction	2	1.8	\$11,070,000
	South Service Area Total							\$11,415,304
WEST	25	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	10	\$431,630
	26	Valencia Road	Mission Road	1/4 mi W of Cardinal Ave	Widening	6	1.0	\$18,000,000
	27	Camino Verde/Valencia Road	N/A	N/A	Intersection Improvements	N/A	1	\$500,000
	28	Irvington Road	Sunset Boulevard	Ajo Way	New Construction	2	0.8	\$5,088,000
	West Service Area Total							\$24,019,630
TOTALS							\$201,947,891	

- Southeast (cont'd)
 - Valencia Road, Houghton Road to Old Spanish Trail
 - This project consists of construction of a new two-lane roadway between Houghton Road and Old Spanish Trail with shoulders, drainage improvements and a new bridge over the Pantano Wash.
 - ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
 - Houghton Road, I-10 to Andrada Polytech
 - This project includes widening Houghton Road to a 4-lane divided roadway with shoulders and drainage improvements.
 - Colossal Cave Road, 2 locations between Mary Ann Cleveland Way and Camino Loma Alta
 - This will include intersection improvements at two intersections along Colossal Cave Road, likely to be at Mary Ann Cleveland Way, Via Rancho Del Lago, or Camino Loma Alta. Intersection improvements may include construction of turn lanes, traffic signals, or roundabouts. The exact improvements and locations will not be known until a detailed traffic study is completed.
- North
 - Silverbell Road, Sunset Road to Sunset Dunes Place and Benjamen Road to Abington Road (RTA)
 - This is a portion of the larger RTA project from Ina Road to Grant Road. This section will include improving the roadway to a 3-lane section with shoulders, sidewalks and drainage improvements.
 - Orange Grove Road, La Cañada Drive to Oracle Road
 - This project consists of widening Orange Grove Road to a 4-lane roadway with shoulders, sidewalks, and drainage improvements to match the recently improved segment to the west.

- Sunset Road, I-10 to River Road (RTA)
 - This is a portion of the larger RTA project from Silverbell Road to River Road. Phase 1, from Silverbell Road to I-10 has been completed. Phase 2 (this project) will include construction of a new 3-lane roadway from the existing terminus at the I-10 westbound frontage road to River Road. This project includes a bridge over the Rillito River, shoulders, sidewalks and drainage improvements.
- Linda Vista Road, 3 locations between Hartman Road and Camino de Oeste
 - This will include turn lane improvements at three intersections along Linda Vista Road, likely at Hartman Road, Bald Eagle Avenue, and Camino de Oeste. The exact improvements will not be known until detailed traffic studies are completed.
- ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
- Northeast
 - 1st Avenue, Orange Grove Road to Ina Road (RTA)
 - This project includes widening the roadway to a 4-lane divided roadway with shoulders, sidewalks and drainage improvements.
 - Houghton Road, Speedway Boulevard to Drachman Street (RTA)
 - This is a portion of the larger RTA project which spans 13 miles from Tanque Verde Road to I-10. Improvements in this section include widening to a 4-lane divided roadway with new bridges (over the Tanque Verde and Agua Caliente washes), shoulders, sidewalks and drainage improvements.
 - Houghton Road/Catalina Highway intersection
 - This project will provide intersection improvements including turn lanes and the construction of either a traffic signal or a roundabout. The exact improvements will not be known until a detailed traffic study can be completed.

- ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
- Tanque Verde Road/Soldier Trail intersection
 - This project will provide intersection improvements including the construction of a traffic signal or a roundabout. The exact improvements will not be known until a detailed traffic study can be completed.
- Orange Grove Road, 1st Avenue to Camino de Michael
 - This project includes widening Orange Grove Road to a 4-lane divided roadway with shoulders and drainage improvements.
- Northwest
 - Sandario Road/Picture Rocks Road intersection
 - This project will provide intersection improvements including turn lanes and construction of either a traffic signal, or a roundabout. The exact improvements will not be known until a detailed traffic study can be completed.
 - Twin Peaks Road, Twin Peaks Road to Saguaro Highlands
 - This project consists of widening the roadway to a 4-lane divided roadway over Rattlesnake Pass. The roadway will also include shoulders, sidewalks, and drainage improvements.
- South
 - ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
 - Andrada Road, west access of Hook M to 1 mile west of Houghton Road
 - Andrada Road will be an extension to the west from the existing paved roadway; the project will include construction of a 2-lane roadway with shoulders, and drainage improvements.

- West
 - ITS Improvements
 - The ITS (Intelligent Transportation System) improvements consist of new technology which will be installed at existing signalized intersections. The improvements allow signal timing and coordination to be adjusted in near real-time to decrease delays and improve traffic flow.
 - Valencia Road, Mission Road to ¼ mile west of Cardinal Avenue
 - This project consists of widening Valencia Road to a 6-lane divided roadway to match the roadway to the east. The project will also include shoulders, sidewalks, and drainage improvements.
 - Camino Verde/Valencia Road intersection
 - This project will include the construction of new turn lanes which may also require reconstruction of a portion of the traffic signal to accommodate the wider intersection approaches.
 - Irvington Road, Sunset Boulevard to Ajo Way
 - This project consists of constructing a new 2-lane roadway to extend Irvington Road from its current terminus at Sunset Boulevard to Ajo Way. The roadway will include shoulders and drainage improvements.

Based on the 10-year framework required by the statute, the analysis included years 2019 through 2029. The street facilities projects for that period include approximately 57 lane-miles of new and improved roadways, physical intersection improvements at 10 locations, ITS improvements at 101 intersections, and right-of-way purchase for the future Country Club Road corridor widening.

