

DOWNTOWN INFRASTRUCTURE STUDY



MAY 2007

TUCSON DOWNTOWN PARTNERSHIP

DOWNTOWN INFRASTRUCTURE STUDY

MAY 2007

TUCSON DOWNTOWN PARTNERSHIP

TABLE OF CONTENTS

INTRODUCTION.....	i
EXECUTIVE SUMMARY	iii
STUDY OVERVIEW.....	vii
Participants	vii
Methodology	viii
Study Area	
STUDY FINDINGS	
Underground Utilities	1
Utilities Summary	1
Pima County Wastewater	3
Southwest Gas Corporation.....	6
Stormwater (City Transportation).....	8
Tucson Electric Power Company (Unisource).....	13
Tucson Water	16
Information Technology	19
City of Tucson Fiber Network	19
Cox Communications, Inc.....	20
MCI Network Services (Parent Company Verizon), AT&T, McLeod USA and Valley Telephone	21
Pima County Fiber Network.....	22
Qwest Communications.....	23
Other Telecommunications.....	25
Transportation.....	34
4 th Avenue Underpass	34
Corps of Engineers	35
I-10 Widening.....	36
Downtown Links.....	37
Parking.....	39
Modern Streetcar	40
City of Tucson Right-of-Way Improvements/Streetscape	42
Public Services	45
Business Improvement District	45
Tucson Fire	48
Tucson Police	49
Trash/Recycling Pick-up.....	52
Archaeological Services (City of Tucson).....	53
Environmental Technical Services	54
Green Space/Parks	57
Public Programs	66
Downtown Area Infill Incentive District.....	66
Façade Program	67
Property Research Online	69
Tucson Convention Center/Arena	71
COST SUMMARY SPREADSHEET	
RECOMMENDATIONS AND NEXT STEPS	74
APPENDICES	

INTRODUCTION

The future of Downtown Tucson faces at a critical crossroads that will determine its future success. For the past several years, a great amount of time and energy has been invested to lay the groundwork for downtown development, and the downtown area is poised to experience a positive transformation. This transformation is by no means assured, however. There remain a number of critical issues that need to be addressed in order to ensure the success of the downtown area.

Perhaps the single most important issue that will ensure successful downtown redevelopment is the provision of adequate infrastructure to support future uses. Without sufficient infrastructure to support downtown redevelopment, we will lose exciting opportunities because the costs for upgrading and/or extending utilities in the downtown area are too great for any one project to absorb.

To date, very little has been done to provide adequate infrastructure to meet the City's goals for a thriving and vital downtown. There is a great deal of uncertainty among current and potential developers as to the location and viability of current infrastructure services.

To solve this problem, the City of Tucson, Pima County, utility agencies and private sector representatives have jointly developed recommendations for infrastructure improvements. These recommendations identify the location and capacity of current infrastructure and provide a blueprint for infrastructure improvements necessary to support downtown development over the next twenty years.

What is "Infrastructure?"

In the context of downtown redevelopment and this study, the term "infrastructure" is used to mean the services and level of capital investment required to support a successful urban environment. Beyond the typical definition of infrastructure – supplying utility and transportation services for development – we include parks and open space, pedestrian/streetscape improvements, transit (rail/bus), public parking, and public services (fire/police/trash services, etc.), among others.

Dealing with infrastructure in an urban context is much more challenging than in a suburban or greenfield development scenario. Some of the challenges we face are:

- Aging facilities (streets/utilities) are near, at, or beyond their design life
- Information on level of existing services available and the locations of those services is incomplete (especially for underground utilities)
- It is difficult to predict or control the phasing of development in an urban setting (as opposed to a new suburban development where phasing and infrastructure delivery can be tightly controlled)
- Intensity of activity/traffic makes working in downtown areas difficult to coordinate/stage
- Streetscape and public space improvements designed specifically for downtown settings (e.g., paving, lighting, landscaping, signage, etc.) are hard to find with a durable, higher level of finish

- Multiple property owners/interests are involved in/affected by infrastructure decisions
- Physical space is insufficient to accommodate all uses/needs efficiently (e.g., right-of-way widths are fixed and usually are not expandable in a downtown setting)
- Additional costs to accommodate/mitigate challenges of infrastructure development in an urban setting

These challenges can be met with careful planning and diligence, and this report is intended to serve as a starting point for the planning, design, funding and implementation of infrastructure improvements in Downtown Tucson.

Study Principles

Underlying the recommendations of this report are a set of guiding principles that are critical to the ultimate success of any effort to implement infrastructure improvements in downtown Tucson. As projects progress in the downtown area, these three principles will help ensure that decisions on investment in infrastructure are made wisely.

- A. *Infrastructure investment must be targeted to projects that make Downtown "Development Ready"*** – Ensure that the necessary infrastructure is in place to support downtown development as it occurs and to meet the public's goals of a thriving and vital downtown district. Emphasis should be placed on leveraging private investment to the greatest extent possible so that public investment provides the best possible economic return to the City.
- B. *Infrastructure work must be fully coordinated with other efforts in the downtown area – public and private.*** There are a number of infrastructure needs identified in this report - streetscape, streetcar, utilities, parks, etc. – that will require careful coordination. The City and the private sector need to work to ensure that there is a global, coordinated view of how downtown infrastructure is financed, designed, and constructed. The net benefit of this coordination is the minimization of construction impacts and the maximization of cost effectiveness and private investment leverage.
- C. *Do it once, do it right.*** – It is imperative that the improvements slated for downtown Tucson are of the highest quality. It is also critical that we do these improvements once. Downtown cannot afford – financially or otherwise – streets being torn open two or more times. A policy should be established of opening a street only once, with exceptions for minor utility service taps.

EXECUTIVE SUMMARY

The future of Downtown Tucson is in our hands. Today's actions will transform the downtown area into the thriving and vital district that truly serves as everybody's neighborhood.

There will never be a better time than now to address one of the keys to unlocking downtown's potential: the planning, funding, design and construction of infrastructure improvements that support downtown redevelopment efforts. The end benefits of this process are many, and most significantly would include:

- *Leverage of public investment* – For every \$1 of public money invested in downtown, it is conservatively anticipated that \$5 of private investment would be leveraged. This means new jobs, housing, revenues, and services within the downtown area.
- *Development Ready Downtown* – investing in infrastructure downtown will create a downtown that is "Development Ready." A major factor which is currently inhibiting downtown development is the lack of certainty surrounding needed improvements, including the Modern Streetcar, utility services, and adequate public funding for critical infrastructure elements.
- *Well-coordinated improvement efforts* - By designing and constructing various elements in a coordinated fashion, we can minimize construction impacts and maximize cost efficiency.
- *Creation of a world-class urban environment* – We should not be shy about striving for a world-class urban environment in downtown Tucson. Investing in a high quality streetscape, open space, transit system, and storefront environments can help create a unique sense of place for Tucsonans and visitors alike.

Opportunities and Challenges

Developing and implementing infrastructure improvements in downtown settings generally and downtown Tucson specifically presents unique opportunities and challenges. Tucson is currently blessed with a number of tools and projects that, if properly utilized, can help quicken the pace of downtown development and provide a catalyst for the revitalization of downtown. The opportunities present in downtown Tucson that can and should be leveraged include:

- The Modern Streetcar project, which will traverse the entire downtown area and is scheduled for completion by 2010
- Transportation projects such as the Fourth Avenue Underpass and Downtown Links, which provide opportunities to enhance downtown access and tie in other needed improvements
- An involved and motivated development community that is ready to work with the City to ensure that needed improvements are put in place and downtown can be a successful environment
- Funding sources – both public and private – that can be tapped to help finance needed improvements and ensure the ongoing success of downtown

While these and other opportunities are present in downtown, there are also a number of challenges/issues that need to be addressed, including:

- Lack of accurate as-built information for underground utilities within the downtown core

- Insufficient capacity of some infrastructure services to meet future development demands
- Lack of a clear plan for coordination of improvements within downtown Tucson or the prioritization and funding of critical infrastructure improvements
- No central point person at the City whose full-time job is to plan and implement downtown improvements and who has the authority to pull together/coordinate the various agencies working in downtown

Guiding Principles

In identifying opportunities and challenges, a set of guiding principles emerged to help formulate the recommendations and assist with future funding and prioritization decisions. These principles are:

- A. *Infrastructure investment must be targeted to projects that make Downtown "Development Ready"*** – Ensure that the necessary infrastructure is in place to support downtown development as it occurs and to meet the public's goals of a thriving and vital downtown district. Emphasis should be placed on leveraging private investment to the greatest extent possible so that public investment provides the best possible economic return to the City.