Historical traffic volumes for each roadway project are available in the Pima Association of Governments (PAG) *Transportation Data Management System*¹. Data was also supplemented using Pima County traffic counts available on the County website. Further, PAG maintains a model representing the regional transportation network incorporating the planned 5-year *Transportation Improvement Program*² (TIP) projects. The 2017 to 2022 TIP was reviewed during the preparation of this report. In addition, PAG provides estimated traffic volumes for year 2045 as part of the Regional Mobility and Accessibility Plan (RMAP).

¹ *PAG Transportation Data Management System (TDMS)*. < <https://pag.ms2soft.com/tcds/tsearch.asp?loc=Pag&mod=>>

² *PAG Transportation Improvement Program (TIP)*.

<<https://www.pagnet.org/Programs/TransportationPlanning/PlansandPrograms/TransportationImprovementProgram/tabid/172/Default.aspx>>

The PAG models do not directly include ITE trip generation rates, which are typically used to determine how much traffic a development will generate. Instead, the model develops trip generation based on the characteristics of each Traffic Analysis Zone (TAZ), such as employment and population. Trips are then distributed on the surrounding roadway network based on origins and destinations, trip length, travel time, and available roadway capacity.

Starting with the historical and expected growth in the PAG models and adjusting for anticipated growth based on the Land Use Assumptions report and region expertise, traffic volumes for each roadway project were forecasted for years 2019 and 2029. Each vehicular capacity project was forecasted to have low, medium, or high growth during the study period based on historic growth for similar roadways and future traffic growth potential in the area (vacant land, availability of alternative routes, etc.). Based on historic traffic volume growth in the region, the low growth was assumed to be 0.7% per year, medium growth was assumed to be 2.0% per year, and high growth is 4.0% per year. In addition, a few of the infrastructure projects were assigned a custom growth rate based on knowledge of anticipated large development projects in the area.

To estimate the necessary public services, the daily roadway capacity for each project was calculated following the 2013 Florida Department of Transportation (FDOT)³ standards for LOS D. The FDOT LOS standards are widely applied by planning and transportation departments across the U.S. to estimate planning level capacities for roadways. Exhibit 3 compares traffic volumes and roadway capacities for years 2019 and 2029 for the selected projects.

³ Florida Department of Transportation 2013 Quality/Level of Service Handbook https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/planning/systems/programs/sm/los/pdfs/2013_qlos_handbook.pdf?sfvrsn=22690bd2_0

Exhibit 3. Existing (2019) and Future (2029) Traffic Volumes

Service Area	Project No.	Project	Limits		Existing Volume (veh/day)	Existing Capacity (veh/day)	Future Volume (veh/day)	Future Capacity (veh/day)
CENTRAL	1	Valencia Road	0.9 mi east of Kolb Road	0.8 mi west of Old Vail Road	20,334	17,563	30,099	56,606
	2	Swan Road/Los Reales Road	N/A	N/A	N/A	N/A	N/A	N/A
	3	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
	4	Country Club Road	I-10	Valencia Road	N/A	N/A	N/A	0
SOUTHEAST	5	Houghton Road	0.2 mi south of Golf Links Road	Escalante Road	23,498	17,563	34,783	56,606
	6	Valencia Road	Houghton Road	Old Spanish Trail	N/A	N/A	7,200	17,563
	7	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
	8	Houghton Road	I-10	Andrada Polytech	13,758	17,563	20,365	37,611
	9	Colossal Cave Road - 2 Locations	N/A	N/A	N/A	N/A	N/A	N/A

Exhibit 3 (cont'd). Existing (2019) and Future (2029) Traffic Volumes

Service Area	Project No.	Project	Limits		Existing Volume (veh/day)	Existing Capacity (veh/day)	Future Volume (veh/day)	Future Capacity (veh/day)
NORTH	10	Silverbell Road	Sunset Road	Sunset Dunes Place	10,862	12,744	13,240	17,563
			Benjamin Road	Abington Road				
	11	Orange Grove Road	La Cañada Drive	Oracle Rd	18,093	17,563	26,783	37,611
	12	Sunset Road	I-10	River Road	N/A	N/A	10,781	15,479
	13	Linda Vista Road - 3 Locations	Hartman Road	Camino de Oeste	N/A	N/A	N/A	N/A
	14	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
NORTHEAST	15	1st Avenue	Orange Grove Road	Ina Road	15,306	17,563	16,412	37,611
	16	Houghton Road	Speedway Boulevard	Drachman Street	11,939	17,563	14,553	37,611
	17	Houghton Road/Catalina Highway	N/A	N/A	N/A	N/A	N/A	N/A
	18	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
	19	Tanque Verde Road/Soldier Trail	N/A	N/A	N/A	N/A	N/A	N/A
	20	Orange Grove Road	1st Avenue	Camino de Michael	14,352	17,563	21,244	37,611

Exhibit 3 (cont'd). Existing (2019) and Future (2029) Traffic Volumes

Service Area	Project No.	Project	Limits		Existing Volume (veh/day)	Existing Capacity (veh/day)	Future Volume (veh/day)	Future Capacity (veh/day)
NORTHWEST	21	Sandario Road/Picture Rocks Road	N/A	N/A	N/A	N/A	N/A	N/A
	22	Twin Peaks Road	Twin Peaks Road	Saguaro Highlands	6,444	12,744	15,255	37,611
SOUTH	23	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
	24	Andrada Road	West Access for Hook M	1 mile west of Houghton Road	N/A	N/A	7,994	17,563
WEST	25	ITS Improvements	N/A	N/A	N/A	N/A	N/A	N/A
	26	Valencia Road	Mission Road	1/4 mi W of Cardinal Ave	39,613	37,611	58,636	56,606
	27	Camino Verde/Valencia Road	N/A	N/A	N/A	N/A	N/A	N/A
	28	Irvington Road	Sunset Boulevard	Ajo Way	N/A	N/A	14,179	17,563

2.2. PROJECTED NEEDS

In addition to the existing needs, the statute requires that the following must be included in this document for each necessary public service for which impact fees will be used:

Per ARS §11-1102 (F)(3):

- “A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, including a forecast of the cost of infrastructure, improvements, real property, financing, engineering and architectural services. The description shall be prepared by qualified professionals who are licensed in this state, as applicable.”