- B. *Infrastructure work must be fully coordinated with other efforts in the downtown area – public and private.*** There are a number of infrastructure needs identified in this report - streetscape, streetcar, utilities, parks, etc. – that will require careful coordination. The City and the private sector need to work to ensure that there is a global, coordinated view of how downtown infrastructure is financed, designed, and constructed. The net benefit of this coordination is the minimization of construction impacts and the maximization of cost effectiveness and private investment leverage.

- C. *Do it once, do it right.*** – It is imperative that the improvements slated for downtown Tucson are of the highest quality. It is also critical that we do these improvements once. Downtown cannot afford – financially or otherwise – streets being torn open two or more times. A policy should be established of opening a street only once, with exceptions for minor utility service taps.

As work progresses on infrastructure development in downtown Tucson, these principles must guide our funding and work efforts.

COSTS AND FUNDING

It will take a significant commitment of financial resources – public and private - to make downtown "Development Ready." Ensuring that we can invest in downtown to meet these costs, however, will pay off in the long run through increased private investment in downtown Tucson and a downtown that Tucsonans can be proud of.

Financing the infrastructure for downtown will take equal parts creativity and commitment. It will likely take many years before this plan is substantially complete, but the positive impact of these investments will be felt immediately.

The costs for the proposed improvements – along with the general categorization of anticipated funding sources to meet these costs – are summarized below and broken down in greater detail later in the report. Estimated sources to fund this infrastructure are a combination of federal grants, state allocations, county bonds, Tax Increment Finance (TIF) funds, other local taxes, user fees, Highway User Revenue Funds (HURF), impact fees, and developer contributions.

	COSTS		FUNDING	
	Total Cost to Upgrade	Anticipated Funding Source		
		Agency	Public, Private & Other Sources	
Underground Utilities	\$ 94,044,500	\$ 54,290,000	\$ 39,754,500	
Information Technology	\$ 14,600,000	\$ 2,300,000	\$ 12,300,000	
Transportation	\$ 15,000,000	\$ -	\$ 15,000,000	
Parking	\$ 303,100,000	\$ 231,600,000	\$ 71,500,000	
Streetscape	\$ 107,160,344	\$ -	\$ 107,160,344	
Services	\$ 1,368,300	\$ 1,318,300	\$ 50,000	
Archaeology	\$ 3,302,000	\$ 3,302,000	\$ -	
Environmental	\$ 22,191,920	\$ 22,191,920	\$ -	
Parks	\$ 73,900,000	\$ 66,100,000	\$ 7,800,000	
Public Programs	\$ 5,000,000	\$ -	\$ 5,000,000	
Total	\$ 639,667,064	\$ 381,102,220	\$ 258,564,844	

Recommendations

A series of recommendations for implementing this study are presented in this report. A number of critical recommendations are highlighted here, and can be found in greater detail in the Recommendations and Next Steps portion of the report. As intensive as this work process has been, there is still a great amount of work to do to fully plan, coordinate, and implement infrastructure improvements throughout the downtown core:

- Convene a working group comprised of City agencies, utility companies, and downtown interests to oversee the implementation of this report's recommendations.

- Hire a "Downtown Czar" to oversee the City's redevelopment efforts downtown, including the coordination of the City's various capital programs and overall direction of the various agencies involved in downtown.
- Build on past work/studies to create a set of streetscape standards for downtown streets that will ensure the consistency and quality of the public realm.
- Identify, fund, and implement a first phase streetscape project ("Pilot Project") at the east end of Congress Street that fully coordinates with the Fourth Avenue Underpass, future streetcar, and private development projects.
- Create a phasing plan for streetscape improvements that considers or accommodates other public projects and private development. Provide adequate funding from a variety of sources (public and private) to implement streetscape improvements consistent with the phasing plan.
- Design, fund and implement a façade improvement strategy to target and improve dilapidated storefronts in the downtown core.
- Coordinate work in the public rights-of-way (e.g., streetcar, Downtown Links, Fourth Avenue Underpass, etc.) with utility companies to ensure that necessary utility upgrades are provided concurrent with public works projects.
- Coordinate private development efforts and timelines with utility companies to ensure that utility services are available to meet current and future development needs in the downtown core.
- Create a free Wi-Fi zone in downtown.
- Identify what, if any, utility impacts are present along the streetcar alignment. Where relocation is necessary, ensure that utility relocations are consistent with future capacity needs for downtown.
- Identify other improvements (e.g., streetscape improvements, intersection improvements, etc.) that should be coordinated and timed to coincide with the Modern Streetcar to avoid future construction disruption.
- Identify potential open space opportunities in the downtown core and establish a funding plan to acquire and develop these spaces.
- Create a five year "sources and uses" funding plan for infrastructure development. The plan should include specific recommendations for funding sources by project and a cash flow by year. The plan should be updated annually to cover the next five year period and include new projects as funding allows.
- Creatively identify potential financing sources for infrastructure improvements. Utilize the City's ability to issue tax-exempt financing to stretch infrastructure dollars as far as possible.

STUDY OVERVIEW

PARTICIPANTS

Study Coordination	Tucson Downtown Partnership (TDP)
Consultants	GLHN Architects and Engineers HDR Engineering, Inc. Rob Paulus Architect
Private Utilities	Arizona Fiber AT&T Cox Communications, Inc. Level 3 Communications MCI/Verizon McLeod USA Qwest Communications, Inc. Southwest Gas Corporation Tucson Electric Power Company (Unisource)
Pima County	County Administrator Information Technology Wastewater
City of Tucson	City Manager Development Services Environmental Services Fire Information Technology Parks and Recreation ParkWise Police Rio Nuevo Transportation Tucson Convention Center Tucson Water Urban Planning & Design
State of Arizona	Arizona Department of Transportation
Other	Corps of Engineers/Floodplain Downtown Stakeholders Tucson Downtown Alliance (TDA) Tucson Downtown Merchants of TDA

METHODOLOGY

The information contained in the Downtown Infrastructure Study was the result of an intensive seven-week public-private collaborative process. More than 100 meetings were conducted between Tucson Downtown Partnership (TDP), City of Tucson, Pima County, Tucson Downtown Alliance, area utilities, and other area stakeholders.

GLHN Architects and Engineers (GLHN), a frequent consultant to the City of Tucson for infrastructure analysis, was subcontracted to perform a limited Downtown Utility Master Plan Study. Through face-to-face meetings with the City of Tucson, Pima County, and area utilities, an order of magnitude capacity study and cost estimates to correct deficiencies was obtained.

Utilizing a map and square footage estimates of downtown developments anticipated over the next twenty years, GLHN surveyed the area utilities to:

- Identify the current location, capacity and deficiencies in the downtown utility infrastructure system.
- Identify the type and size of infrastructure upgrades necessary to support a phased, twenty-year development horizon for the downtown area.
- Prepare a cost estimate for infrastructure improvements.
- Examine the most recent alignment of the modern streetcar for its impact on below-street utilities.

Follow-up meetings with the utilities addressed timelines for implementing these changes and methods for funding the improvements.

Rob Paulus Architect was retained to perform a detailed analysis of the existing area streetscape and to develop a cost estimate for bringing that streetscape up to competitive metropolitan standards. The firm conducted a comprehensive, block-by-block review of the downtown pedestrian environment. With the assistance of City of Tucson staff and area stakeholders, an extensive matrix of ideas for upgrading the downtown streetscape was developed.

City of Tucson staff, through a series of weekly meetings with the Tucson Downtown Partnership, provided information regarding transportation, police, fire, archaeology, environmental assessment, sanitation, parks, information technology, parking, façade improvements, and downtown development programs. Information on the modern streetcar was provided by City of Tucson Department of Transportation and HDR Consultants.

STUDY AREA

The Downtown Infrastructure Study project area is roughly bounded by Street Mary's Road/6th Street to the north, 4th Avenue/Barraza-Aviation Parkway to the east, 22nd Street to the south, and Mission Road/Grande Avenue to the west. For the exact study boundaries, please refer to the enclosed study area map.

As this study was primarily focused within the Rio Nuevo Tax Increment Finance District, the residential portions of Dunbar Springs, West University, Armory Park, Santa Rita, Santa Rosa, Barrio Viejo and Menlo Park were not surveyed. The mixed-commercial district situated north of West Congress Street and west of the Santa Cruz River Park was also not considered.