As indicated in Exhibit 2, the anticipated necessary roadway improvements include approximately 57 lane-miles of new and improved roadways, physical intersection improvements at 10 locations, ITS improvements at 101 intersections, and right-of-way purchase for the future Country Club Road corridor widening. The total cost is \$201,947,891. However, only about 46% of the cost of all the necessary improvements are attributable to new development. Based on the ratio of the traffic expected to be generated by development in the next 10 years and the additional capacity which will be added with each project, the estimated total cost attributable to development is \$93,911,982, as shown in Exhibit 4. As seen in the exhibit, new development is only responsible for the portion of the new capacity which it will use.

Experience in other jurisdictions has shown that ITS improvements generally result in a capacity increase of approximately 10%, which matches the projected population growth in the County over the next 10 years (the period of this study); therefore, it is estimated that the new growth will use all of the new signal capacity. Turn lanes also result in a capacity increase of approximately 10% based on FDOT guidelines. For RTA projects, the cost attributable to development is capped at the remaining County contribution for that project; in some cases, this results in development contributing less than they would without the cap. The cost of preparing the initial Impact Fee Study is \$197,908, and the required update to the impact fee documents in 5 years is expected to cost approximately \$95,000. Therefore, the total cost for providing these necessary public services associated with streets is \$94,204,890 during the 10-year period.

Exhibit 4. Cost Attributable to Development

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost	% Used by Development	Cost Attributable to Development
CENTRAL	1	Valencia Road	0.9 mi east of Kolb Road	0.8 mi west of Old Vail Road	Widening	6	0.7	\$12,600,000	25%	\$3,151,503
	2	Swan Road/Los Reales Road	N/A	N/A	Intersection Improvements	N/A	1.0	\$2,000,000	100%	\$2,000,000
	3	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	17	\$733,771	100%	\$733,771
	4	Country Club Road	I-10	Valencia Road	ROW Purchase	N/A	N/A	\$5,424,518	100%	\$5,424,518
	Central Service Area Total								\$20,758,289	N/A
SOUTHEAST	5	Houghton Road	0.2 mi south of Golf Links Road	Escalante Road	Widening	6	0.8	\$14,400,000	29%	\$4,162,206
	6	Valencia Road	Houghton Road	Old Spanish Trail	New Construction	2	2.6	\$16,000,000	41%	\$6,559,309
	7	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	2	\$86,326	100%	\$86,326
	8	Houghton Road	I-10	Andrada Polytech	Widening	4	2.9	\$34,800,000	33%	\$11,468,518
	9	Colossal Cave Road - 2 Locations	Mary Ann Cleveland Way	Camino Loma Alta	Turn Lanes/ Intersection Improvements	N/A	2	\$3,068,410	100%	\$3,068,410
	Southeast Service Area Total								\$68,354,736	N/A

Exhibit 4 (cont'd). Cost Attributable to Development

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost	% Used by Development	Cost Attributable to Development
NORTH	10	Silverbell Road	Sunset Road	Sunset Dunes	Widening	3	2.0	\$18,000,000	49%	\$6,400,000
			Benjamen Road	Abington Road						
	11	Orange Grove Road	La Cañada Drive	Oracle Rd	Widening	4	0.9	\$10,800,000	43%	\$4,680,931
	12	Sunset Road	I-10	River Road	New Construction	3	0.3	\$11,381,500	70%	\$3,104,669
	13	Linda Vista Road - 3 Locations	Hartman Road	Camino de Oeste	Turn Lanes	N/A	3	\$900,000	100%	\$900,000
	14	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	38	\$1,640,194	100%	\$1,640,194
North Service Area Total								\$42,721,694	N/A	\$16,725,793
NORTHEAST	15	1st Avenue	Orange Grove Road	Ina Road	Widening	4	1.0	\$6,556,000	6%	\$361,622
	16	Houghton Road	Speedway Boulevard	Drachman Street	Widening	4	0.3	\$9,000,000	13%	\$1,173,691
	17	Houghton Road/ Catalina Highway	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	100%	\$2,000,000
	18	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	26	\$1,122,238	100%	\$1,122,238
	19	Tanque Verde Road/Soldier Trail	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	100%	\$2,000,000
	20	Orange Grove Road	1st Avenue	Camino de Michael	Widening	4	0.45	\$5,400,000	34%	\$1,856,494
	Northeast Service Area Total								\$26,078,238	N/A

Exhibit 4 (cont'd). Cost Attributable to Development

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length /Units	Total Cost	% Used by Development	Cost Attributable to Development
NORTHWEST	21	Sandario Road/Picture Rocks Road	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	100%	\$2,000,000
	22	Twin Peaks Road	Twin Peaks Road	Saguaro Highlands	Widening	4	0.55	\$6,600,000	35%	\$1,594,341
	North Service Area Total							\$8,600,000	N/A	\$3,594,341
SOUTH	23	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	8	\$345,304	100%	\$345,304
	24	Andrada Road	West Access for Hook M	1 mile west of Houghton	New Construction	2	1.8	\$11,070,000	46%	\$5,038,687
	South Service Area Total							\$11,415,304	N/A	\$5,383,991
WEST	25	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	10	\$431,630	100%	\$431,630
	26	Valencia Road	Mission Road	1/4 mi W of Cardinal Ave	Widening	6	1.0	\$18,000,000	100%	\$18,000,000
	27	Camino Verde/Valencia Road	N/A	N/A	Intersection Improvements	N/A	1	\$500,000	100%	\$500,000
	28	Irvington Road	Sunset Boulevard	Ajo Way	New Construction	2	0.8	\$5,088,000	81%	\$4,107,621
	West Service Area Total							\$24,019,630	N/A	\$23,039,251
TOTALS							\$201,947,891	TOTAL ATT. TO DEVELOPMENT	\$93,911,982	

2.3. MAINTENANCE AND OPERATION OF STREET FACILITIES

The State statute also requires Counties to identify the maintenance and operation costs of the facilities identified in the IIP:

ARS §11-1102 (F)(5):

- “A description of all the costs necessitated by ongoing maintenance and operations of the necessary public services once construction is completed and a description of the source of revenue to be used to fund the maintenance and operations.”

Pima County’s website includes information on pavement preservation treatments and costs (<http://webcms.pima.gov/cms/One.aspx?pagelid=356628>), and updated cost information was provided by the County where applicable. The appropriate treatments for new facilities are either preventive (to anticipate deterioration) or maintenance (to extend the life of the roadway). Exhibit 5 shows the approximate costs for those treatments.

Exhibit 5. Pavement Preservation Costs

Treatment	Typical Application	Unit Cost (\$/SY)	Treatment Lifespan	Cost per Lane Mile ¹
Preventive	Fog Seal	\$1.50	4 years	\$13,200
Maintenance	Double Chip/Micro-surface	\$8.00	8 years	\$70,400

¹ Based on 15-foot lane width to include shoulder

Given the lifespan of the treatments above, it is anticipated that each new road will receive either two preventive treatments (years 4 and 8), or one maintenance treatment (year 8) within the IIP’s 10-year period. Considering that the IIP includes approximately 100 lane-miles of facilities to be maintained by Pima County, the annual maintenance costs for the facilities in this IIP would range between \$260,000 and \$704,000 per year.

Maintenance and operations of the new street facilities are anticipated to be funded with revenues from the Highway User Revenue Fund (HURF) and Vehicle License Tax (VLT). Pima County’s pavement preservation program for arterial and collector roadways includes \$16 million in the current fiscal year.

3. TRAVEL DEMAND PER DEMAND UNIT

ARS §11-1102 (F)(4) requires that this document shall include “a table that establishes 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 that establishes the ratio of a service unit to various types of land uses, including residential, commercial and industrial.”

Trip generation for future residential, commercial, and industrial developments was estimated based on typical land use categories. The trip generation rates for each land use followed the ITE *Trip Generation Manual*⁴ guidelines. Exhibit 6 (Page 25) shows the estimated roadway demand per unit of land use, and descriptions of the factors and land use categories are included in the following sections. Note that the land use categories used to calculate the Equivalent Demand Units (EDUs) for each category are also listed in the table for reference.

3.1. LAND USE CATEGORIES

The land uses are broken into seven categories for ease of reference, including residential, commercial/retail, industrial, hospital/clinic, recreational, office, and charter/private schools. Each land use is discussed in further detail in this section; however, it should be noted that if a land use is not specifically listed in this document, the owner should consult with Pima County to determine what land use category is appropriate for the proposed use (if any).

3.1.1. *Single Family Detached*

This includes all non-age restricted single family homes (except for mobile homes). The estimated roadway demand per one single family detached home is assumed to be one EDU.

3.1.2. *Attached Residential/Multi-Family*

This land use includes apartments and townhomes, regardless of unit or building size.

3.1.3. *Senior Housing*

Senior housing refers to all age-restricted housing, including both single family detached homes and attached/multi-family units.

⁴ *Trip Generation Manual*, 10th Edition. Institute of Transportation Engineers (ITE). Washington, D.C., 2017.

3.1.4. Assisted Living/Congregate Care

This includes any complex which provides centralized amenities and/or some level of medical services or medical care.

3.1.5. Mobile Home Park

Any mobile home should be considered under this use.

3.1.6. Hotel/Motel

All hotels and motels are included.

3.1.7. Retail

Retail includes a variety of shopping facilities, including big box stores, grocery stores, home improvement stores/superstores, factory outlets, discount clubs/superstores, nurseries, automobile sales, and other general commercial/retail facilities.

3.1.8. Services

Services include developments such as restaurants, auto repair centers, car washes, day cares, and other similar facilities.

3.1.9. High-Traffic Retail/Services

This category includes fast food restaurants, coffee shops, pharmacies with drive thrus, drive-in banks, gas stations, convenience stores, combination gas station/convenience stores, and other similar high traffic generators.

3.1.10. Industrial

All light, medium, and heavy industrial uses are included, as well as manufacturing uses, warehouses, and self-storage facilities.

3.1.11. Hospital/Clinic

Includes all hospitals and clinics. Clinics often have lab facilities, pharmacies, and a wide range of services (compared to medical offices which usually include a specialized service). Veterinary hospitals/clinics can also be included under this use.