FINAL FOR UTILITY PROJECTIONS

DOWNTOWN DEVELOPMENT & INFRASTRUCTURE PROJECTIONS					Estimated Condo, Retail, Office, Other Space Quantities				
DATA subject to change at any time					Print Date = 3/29/2007				
#	Project	Developer	Acres	Bldg SF	Retail	Residential SqFt	Residential Units	Office	Other
Projects starting in 0-18 mos					33%		1000		
O-1	44 Broadway I	Ron Schwabe	1.0	40,000	8,500	31,500	30		
O-2	Carlos Arruza Block	City of Tucson	1.0	100,000	14,375	85,625	86		
O-3	City/County Courts I	City of Tucson/Pima Co.	3.5	375,000					375,000
O-4	Cultural Plaza/Mission complex	City of Tucson	16.0	44,000					44,000
O-5	Diamond Rock Plaza	HSL/Roger Karber	3.5	510,000	50,000	0	0	100,000	360,000
O-6	Downtown Fire Station	City of Tucson	2.8	67,000					67,000
O-7	Julian Drew Block	Ross Rulney	1.0	64,375	8,810	38,543	48	8,810	8,212
O-8	Lofts on 5th Avenue	VantagePoint/Geo. Pilloton	2.0	120,000	28,750	91,250	91		
O-9	Mercado District	Rio Development	14.0	400,000	100,000	300,000	254		
O-10	MLK Block	WDD/City of Tucson	1.9	156,400	15,000	141,400	176		
O-11	Presidio Terrace	Reliance/Peggy Noonan	1.2	134,500	4,200	130,300	120		
O-12	Rialto Block/Congress	Rialto/Biggers	0.6	38,886	16,964	13,000	13		8,922
O-13	Santa Rita Resort/Condo	Pathway Developments	2.4	211,871	24,601	99,150	95		88,120
O-14	The Post	Bourn Partners	0.5	78,850	10,000	68,850	47		
Total acreage and square footage starting in next 18 mos			51.3	2,340,882	281,199	999,619	960	108,810	951,254
Projects starting in 19-36 mos									
G-1	200 Block	WDD	1.0	185,000	15,000	170,000	140		
G-2	Arena	City of Tucson	5.8	300,000					300,000
G-4	El Mirador	Town West/Jim Horvath	1.9	269,975	66,800	193,175	150	10,000	
G-5	La Placita	Bourn Partners	3.5	218,000	28,000			190,000	
G-6	Menlo Park 12-acres	City of Tucson	14.3	550,000	100,000	400,000	400	50,000	
G-7	Museum complex	City of Tucson	16.0	390,000					390,000
G-8	Plaza Centro	Oasis/Jim Campbell	2.4	152,400	32,400	120,000	120		
G-9	Police Department TENTATIVE	City of Tucson	0.3	80,000					80,000
G-10	Rialto Block/Broadway	Rialto/Biggers	0.5	70,000	17,000	43,000	40	10,000	
G-11	Ronstadt Transit Ctr	City of Tucson	2.0	135,025	45,000	25,000	25	20,000	45,000
G-12	Sixth Avenue & Toole	City of Tucson	1.4	63,000				52,000	11,000
G-13	TCC Expansion	City of Tucson	1.0	45,000					45,000
Total acreage and square footage starting in 19-36 mo			50.1	2,458,400	304,200	951,175	875	332,000	871,000

Court Building
Museum/historic recreations
Excl existing 200 hotel rms
Fire station w/dorms for 14 firemen
Artist studio space
Excl existing 91 units @ MLK
Theatre
Hotel
Museums
Crime Lab
Multiplex
Bus Stn
Meeting rms

FINAL FOR UTILITY PROJECTIONS

DOWNTOWN DEVELOPMENT & INFRASTRUCTURE PROJECTIONS					Estimated Condo, Retail, Office, Other Space Quantities				
DATA subject to change at any time					Print Date = 3/29/2007				
#	Project	Developer	Acres	Bldg SF	Retail	Residential SqFt	Residential Units	Office	Other
Projects starting in 3-5 yrs									
Y-1	44 E Broadway II	Ron Schwabe	0.3	90,000	15,000	50,000	50	25,000	
Y-2	Baccus Lot: Broadway/Stoa	Buck Baccus	0.5	21,000				21,000	
Y-3	Block 175	DDC	2.2	200,000	31,625	168,375	168		
Y-4	Fourth Ave./Brdwy	Powell/Heller	1.2	100,000	8,000	72,000	72	20,000	
Y-5	I-10 frontage @ Cushing - 22nd	Private development	25.0	535,000	35,000	500,000	425		
Y-6	Norville Exhibition Ctr	Alan Norville/Eric Hutchens	3.0	200,000	43,124	0	0		156,876
Y-7	Plaza San Agustin	Private development	1.0	90,000	10,000	80,000	65		
Y-8	Pueblo Garage	Buck Baccus	1.3	80,000	14,375	65,625	66		
Y-9	Steinfeld West Triangle	Private development	1.1	80,000	14,375	30,000	30		35,625
Y-10	Warehouse District South of RR	City of Tucson/private development	3.6	200,000	15,000	40,000	40	20,000	125,000
	Total acreage and square footage starting in 3-5 yrs		39.1	1,596,000	186,499	1,006,000	916	86,000	317,501
Projects starting after 5 yrs									
B-1	I-10 frontage @ Congress, se	Private development	5.7	80,000	75,000			5,000	
B-2	Inn Suites	Tucson St. Mary's Suite	6.0	345,000	50,000	295,000	295		
B-3	Chase Bank lot	Private development	0.2	50,000	10,000	40,000	40		
B-4	DDC Council lot	Private development	0.4	80,000	8,000	64,000	64	8,000	
B-5	Library Plaza South	City of Tucson	0.5	150,000	7,187	142,813	143		
B-6	Library Plaza West	Private development	0.3	100,000	10,000	90,000	90		
B-7	El Rio Center Redevelopment	Privatenonprofit development	6.6	500,000	20,000	50,000	50	100,000	330,000
B-8	Millstone Site	Joe Millstone	5.0	137,805	75,000	62,805	63		
B-9	Pima Co pkg lot @ B'way	Pima County	0.7	145,000	25,000	120,000	120		
B-10	Reliance Tower II pad	HUB Properties	0.5	150,000	8,000	71,000	71	71,000	
B-11	TCC parking lots	City of Tucson/Private development	12.7	400,000	150,000	150,000	150	60,000	40,000
B-12	Theresa Lee site	City of Tucson	2.7	100,000					100,000
B-13	Warehouse District North of RR	Private development	6th&6th	100,000		100,000	100		
	Total acreage and square footage starting after 5 years		25.8	2,337,805	438,187	1,185,618	1,186	244,000	470,000
	TOTAL BUILDOUT of PROJECTS LISTED		166.38	8,733,087	1,210,086	4,142,412	3,936	770,810	2,609,755
Note: all data is estimated and subject to verification									

Exhibit hall

Artists studios
Artists studios

Health services

Boutique hotel
Hotel
Mixed infill

Projects that are shaded should be carefully considered. They have utility service today. However, future development is anticipated to be substantially more intense on the lots.

Additional comments:

Total retail buildout is probably ambitious.

Total residential is probably on the low side.

Possible Future Downtown Development

Legend

— Street Car Route

Development Chronology

- 0-18 Months
- 19-36 Months
- 3-5 Years
- 3-5 Years (Infill Development)
- 5+ Years

Projects Starting in 0-18 Months

- O-1 44 E. Broadway I
- O-2 Carlos Arzuza Block
- O-3 City/County Courts I
- O-4 Cultural Plaza/Mission complex
- O-5 Diamond Rock Plaza
- O-6 Tucson Fire Department
- O-7 Julian Drew Block
- O-8 Lofts on 5th Avenue
- O-9 Mercado District
- O-10 MLK Block
- O-11 Presidio Terrace
- O-12 Rialto Block/Congress
- O-13 Santa Rita Resort/Condo
- O-14 The Post
- O-15 City/County Courts II

Projects Starting in 19-36 Months

- G-1 200 Block
- G-2 Arena
- G-3 El Mirador
- G-4 La Placita
- G-5 Merlo Park 12-acres
- G-6 Museum complex
- G-7 Plaza Centro
- G-8 Tucson Police Department
- G-9 Rialto Block/Broadway
- G-10 Ronstadt Transit Center
- G-11 Sixth Avenue & Toole
- G-12 TCC Expansion

Projects Starting in 3-5 Years

- Y-1 44 E Broadway II
- Y-2 Bacuss Lot
- Y-3 Block 175
- Y-4 Fourth Ave./Broadway
- Y-5 I-10 frontage at Cushing - 22nd
- Y-6 Norville Exhibition Center
- Y-7 Plaza San Agustin
- Y-8 Pueblo Garage
- Y-9 Steinfeld West Triangle
- Y-10 Warehouse District South of Railroad

Projects Starting in 5+ Years

- B-1 I-10 frontage at Congress, south
- B-2 Inn Suites
- B-3 Chase Bank lot
- B-4 DDC Council lot
- B-5 Library Plaza South
- B-6 Library Plaza West
- B-7 Mercado extension
- B-8 Millstone Site
- B-9 Pima County parking lot, Broadway
- B-10 Reliance Tower II pad
- B-11 TCC 1,2,3
- B-12 Theresa Lee site
- B-13 Warehouse District North of railroad

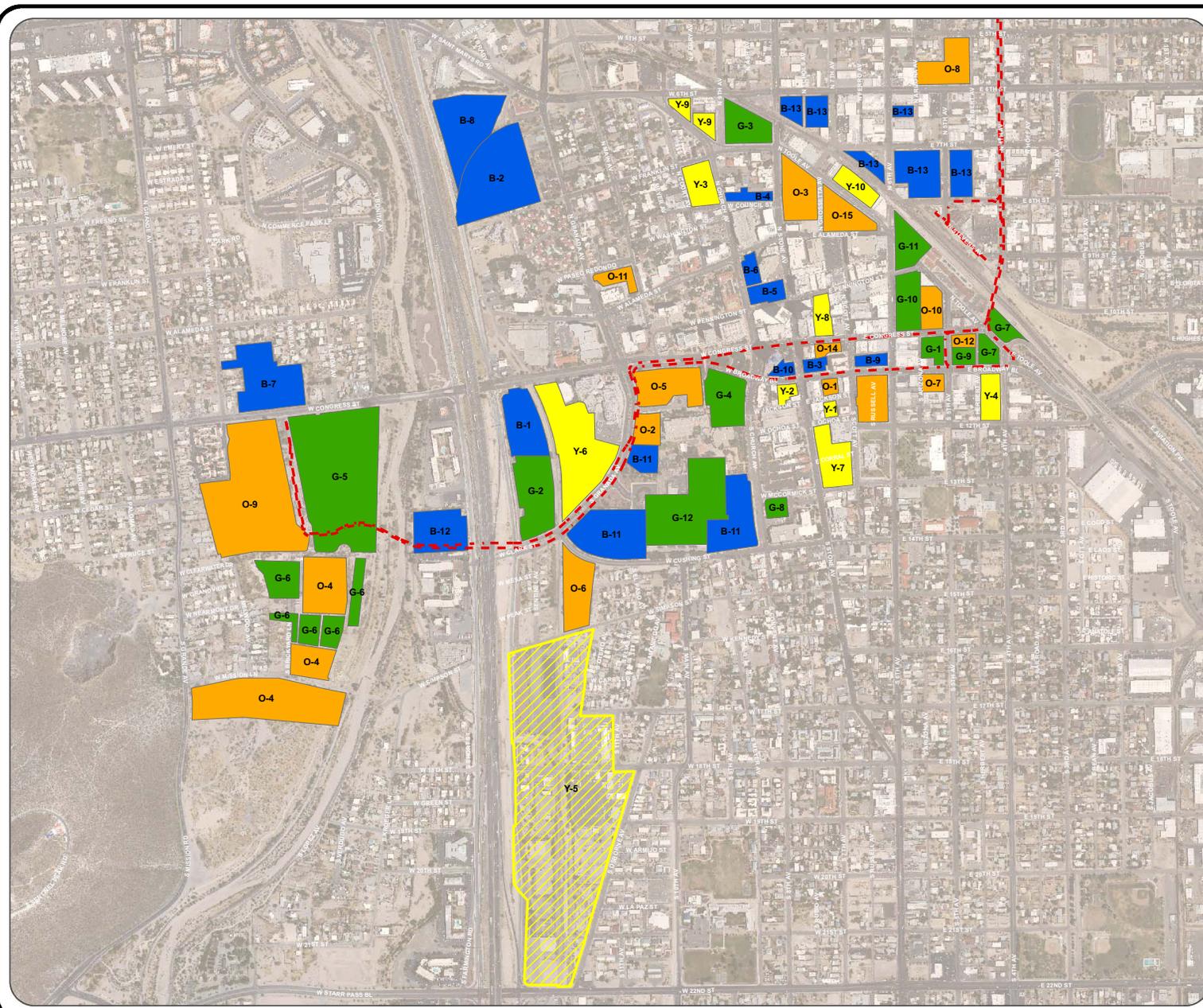


**Tucson
Downtown
Partnership**



T:\pjohns\1\COT\Projects\kleone\008\mxd\projects.mxd

1:10,000



UNDERGROUND UTILITIES

UTILITIES SUMMARY

Tucson Downtown Partnership, via a contract with Bourn Partners, LLC, retained GLHN Architects and Engineers, Inc. to provide civil and electrical engineering services to perform a brief utility master plan for the downtown Tucson planning area. This effort projects existing and future utility loads and assesses the capacity of the selected utilities within the area defined by the 3/5/07 Tucson Downtown Partnership Downtown Development & Infrastructure Projections Map. The area defined by the yellow boundary on this map is referred to in this report as the “Downtown Tucson Planning Area.”

The utilities examined are:

Water	Tucson Water
Sanitary Sewer	Pima County Wastewater
Storm Drain	Tucson Department of Transportation
Telephone	Qwest Communications
Power	Tucson Electric Power
Cable Television	Cox Communications
City of Tucson IT	COT Information Technology Communications Engineering
Pima County IT	PC Information Technology
Others	Level 3 Communications, Broadwing, Wiltel, AT&T, MCI/Verizon, McLeod, Union Pacific Railroad

The City has provided GLHN with utility maps for the first five utilities above; GLHN will obtain additional mapping for these utilities and others as requested and available. The City has also provided GLHN with existing and projected building sizes, occupancies, and locations within the defined downtown Tucson planning area.

The City’s information for existing buildings of all types within the downtown Tucson boundaries is approximately 5.4 million square feet. The City’s projected new construction over the entire planning period is approximately 8.8 million square feet, for a total building area of approximately 14.2 million square feet.

GLHN analyzed existing and future building loads against industry-typical consumption data, and projected existing and future utility requirements for electricity, potable water, sanitary sewer, and natural gas systems. The results of this analysis demonstrate the projected increase in load on the utility systems. The results are presented in aggregate, and for each major street affected by new development shown on the 3/5/07 Tucson Downtown Partnership Downtown Development & Infrastructure Projections Map.

GLHN has also included a discussion of the various Information Technology providers within the downtown Tucson planning area.

Note that the results presented in this utility capacity assessment are not the product of a detailed engineering effort, and are not a substitute for due diligence in design and construction. The capacity analyses are based only upon existing and future aggregate building information

provided by the City, and on industry-typical utility demand and consumption values on a square-foot of building space basis.

Cost opinions within the narratives for each utility are based upon GLHN experience with per-linear-foot cost for complete-in-place piping systems, and line-item breakdowns of materials, labor, and burdens are not provided. Costs have not been adjusted for inflation, and have not been escalated into the future.

Utility Relocations

Locations of all utilities, both above and below ground, are subject to change. Utility systems, particularly communications systems, expand and recombine rapidly. Public and private improvement projects require relocation of existing utilities. The new Justice Court/Municipal Court Complex, located southeast of the Stone Avenue/Toole Avenue intersection, will require vacation of two streets, with necessary relocation of a number of communications systems. Another project in the same area, Toole Avenue Undergrounding, from Stone to 6th Avenue, will also have impacts on aerial power and communications lines in this area. The user of this report should realize that the existing utility locations described in the text and shown on the maps provide a snapshot of the infrastructure at this moment in time.

UNDERGROUND UTILITIES

PIMA COUNTY WASTEWATER

OVERVIEW

The existing sanitary sewer system is owned, operated, and maintained by the Pima County Wastewater Management Department (PCWMD). Most all of the existing sewers in the Downtown Tucson study area are located either within the public right-of-way, or sewer easements.

The downtown wastewater flows are all directed via gravity to interceptors ultimately going to the Roger Road Wastewater Treatment Facility (RRWTF). Roger is permitted at 41 million gallons per day (mgd) and is currently operating at 38 mgd. The estimated 3 to 5 year build-out for the downtown area has projected increased average wastewater flows of 1.1 mgd for dry weather and 3.5 mgd for peak wet weather.

Under the Pima County Regional Optimization Master Plan (ROMP), the Plant Interconnect Project is “funded and under way.” When completed, this infrastructure will move flows from the RRWTF to the Ina Road Wastewater Treatment Plant. This will provide additional treatment capacity and allow a new Roger Road Treatment Plant to be constructed. Estimated completion of the Plant Interconnect Project is December 2010.