3.1.12. Recreational

This includes athletic clubs, health/fitness clubs, racquet/tennis clubs, and other similar uses.

3.1.13. General Office

All non-medical offices are included in this use.

3.1.14. Medical/Dental/Vet Office

This use includes any medical, dental, or veterinarian office.

3.1.15. Public Schools

All public schools are included, regardless of the grades which the school serves.

3.1.16. Charter/Private Schools

All charter and private schools are included, regardless of the grades which the school serves.

3.2. ITE TRIP GENERATION RATES

The *ITE Trip Generation Manual* contains trip generation rates for a wide variety of land uses by unit of land use (i.e. per dwelling unit for residential developments, per 1,000 square feet for commercial, etc.). The weekday peak hour trip generation rates were applied in the demand unit calculations because the peak hour is generally the controlling period for which necessary roadway improvements are determined.

3.3. PRIMARY TRIPS

Primary trips are trips generated with the specific purpose of visiting a generator. Trips to and from a land use which a driver intended to make without making other stops along the way are considered primary trips. Drivers may choose to divert from their originally intended path to make a secondary stop or may choose to make a stop along their original path. These trips are called diverted trips and pass-by trips, respectively.

The *ITE Trip Generation Handbook*⁵ provides the percentage of diverted trips and pass-by trips for each land use except for schools. The calculations for estimating impact fees are based solely on primary trips; therefore, ITE data was used to determine the percentage of primary trips for most land uses, and school primary trips were estimated based on previous experience.

⁵ *Trip Generation Handbook*, 3rd Edition. Institute of Transportation Engineers (ITE). Washington, D.C., 2014.

Exhibit 6. Estimate of Streets Facility Demand per Unit of Land Use

Land Use Category	Unit	% Primary Trips	Peak Hour Rate per Unit	Average Trip Length (mi)	% Travel within Unincorporated PC	% Travel on Arterials	% Travel Demand on PC Arterial Network	Vehicle Miles of Travel Demand per Unit - Peak Hour	Representative ITE Category	Proposed EDUs
Residential										
<i>Single Family Detached</i>	Dwelling Unit	100%	0.99	10.7	50%	80%	40%	4.2	210	1.0
<i>Attached Residential/Multi-Family</i>	Dwelling Unit	100%	0.56	10.7	50%	80%	40%	2.4	220	0.6
<i>Senior Housing</i>	Dwelling Unit	100%	0.30	10.7	50%	80%	40%	1.3	251	0.3
<i>Assisted Living/Congregate Care</i>	Dwelling Unit	100%	0.18	10.7	50%	80%	40%	0.8	253	0.2
<i>Mobile Home Park</i>	Dwelling Unit	100%	0.46	10.7	50%	80%	40%	2.0	240	0.5
Commercial/Retail										
<i>Hotel/Motel</i>	Rooms	100%	0.49	10.7	50%	80%	40%	2.1	310, 320	0.5
<i>Retail</i>	1000 sf	66%	3.05	7.9	50%	80%	40%	6.4	820, 823	1.5
<i>Services</i>	1000 sf	66%	6.44	7.9	50%	80%	40%	13.4	932, 942	3.2
<i>High-Traffic Retail/Services</i>	1000 sf	23%	21.14	7.9	50%	80%	40%	15.4	881, 912, 934	3.6
Industrial										
	1000 sf	70%	0.41	10.7	50%	80%	40%	1.2	110, 130, 140, 150, 151	0.3
Hospital/Clinic										
	1000 sf	60%	2.33	10.7	50%	80%	40%	6.0	610, 630	1.4
Recreational										
	1000 sf	75%	3.45	11.4	50%	80%	40%	11.8	492	2.8
Office										
<i>General Office</i>	1000 sf	75%	1.16	12.2	50%	80%	40%	4.2	710	1.0
<i>Medical/Dental/Vet Office</i>	1000 sf	75%	3.46	12.2	50%	80%	40%	12.7	720	3.0
Public Schools										
	1000 sf	25%	5.17	4.5	50%	80%	40%	2.3	520, 530	0.5
Charter/Private Schools										
	1000 sf	25%	7.39	7.0	50%	80%	40%	5.2	534, 536, 537	1.2

3.4. AVERAGE TRIP LENGTH

The average trip length for a specific land use is available in the National Household Travel Survey (NHTS) *Summary of Travel Trends*⁶ report. Table 5b in the NHTS report shows trends in the average person trip length by trip purpose. The table reflects the survey data collected from a sample of U.S. households. Public school trip length was calculated as the average of school trips in the NHTS report and an estimate of elementary school trip length, which is considerably lower given the typical proximity of residences to elementary schools.

3.5. TRAVEL DEMAND ON PIMA COUNTY ARTERIAL ROAD NETWORK

Only trips on the arterial and major collector roadways are considered in the estimation of the development fee amounts. This study assumes that 80% of travel occurs on arterial and major collector roadways for all land use types, which is consistent with national guidelines and local data. Furthermore, travel to/from business and residential units in unincorporated Pima County generally involves travel in multiple jurisdictions. Therefore, it was assumed that 50% of the business/residential travel originating or ending in unincorporated Pima County would take place on Pima County roads based on the location of trip generators and attractors in the County and throughout the region. The travel demand on the Pima County arterial road network is the product of percent travel within the County and percent travel on arterial and major collector roadways.