Although current treatment capacity is limited at the RRWTF, increased wastewater flows from the estimated 3 to 5 year downtown development should be accommodated.

PCWMD is performing a system wide condition assessment of sewer pipes (15” and smaller) and in the near future, better information on the condition of the sewers downtown will be available. A general recommendation is that as near term development occurs, the utility be contacted early for verification of flow capacity and infrastructure rehabilitation needs for specific individual development plans.

AGE OF INFRASTRUCTURE

The system ranges in size from 6” collector lines, up to the 60” interceptor, which runs along El Paso Southwestern Avenue, located east of Interstate 10. Many of the sewers in the downtown area are very old (over 100 years in some cases). Although they function adequately, making new connections could be a challenge. A majority of the lines located within the study area are constructed of vitrified clay pipe (VCP) and date in age of 30 years or older. Wastewater industry pipe service life values range from 50 – 100 years depending on the type of material. VCP is known for having a long service life value and a 100 life for this type of sewer pipe is not uncommon. Sewers that are more than 60 years old will probably need to be rehabilitated prior to connection.

ASSESSMENT OF CAPACITY

Sewers are available to serve virtually all parcels within the downtown area. Where parcels do not have direct access, only a short extension will be required.

Most sewers have adequate capacity. There are some local bottlenecks and some downstream capacity issues. Since several trunk and interceptor sewers traverse downtown, capacity issues are influenced more by upstream development than by the proposed downtown developments.

Initial cost estimates for rehabilitation, abandonment, and augmentation for the associated development is \$3.5 million. It is expected that most of these costs would be covered under the Pima County Wastewater Management's Sewer Rehabilitation Program.

In addition, PCWMD has an additional 6,700 feet of sewer in their Sewer Rehabilitation Program for the downtown area over the next 10 years with an estimated cost of \$750,000. These costs will also be covered within the Department's Rehabilitation Budget.

STREETCAR ALIGNMENT

The following sewer lines were identified during the early stages of the streetcar project as being located underneath or in close proximity to the conceptual streetcar alignment. Rehabilitation and repair of sewer lines in these areas will be done in-situ, thereby limiting surface disturbance and costs. Potential conflict areas are:

Broadway Boulevard

- 10" sanitary sewer in left curb lane from Pennington to footbridge (600' – 12" replacement) Estimated costs of \$335,000

Congress Street

- 12" sewer line in left curb lane on Congress between Broadway and 4th Avenue (300' – 12" replacement) Estimated costs of \$167,000
- 8" sewer in left curb lane from 4th Avenue to Scott Avenue (1400' -8" replacement) Estimated costs of \$680,000

Granada Avenue

- 15" sanitary sewer along west curb line in southbound travel lanes (650' – 15" replacement) Estimated costs of \$395,000

Manholes and Crossing Sewers

- There are a total of 48 sanitary sewer manholes within or near the modern streetcar alignment. Of the 48 manholes, 25 are assumed to need either adjustments or reconstruction. The cost for this item is \$125,000.
- A total of 14,700 feet of sewer cross the modern streetcar alignment. Adjustment of these sewers is estimated to cost \$ 1,740,000.

House Connection Sewers (HCS)

- It is expected that the Streetcar Project will install HCS taps from the public sewer to the private property line during construction. This will avoid cutting the pavement at a future date when construction takes place on a private parcel. These costs are estimated at \$100,000 and are the responsibility of the property owner or developer.

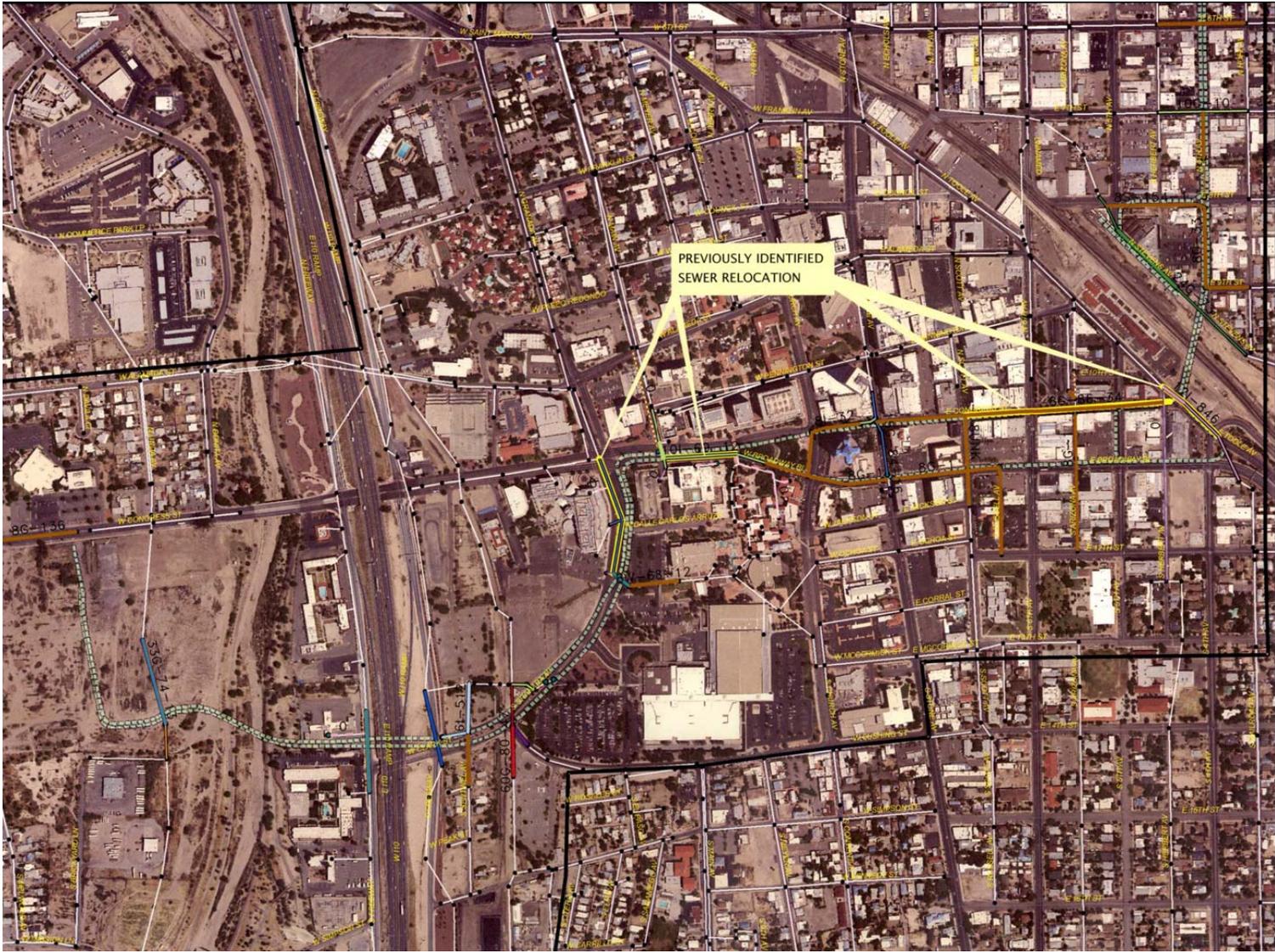
The total cost for all sewer modifications within the modern streetcar route is \$3,542,000 (\$1,740,000 for rehabilitation and \$1,802,000 for relocation/augmentation).

COST & FUNDING

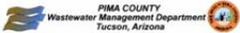
The total for all wastewater system upgrades required in the study area is \$7.8 million. A detailed engineering design is required to properly identify, separate and detail rehabilitation costs and relocation/augmentation costs. Little or no street excavation is expected with sewer rehabilitation since in-situ technology will be the primary methodology used. The City of Tucson or Developers pay for relocation and augmentation costs.

This sewer study is to serve as a “first pass” analysis and estimate for planning purposes. Costs for improvements outside the planning area are not included within this study.

	<u>Total Cost</u>	<u>PCWMD Rehab Cost</u>	<u>Relocation/ Augmentation Cost</u>
PCWMD Rehabilitation Plan for			
Downtown	\$ 750,000	\$ 750,000	\$ 0
New Development	\$ 3,500,000	\$ 2,400,000	\$ 1,100,000
Rehab/Augmentation			
Modern Streetcar Route	<u>\$ 3,542,000</u>	<u>\$ 1,740,000</u>	<u>\$ 1,802,000</u>
Total	\$ 7,792,000	\$ 4,890,000	\$ 2,902,000



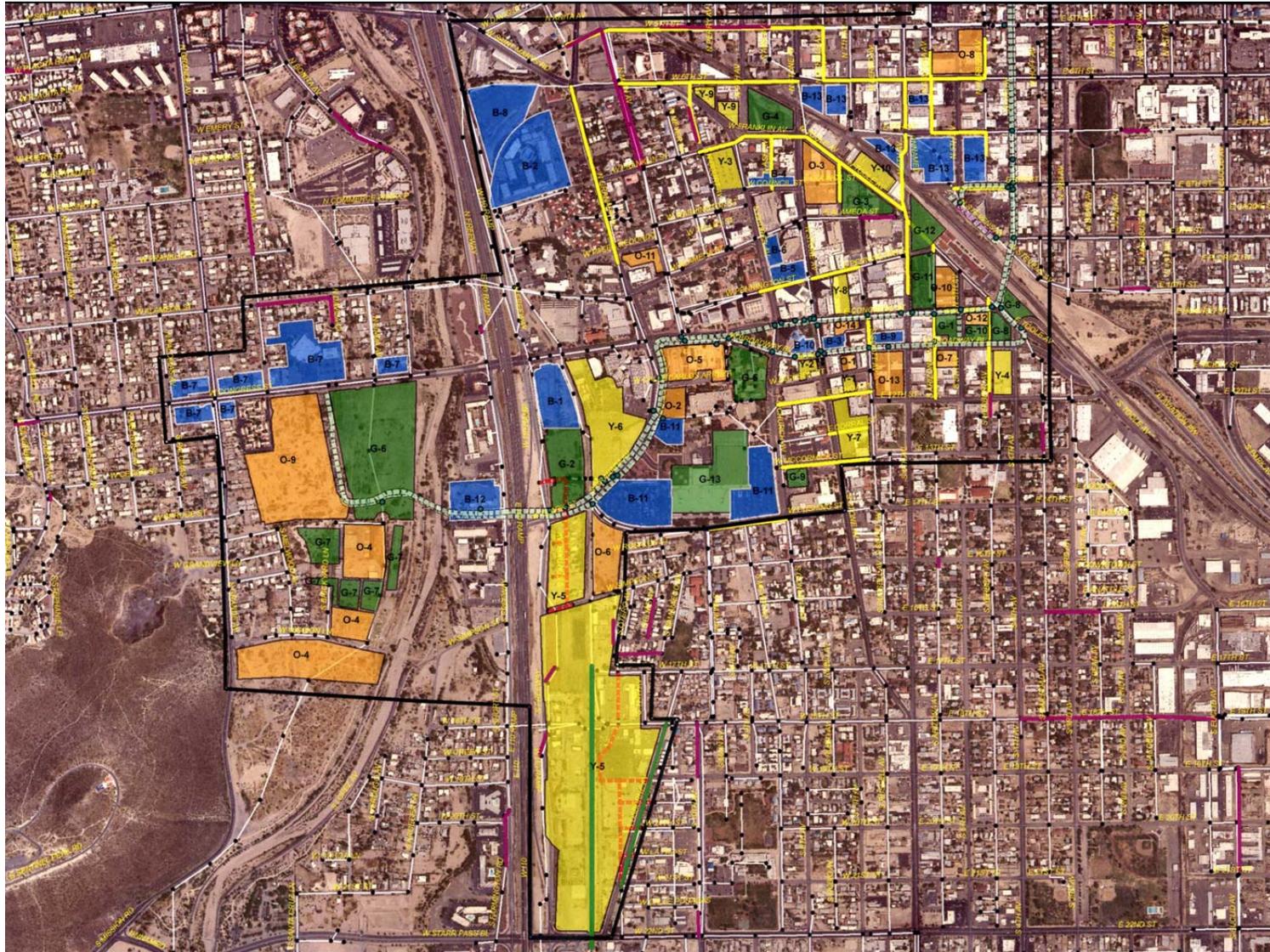
DOWN TOWN DEVELOPMENT



Legend

- StreetCar
- 6" EXISTING_PIPE
- 8" EXISTING_PIPE
- 10" EXISTING_PIPE
- 12" EXISTING_PIPE
- 15" EXISTING_PIPE
- 16" EXISTING_PIPE
- 18" EXISTING_PIPE
- 21" EXISTING_PIPE
- 24" EXISTING_PIPE
- 30" EXISTING_PIPE
- 33" EXISTING_PIPE
- 60" EXISTING_PIPE
- PRIVATE_PIPE
- ABANDONED_PIPE
- EXIST SEWER
- EXIST MANHOLE
- EXIST MANHOLE selection
- PCWMD IMPACT AREA
- PREVIOUSLY IDENTIFIED

MANHOLES IN ALIGNMENT
 45 SEWER MANHOLE
 2 PRIVATE
 1 ABANDONED
 48 TOTAL



DOWN TOWN DEVELOPMENT
 PIMA COUNTY
 Wastewater Management Department
 Tucson, Arizona



- PROJECT STARTS**
- 0-18 MONTHS
 - 19-36 MONTHS
 - 3-5 YEARS
 - 5+ YEARS

- Legend**
- StreetCar
 - EXIST MANHOLE
 - EXIST SEWER
 - ABANDONED SEWER
 - REHABILITATE
 - NEW SEWER
 - PCWMD REHAB
 - EXIST MANHOLE selection
 - PCWMD IMPACT AREA

- PROJECTS STARTING IN 0-18 MOS.**
- O-1 44 E. Broadway I
 - O-2 Carlos Amaza Block
 - O-3 City Courts Courts I
 - O-4 Cultural Plaza/Mission complex
 - O-5 Diamond Park Plaza
 - O-6 Tucson Fire Department
 - O-7 Julian Drew Block
 - O-8 Lofts on 15th Avenue
 - O-9 Mercado District
 - O-10MLA Block
 - O-11Merceda Terrace
 - O-12Jualto Block /Congress
 - O-13Baria Rita Reson/Condo
 - O-14Eva Post

- PROJECTS STARTING IN 19-36 MOS.**
- G-1 200 Block
 - G-2 Arena
 - G-3 City Courts Courts II
 - G-4 El Mirador
 - G-5 La Plaza
 - G-6 Merlo Park 12-acres
 - G-7 Museum complex
 - G-8 Plaza Centro
 - G-9 Tucson Police Department
 - G-10Jualto Block Broadway
 - G-11Ronstadt Transit Center
 - G-12South Avenue & Toole
 - G-13TCC Expansion

- PROJECTS STARTING IN 3-5 YEARS**
- Y-1 44 E. Broadway II
 - Y-2 Bacon Lot
 - Y-3 Block 175
 - Y-4 Fourth Ave. Bridle
 - Y-5 10 Frontage at Cochise - 22nd
 - Y-6 Neville Exhibition Ctr
 - Y-7 Plaza San Agustin
 - Y-8 Pueblo Garage
 - Y-9 Safford West Triangle
 - Y-10Warehouse District South of RR

- PROJECTS STARTING IN 5+ YEARS**
- B-1 10 Frontage at Congress, 4e
 - B-2 Inn Surtes
 - B-3 Chase Bank lot
 - B-4 DOC Council lot
 - B-5 Library Plaza South
 - B-6 Library Plaza West
 - B-7 Merceda extension
 - B-8 Millstone Site
 - B-9 Pima Co. parking lot, Broadway
 - B-10Alliance Tower II pad
 - B-11TCC 1,2,3
 - B-12Merceda lot site
 - B-13Warehouse District North of RR

UNDERGROUND UTILITIES

SOUTHWEST GAS CORPORATION

OVERVIEW

Southwest Gas Corporation (Southwest) owns, operates, and maintains natural gas distribution facilities within the established boundaries of the study area. These facilities are comprised of mains, services, meter set assemblies and pressure regulator stations. Almost all main and service distribution pipes are below ground. Meter set assemblies and pressure regulator stations are above ground. Southwest is typically responsible for the installation of piping (including shading and bedding), valves, cathodic protection, and other distribution components. Developers typically pay the costs of excavation and backfill. New distribution piping is typically limited to 2" and 4" polyethylene.

Southwest has high pressure steel distribution main that extends through the study area along 19th Street, Main Avenue, and Granada Street. An El Paso Natural Gas delivery point located near 19th Street and Ochoa Lane serves this main. This steel main and several other El Paso Natural delivery points serve as sources of supply for many miles of distribution mains and services throughout the study area.

The majority of gas distribution main is located in City of Tucson right-of-way. Main on private property is located in dedicated easements. Rights of way and easements containing high pressure steel main and four inch diameter plastic main are critical to Southwest from the standpoint of supply routes. Within the Congress Street right of way, Southwest has very little main and no services. The gas service to the properties along Congress Street is provided from side streets and adjacent alleys.