3.6. VEHICLE MILES OF TRAVEL DEMAND

The vehicle miles of travel demand per unit is the product of four factors previously discussed: percent primary trips, average peak hour trip generation rate, average trip length, and percent travel demand on Pima County arterial network. As an example, the vehicle miles of travel demand for the single family residential use is calculated as follows:

$$VMT \text{ per Unit} = \%Primary \text{ Trips} \times Average \text{ Peak Hour Trip Generation Rate} \\ \times Average \text{ Trip Length} \times \%Travel \text{ on PC Arterial Network}$$

$$VMT \text{ per Unit} = 100\% \times 0.99 \times 10.7 \times 40\%$$

$$VMT \text{ per Unit} = 4.2$$

⁶ Federal Highway Administration (FHWA). *Summary of Travel Trends: 2017 National Household Travel Survey*. <https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf>

3.7. EQUIVALENT DEMAND PER UNIT (EDU)

An EDU value of 1.0 is assigned to the single family residential land use. The equivalent demand per service unit for all the remaining land uses is calculated as follows, using the multi-family residential land use as an example:

$$EDU_{Multi-Family} = \frac{VMT \text{ per Unit}_{Multi-Family}}{VMT \text{ per Unit}_{Single-Family}}$$

$$EDU_{Multi-Family} = \frac{2.4}{4.2} = 0.6$$

4. PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT

Per ARS §11-1102 (F)(6):

- “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.”

Per ARS §11-1102 (F)(7):

- “The projected demand for necessary public services or facility expansions required by new service units for a period of not more than ten years.”

The Land Use Assumptions report provided the summary of 10-year growth projections for unincorporated Pima County for the purposes of the roadway impact fee study update. The estimated population and employment growth data per service area for 2029 conditions is provided in Exhibit 7. Based on the exhibit, it is estimated that approximately 10,000 new residential permits will be issued in a 10-year period in unincorporated Pima County. Further, approximately 8,245 new jobs are expected by 2029. These assumed land assumptions were used in this IIP to estimate the amount of new facilities needed to serve the projected new developments.

As shown in Exhibit 6, ITE trip generation rates are calculated based on the number of dwelling units for residential land uses. For the remaining land uses, the unit for the ITE trip generation rates is 1,000 S.F. To convert the number of expected new jobs from Exhibit 7 into square footage, averages from the *ITE Trip Generation Manual* were adopted in this study.

Exhibit 7. Residential and Employment Land Use Assumptions: 10-Year Growth

Service Area	Residential Permits	Jobs by Land Use		
		Industrial	Retail	Office
Central	900	1,091	52	589
Southeast	2,900	445	371	668
North	1,700	433	260	1,039
Northeast	900	45	118	744
Northwest	400	148	7	92
Southeast	600	124	41	247
West	2,600	260	242	1,229
TOTAL	10,000	2,546	1,092	4,607

Exhibit 8 shows the assumed gross building area per employee for each land use. Further, it is assumed that 80% of new residential permits will be single family units, 10% will be age-restricted units, and 10% will be multi-family units. Exhibit 9 shows the anticipated new units for all land uses.

Exhibit 8. Non-Residential Development Attributes

Land Use	Gross Building Area per Employee (S.F.)
Retail	600
Office	400
Industrial	2,500

Exhibit 9. Anticipated Units by Land Use Type

Land Use		Single Family	Age-Restricted	Multi-Family	Commercial/Retail	Office	Industrial
Unit		Dwelling	Dwelling	Dwelling	1000 sq. ft.	1000 sq. ft.	1000 sq. ft.
Anticipated Units	Central	720	90	90	31	235	2,727
	Southeast	2,320	290	290	223	267	1,113
	North	1,360	170	170	156	416	1,082
	Northeast	720	90	90	71	297	113
	Northwest	320	40	40	4	37	371
	South	480	60	60	25	99	309
	West	2,080	260	260	145	492	649
TOTAL		8,000	1,000	1,000	655	1,843	6,365

5. REVENUE CONSIDERATIONS

Per ARS §11-1102 (F)(8):

- “A forecast of revenues generated by new service units other than development fees, including estimated state shared revenue, highway user 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.”

To provide an equitable obligation of transportation impact fees, both costs and credits must be considered. New development must be given credit for contributions to the various forms of funding which may be used for roadway improvements, such as the contribution of a development impact fee. Other sources of roadway infrastructure funding which can be identified as coming from a new development must be considered as credits for that development.

In addition, the costs associated with correcting existing deficiencies cannot be placed as a burden on new development. Any money spent from common improvement funds to address a deficiency must consider credits to new development for which the improvement is associated. At this time, the only continuing revenue source which may be considered as credits to new development is the sales tax contribution to the Regional Transportation Authority (RTA). The County uses HURF/VLT funding for maintenance and operations only, so there is no applicable HURF/VLT credit. Property taxes are not used for expansion/capital projects either, and other state and federal revenues are undeterminable and intermittent.

The RTA credit is based on the estimated sales tax by land use type, using standard construction costs⁷ and estimated residential unit sizes as listed below:

- a. Single family residence (general and age-restricted) – 2,000 sq. ft. of living space, 400 sq. ft. garage
- b. Multi-family residence – 1,115 sq. ft. total space per unit (rental)
- c. Assisted living/congregate care – 350 sq. ft. of total space per unit (bed)

⁷ *Building Valuation Data – February 2019*. International Code Council,
<https://www.iccsafe.org/wp-content/uploads/BVD-BSJ-FEB19-converted.pdf> , accessed May 2019.

- d. Mobile home park – 900 sq. ft. of total space per unit (mobile home)
- e. Hotel/motel – 550 sq. ft. of total space per unit (room)

All other impact fee categories use 1,000 square feet of construction to calculate the RTA credit. The RTA tax rate is 0.5% and is applied to the taxable value of new construction, which is 65% of the contract amount pursuant to state law. The tax paid is then adjusted to reflect the share of overall RTA plan projects that are included in this IIP. Exhibit 10 shows the calculation of the RTA credit for each land use type.