AGE OF INFRASTRUCTURE

Southwest has consistently maintained and upgraded the distribution systems within the downtown area. An extensive replacement of early vintage pipe in the study area was performed in the late 1980s and 1990s, with the distribution system now comprised of high-density polyethylene mains and services. The high-pressure steel distribution main was installed in the late 1960s and 1970. A portion of it was replaced in 1987 to eliminate conflicts with construction of the Tucson Community Center. While the steel main is currently in good condition, consideration would be given to replacing the 1960s and 1970 vintage steel in conjunction with the downtown redevelopment.

ASSESSMENT OF CAPACITY

A system analysis has been performed utilizing the project list provided by the City. Based upon projections which have been provided, it has been determined that Southwest has a distribution system in place today within the study area boundaries which would require some minor main and regulator station installations/upgrades over the course of two to ten years at an estimated cost of approximately \$2 million dollars. These upgrades, to be performed in conjunction with development and right-of-way improvements, would improve the integrity and reliability of the existing distribution system.

Southwest does not currently have adequate capacity outside the scope of the study area to supply the total projected requirements for the downtown area. This would require significant upgrades to both Southwest's supply mains and regulation facilities, as well as upgrades to El Paso Natural Gas delivery points. Based upon the project list, it is anticipated the upgrades would need to be performed within the next two to ten years, and are estimated to cost approximately \$5 million dollars in order to support twenty years of growth. However, this value could change substantially depending on the actual future capacity requirements.

STREETCAR ALIGNMENT

The alignment of the modern streetcar has been reviewed to determine the potential impact on Southwest's facilities. It has been verbally reported to Southwest that the excavation depth for the installation of the rails and concrete base is typically 12 inches. Southwest's main and service facilities are typically installed at a minimum depth of 24 inches to a maximum depth of 40." Provided that there are no grade changes to the existing right-of-ways being utilized for the streetcar alignment, Southwest does not see any conflicts.

Southwest does have high pressure steel distribution main running parallel to and crossing the alignment in Granada Street, Congress Street, and Main Avenue. Cathodic protection mitigation measures would need to be installed by Southwest in these locations. Southwest would also perform depth verification of existing facilities in advance of the improvements. Replacement of 1960s vintage steel main near the intersection of Granada Street and Congress Street would be performed prior to the streetcar improvements.

COST & FUNDING

As noted above, a number of improvements to the natural gas infrastructure will be required to meet the projected needs of this project. The cost of natural gas infrastructure improvements that are required to resolve physical conflicts with planned improvements would be covered under Southwest's franchise agreement with the City of Tucson. The cost of natural gas infrastructure improvements that are made to accommodate the needs of this project but are not required to resolve physical conflicts would be paid for by the City of Tucson and/or by the individual developer(s).

The cost of improvements made outside of the study area to increase capacity within the downtown area would be paid for either by the City or the individual developer(s). The cost of improvements made within the individual parcels would be the responsibility of appropriate developer(s). This study did not address these individual parcel development costs since no detailed development plans are available at this time.

Service and main extensions for new business purposes are installed on the basis of economic feasibility. Typically, the costs of these improvements are paid to Southwest Gas in advance of construction as a refundable advance and/or non-refundable contribution. The procedures governing new business are defined in greater detail in Southwest's Arizona Gas Tariff No.7.

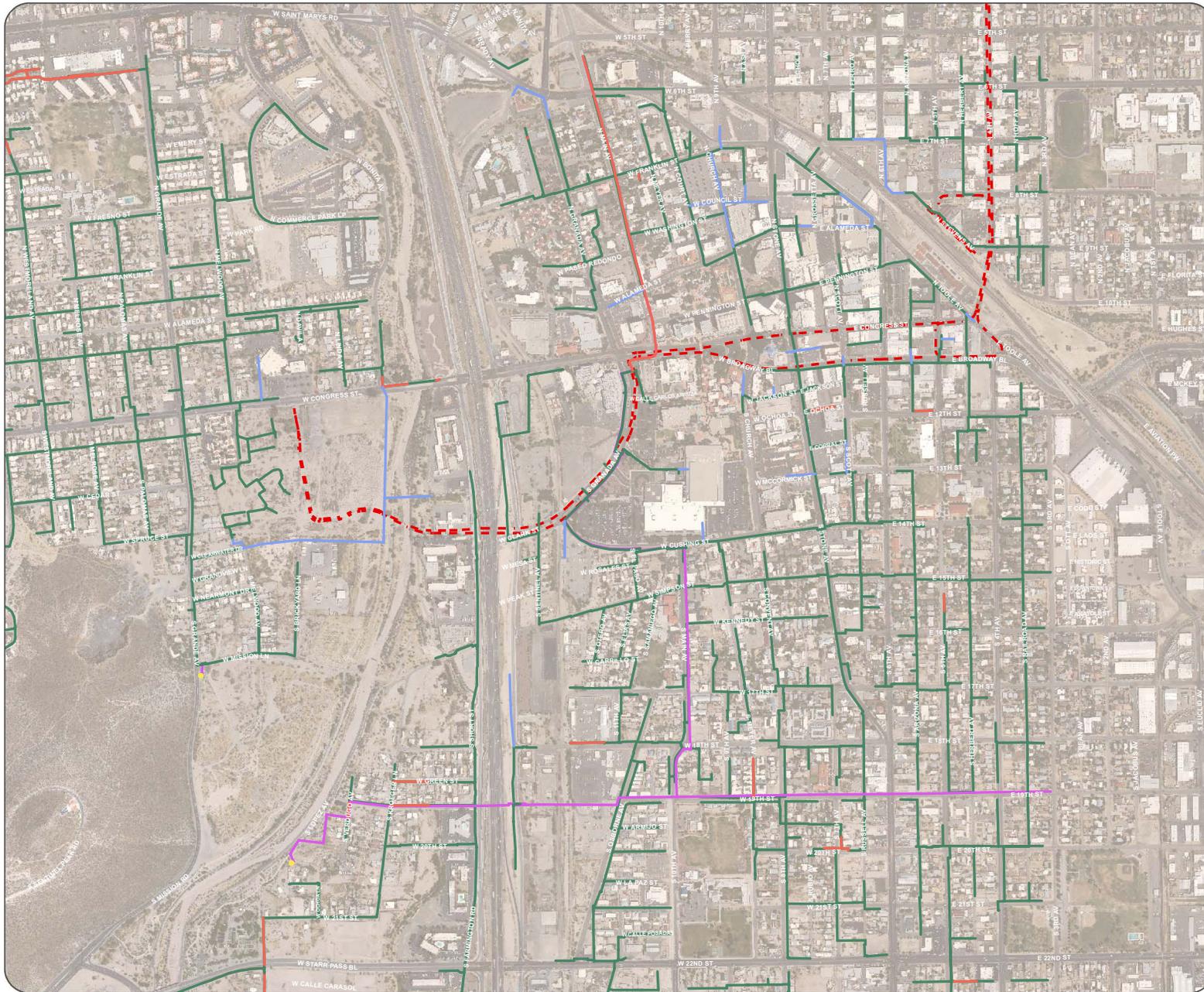
Downtown Infrastructure

Southwest Gas Infrastructure

Legend

Southwest Gas Pipelines

- Distribution
- High Pressure Pipe
- Replacement Vintage Pipe
- Supplier Delivery Point
- System Reinforcement
- Street Car Route



North Arrow
1:10,000



Tucson
Downtown
Partnership



\\johnson1\COT\Projects\k\leone\008\mxd\swsouthwestgas.mxd

UNDERGROUND UTILITIES

STORMWATER (CITY OF TUCSON)

OVERVIEW

The City of Tucson relies on a system of open channels, street flow, underground stormdrains, overland flow (sheet flow) and detention/retention basins for management of storm runoff. Underground stormdrains and public channels make up less than 50% of the conveyance distance for accumulated storm runoff in the study area.

The storm drainage system in most of Tucson is inadequate to convey runoff from fully developed properties. For this reason, a key component of the City's stormwater management plan is onsite stormwater retention requirements, applied to most new development within the City. In addition, Tucson City Code Sections 11-58 and 11-59 require property owners to convey existing runoff through their properties, with intake and discharge characteristics maintained to prevent adverse impacts on surrounding properties.

The Santa Cruz River runs north through the Study Area, separating the Cultural Plaza and Civic Plaza sites and acting as the outfall for all major stormdrain systems.