Exhibit 10. RTA Credit Calculations

Land Use Category	ICC Building Group	ICC Construction Type	ICC Cost per sq ft	Average	Typical sq ft	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											
<i>Single Family Detached</i>	R3 - residential one and two family	VB	\$122.46	\$122.46	2,000	\$264,412	\$171,868	\$859.34	8.0%	\$68.75	\$69.00
	U - utility (garage)	VB	\$48.73	\$48.73	400						
<i>Attached Residential/ Multi-Family</i>	R2 - residential multi-family	VB	\$112.76	\$112.76	1,115	\$125,727	\$81,723	\$408.61	8.0%	\$32.69	\$33.00
<i>Senior Housing</i>	R3 - residential one and two family	VB	\$122.46	\$122.46	2,000	\$264,412	\$171,868	\$859.34	8.0%	\$68.75	\$69.00
	U - utility (garage)	VB	\$48.73	\$48.73	400						
<i>Assisted Living/ Congregate Care</i>	I2 - institutional, nursing homes	VA	\$174.02	\$182.54	350	\$63,887	\$41,527	\$207.63	8.0%	\$16.61	\$17.00
	R4 - care/assisted living	IB	\$191.05								
<i>Mobile Home Park</i>	R2 - residential multi-family	VB	\$112.76	\$112.76	900	\$101,484	\$65,965	\$329.82	8.0%	\$26.39	\$27.00
Commercial/Retail											
<i>Hotel/Motel</i>	R1 - residential hotels	VB	\$143.96	\$143.96	550	\$79,178	\$51,466	\$257.33	8.0%	\$20.59	\$21.00
<i>Retail</i>	M - mercantile	IIIB	\$111.83	\$111.83	1,000	\$111,830	\$72,690	\$363.45	8.0%	\$29.08	\$30.00
<i>Services</i>	M - mercantile	IIIB	\$111.83	\$111.83	1,000	\$111,830	\$72,690	\$363.45	8.0%	\$29.08	\$30.00
<i>High-Traffic Retail/Services</i>	B - business	IIIB	\$154.63	\$154.63	1,000	\$154,630	\$100,510	\$502.55	8.0%	\$40.20	\$41.00
Industrial	B - business	IIIB	\$154.63	\$154.63	1,000	\$154,630	\$100,510	\$502.55	8.0%	\$40.20	\$41.00
Hospital/Clinic	I2 - institutional, hospitals	IB	\$323.73	\$323.73	1,000	\$323,730	\$210,425	\$1,052.12	8.0%	\$84.17	\$85.00
Recreational	A3 - museums, libraries	IIIB	\$148.07	\$148.07	1,000	\$148,070	\$96,246	\$481.23	8.0%	\$38.50	\$39.00
Office											
<i>General Office</i>	B - business	IIIB	\$154.63	\$154.63	1,000	\$154,630	\$100,510	\$502.55	8.0%	\$40.20	\$41.00
<i>Medical/Dental/Vet Office</i>	B - business	IIIB	\$154.63	\$154.63	1,000	\$154,630	\$100,510	\$502.55	8.0%	\$40.20	\$41.00
Public Schools	E - educational	IIIB	\$166.43	\$166.43	1,000	\$166,430	\$108,180	\$540.90	8.0%	\$43.27	\$44.00
Charter/Private Schools	E - educational	IIIB	\$166.43	\$166.43	1,000	\$166,430	\$108,180	\$540.90	8.0%	\$43.27	\$44.00

APPENDIX

- **List of Preparers**
- **Detailed Project Cost Calculations**

List of Preparers

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Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length/ Units	Project Cost		Total Project Cost	Volume from Development	Added Capacity	% Used by Development	Cost Attributable to Development	Source	Notes
								Per Lane-Mile/Unit	Total							
CENTRAL	1	Valencia Road	0.9 mi east of Kolb Road	0.8 mi west of Old Vail Road	Widening	6	0.7	\$3,000,000	\$12,600,000	\$12,600,000	9,765	39,043	25%	\$3,151,503	Outstanding RTA Contribution	County contribution is \$4M, and County segment is 0.6 miles
	2	Swan Road/Los Reales Road	N/A	N/A	Intersection Improvements	N/A	1.0	\$2,000,000	\$2,000,000	\$2,000,000			100%	\$2,000,000	PCDOT	
	3	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	17	\$43,163	\$733,771	\$733,771			100%	\$733,771	PCDOT	
	4	Country Club Road	I-10	Valencia Road	ROW Purchase	N/A	N/A		\$5,424,518	\$5,424,518			100%	\$5,424,518	PCDOT	IF Balance for Central SA
Central Service Area Total										\$20,758,289			N/A	\$11,309,791		
SOUTHEAST	5	Houghton Road	0.2 mi south of Golf Links Road	Escalante Road	Widening	6	0.8	\$3,000,000	\$14,400,000	\$14,400,000	11,285	39,043	29%	\$4,162,206	Outstanding RTA Contribution	County total remaining contribution for Houghton Road (Tanque Verde to I-10) is \$22.2M.
	6	Valencia Road	Houghton Road	Old Spanish Trail	New Construction	2	2.6			\$16,000,000	7,200	17,563	41%	\$6,559,309	Construction Bids and Design Fees	
	7	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	2	\$43,163	\$86,326	\$86,326			100%	\$86,326	PCDOT	
	8	Houghton Road	I-10	Andrada Polytech	Widening	4	2.9	\$3,000,000	\$34,800,000	\$34,800,000	6,607	20,048	33%	\$11,468,518	Pima County	
	9	Colossal Cave Road - 2 Locations	Mary Ann Cleveland Way	Camino Loma Alta	Turn Lanes/ Intersection Improvements	N/A	2	\$1,534,205	\$3,068,410	\$3,068,410			100%	\$3,068,410	PCDOT	
Southeast Service Area Total										\$68,354,736			N/A	\$25,344,769		
NORTH	10	Silverbell Road	Sunset Road	Sunset Dunes Place	Widening	3	2.0	\$3,000,000	\$18,000,000	\$18,000,000	2,379	4,819	49%	\$6,400,000	Outstanding RTA Contribution	County contribution is \$6.4M
			Benjamin Road	Abington Road												
	11	Orange Grove Road	La Cañada Drive	Oracle Rd	Widening	4	0.9	\$3,000,000	\$10,800,000	\$10,800,000	8,689	20,048	43%	\$4,680,931	PCDOT with RSC non-construction factors	
	12	Sunset Road	I-10	River Road	New Construction	3	0.3			\$11,381,500	10,781	15,479	70%	\$3,104,669	Outstanding RTA Contribution	County contribution is \$2.35M, estimated cost is from RTA
	13	Linda Vista Road - 3 Locations	Hartman Road	Camino de Oeste	Turn Lanes	N/A	3	\$300,000	\$900,000	\$900,000			100%	\$900,000	PCDOT	
14	ITS Improvements	N/A	N/A	Signal Coordination/ Timing	N/A	38	\$43,163	\$1,640,194	\$1,640,194			100%	\$1,640,194	PCDOT		
North Service Area Total										\$42,721,694			N/A	\$16,725,793		

Service Area	Project No.	Project	Limits		Project Description	# of Lanes	Length/ Units	Project Cost		Total Project Cost	Volume from Development	Added Capacity	% Used by Development	Cost Attributable to Development	Source	Notes
								Per Lane-Mile/Unit	Total							
NORTHEAST	15	1st Avenue	Orange Grove Road	Ina Road	Widening	4	1.0			\$6,556,000	1,106	20,048	6%	\$361,622	Outstanding RTA Contribution	County contribution is \$700K
	16	Houghton Road	Speedway Boulevard	Drachman Street	Widening	4	0.3			\$9,000,000	2,614	20,048	13%	\$1,173,691	Outstanding RTA Contribution	County total remaining contribution for Houghton Road (Tanque Verde to L-10) is \$22.2M; this project is
	17	Houghton Road/Catalina Highway	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	\$2,000,000	\$2,000,000			100%	\$2,000,000	PCDOT	
	18	ITS Improvements	N/A	N/A	Signal Coordination/Timing	N/A	26	\$43,163	\$1,122,238	\$1,122,238			100%	\$1,122,238	PCDOT	
	19	Tanque Verde Road/Soldier Trail	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	\$2,000,000	\$2,000,000			100%	\$2,000,000		
	20	Orange Grove Road	1st Avenue	Camino de Michael	Widening	4	0.45	\$3,000,000	\$5,400,000	\$5,400,000	6,892	20,048	34%	\$1,856,494	PCDOT with RSC non-construction factors	
Northeast Service Area Total										\$26,078,238			N/A	\$8,514,045		
NORTHWEST	21	Sandario Road/Picture Rocks Road	N/A	N/A	Intersection Improvements	N/A	1	\$2,000,000	\$2,000,000	\$2,000,000			100%	\$2,000,000	PCDOT	
	22	Twin Peaks Road	Twin Peaks Road	Saguaro Highlands	Widening	4	0.55	\$3,000,000	\$6,600,000	\$6,600,000	8,811	24,867	35%	\$1,594,341	PCDOT	County portion is 0.55 miles of total segment; pay available \$ from SA (IF Balance)
North Service Area Total										\$8,600,000			N/A	\$3,594,341		
SOUTH	23	ITS Improvements	N/A	N/A	Signal Coordination/Timing	N/A	8	\$43,163	\$345,304	\$345,304			100%	\$345,304	PCDOT	
	24	Andrada Road	West Access for Hook M	.8 mile west of Houghton Road	New Construction	2	1.85	\$3,000,000	\$11,070,000	\$11,070,000	7,994	17,563	46%	\$5,038,687	PCDOT with RSC non-construction factors	
South Service Area Total										\$11,415,304			N/A	\$5,383,991		
WEST	25	ITS Improvements	N/A	N/A	Signal Coordination/Timing	N/A	10	\$43,163	\$431,630	\$431,630			100%	\$431,630	PCDOT	
	26	Valencia Road	Mission Road	1/4 mi W of Cardinal Ave	Widening	6	1.0	\$3,000,000	\$18,000,000	\$18,000,000	19,024	18,995	100%	\$18,000,000	PCDOT with RSC non-construction factors	
	27	Camino Verde/Valencia Road	N/A	N/A	Intersection Improvements	N/A	1	\$500,000	\$500,000	\$500,000			100%	\$500,000	PCDOT	
	28	Irvington Road	Sunset Boulevard	Ajo Way	New Construction	2	0.8	\$3,000,000	\$5,088,000	\$5,088,000	14,179	17,563	81%	\$4,107,621	PCDOT with RSC non-construction factors	
West Service Area Total										\$24,019,630			N/A	\$23,039,251		
TOTALS										\$201,947,891			TOTAL ATT. TO DEVELOPMENT	\$93,911,982		