Two FEMA-delineated 100-year floodplains impact the study area. The 100-YEAR FEMA Floodplain for the Arroyo Chico wash (aka Tucson Arroyo) impacts all the properties north of Franklin and extends south, between Granada and Main, to one block north of Congress Avenue. The FEMA 100 year floodplain for the Santa Cruz River impacts the eastern portions of the Central Plaza site and the Tucson Origins site, as well as a small area between the Santa Cruz and I-10 at Simpson Street.

Flooding on the Arroyo Chico, including inadequate culvert capacity at I-10, should be corrected by the Corps of Engineers Park Avenue Detention Basins project. Design has been completed on this project, but funding has not been committed at this time.

100 Year Flood impacts along the Santa Cruz River can be eliminated by importing fill to raise the ground elevation.

Six watersheds contribute to runoff in the study area. These are:

Watershed	Area (acre)
Tucson Arroyo	7045
Downtown	200
Cushing Street	326
18 th Street	2306
West Bank Santa Cruz River	150+
A-Mountain Diversion Drain *	N/A

* Spruce Street alignment to Santa Cruz River.

AGE OF INFRASTRUCTURE

It is recommended that further input from TDOT regarding system condition of the existing facilities and the associated rehabilitation costs be determined. The age of the stormwater collection system in the study area ranges from 1966 to present, with a majority of the infrastructure installed in the mid 1970s to 1990. The expected service life of these structures is nominal value of 100 years prior to replacement or significant rehabilitation. Since the majority of existing infrastructure is less than 40 years in age; significant infrastructure replacement within the study planning period of 20 years is not anticipated.

ASSESSMENT OF CAPACITY

Limited input from TDOT regarding condition, capacity and relocation costs of storm drain facilities for the Downtown Development project was rendered within the relatively short time frame of data collection for the study. A capacity analysis for existing stormwater infrastructure was not performed, as well, because of limitations of this report. However, within this study new development square footages were added to the Building and Utility Model. The City's information for existing buildings of all types within the downtown Tucson boundaries is approximately 5.4 million square feet. The City's projected new construction over the entire planning period is approximately 8.8 million square feet, for a total building area of approximately 14.2 million square feet. Estimates pertaining to costs are preliminary level estimates only. Detailed engineering and hydrology studies will be necessary as site specific design and development occurs.

GLHN has performed a simplified capacity needs analysis for existing vs. fully developed conditions, provided at the end of this section.

A hydraulic model showing existing flows and projected future added flows was not performed because of costing and timing limitations of this report. Existing TDOT storm water information indicates an established grid and infrastructure of storm drains typical of an urban metropolitan area. Components include: Storm drains, manholes, bank protection, bridges and culverts, catch basins, grates and surface drainage features.

The existing stormwater system is not well developed in the north portion of the study area within the vicinity of 9th Avenue and the Stone Avenue underpass. Proposed improvements are scheduled including a proposed RCP 36" pipe system. A downtown development study area recommendation would be a future RCP system with street catch basins to collect drainage in the area bounded by Main, Franklin, Alameda and Stone Avenue and divert this to an outfall on Congress or Granada with existing storm drain capacity. This recommendation is primarily driven by the lack of existing storm water collection facilities in this portion of the study area. All future development in the study area shall be connected to the existing storm water collection system and use of on-site retention encouraged, if available space exists. Water harvesting techniques should be employed to minimize storm water run off potential as well as maximize the re-use potential of the storm water for landscape irrigation. Reference the City of Tucson Water Harvesting Guidance Manual, for commercial sites for direct application guidance for projects within the study area.

A key component to the City's Downtown Links Project is to correct drainage issues in this area associated with the Tucson Arroyo. The arroyo is undersized to handle all the drainage in the downtown area, which has been a long-standing problem that has resulted in key development

parcels remaining in the 100 year flood plain. Drainage work for the Downtown Links project will result in a new alignment for the arroyo and the replacement of the drainage structure in various locations. Seventy-six million dollars for Downtown Links has been included in the RTA plan, which specifically includes this drainage issue as part of the project. The project is currently in design. The project is programmed for construction in the RTA's second period, which begins in 2011. Cost to correct the Tucson Arroyo deficiencies is expected to be included in the Downtown Links budget.

TDOT's analysis indicates that on the west bank of the river, there is no effective drainage system and the Barrio Sin Nombre area and the Tucson Heritage Park area will have to intercept substantial off-site flows and create an effective drainage system. Plans have been developed to intercept the 'A' Mountain storm drainage across the Mission Gardens site as part of the Tucson Origins Heritage Park project. The cost for this work is included in the funding already allocated for Tucson Origins. Additional storm drains will be required in Grande Avenue extending north to the 'A' Mountain Storm Drain to alleviate flooding in the Barrio Sin Nombre neighborhood. This drainage work and other improvements are estimated at \$5 million as part of the Barrio Sin Nombre Streetscape Improvements.

Barrio Viejo, the Civic Plaza, and the Arena sites as well as the area around Tucson Police & Fire department buildings have inadequate storm drainage. In addition the Fire Central site is adjacent to the Cushing Simpson Wash which has inadequate capacity. The Clark Street Storm Drain Concept Design Report prepared by Tetra Tech, Inc., dated May 2004, has identified the need to reroute or install new concrete box culverts in the Civic Plaza area. Storm drain plans prepared by HDR Engineering, Inc., dated May 2005, have also identified the need for additional or replacement storm drains within or near the westbound frontage road of Interstate 10, near the Civic Plaza area. The additional stormwater mitigation required at the new Arena, TCC expansion project site is estimated at approximately \$3 million. The cost to upgrade the drainage system at the Cushing Simpson Wash is estimated at \$400,000 and is part of the \$5 million for the Barrio Viejo streetscape improvements.

The additional stormwater mitigation required at the new Arena, TCC expansion project site is estimated at approximately \$3 million.

STREETCAR ALIGNMENT

Streetcar utility conflicts have been preliminary identified by HDR Engineers in April, 2007. There are three potential conflicts noted:

Congress Street

- 18" storm drain in left curb lane from Stone to Church Estimated costs to relocate \$87,500

Granada Avenue

- 30" storm drain within northbound lanes near TCC entrance, diagonal towards median
- Exist 10'x3' concrete box culvert at TCC entrance (perpendicular to Granada)

Estimated costs to relocate both of the above features: \$165,000

COST & FUNDING

The total for all stormwater system upgrades required in the study area as assessed by GLHN and City of Tucson Department of Transportation is \$13,252,000 million. TDOT notes that this

estimate addresses only a portion of the stormwater work needed in the downtown area. TDOT was unable to provide cost estimates for these additional improvement projects at the time of this report. The cost to resolve all of the existing drainage deficiencies in the downtown area may be substantially higher than the estimate for the specific development sites covered in this analysis.

GLHN ANALYSIS

GLHN analyzed existing and future building loads against industry-typical data, and projected both the existing and future storm water runoff volumes*. A simplistic approach taken was to use the development square footages, and compare pre-development conditions with full build out conditions and sum the increase of storm water anticipated. The table on the following page provides an analysis on a street by street basis.

The information was taken from the master spreadsheet providing development building footages. This chart represents is a very general presumption as to the increase in development downtown and how it will effect the storm water system. The development sites were organized into street by street categories. The square footages for the proposed development were tallied for each street. A pre development coefficient of runoff was assumed with a semi- permeable surface. Q100 values were calculated in CFS for this condition. A post development coefficient of runoff factor was used assuming a near impervious surface (asphalt, roofs, concrete). Q100 values for the street were again calculated and then compared to original conditions.

DEVELOPMENT RELATED ESTIMATED INCREASES IN STORMWATER RUNOFF *

<u>Street Location</u>	<u>Total sq ft. =</u>	<u>Pre (CFS)</u>	<u>Post (CFS)</u>	<u>Increase (CFS)</u>
<u>4th Avenue</u>	110,000	4.6	7.6	3.0
<u>5th Avenue</u>	392,000	16.4	27.3	10.9
<u>6th Avenue</u>	413,000	17.2	28.7	11.5
<u>Alameda</u>	1,351,000	56.4	93.9	37.5
<u>Broadway</u>	1,014,000	42.3	70.5	28.2
<u>Church</u>	2,147,000	89.6	149.3	59.7
<u>Congress</u>	3,776,000	157.5	262.5	105.0
<u>Council</u>	88,000	3.7	6.1	2.4
<u>Franklin</u>	297,000	12.4	20.6	8.2
<u>Granada</u>	404,000	16.7	28.0	11.3
<u>I-10 Frontage</u>	1,647,000	68.7	114.5	45.8
<u>Main</u>	66,000	2.8	4.6	1.8
<u>Meyer</u>	6,000	.3	.4	.1
<u>Mission Lane Road</u>	477,000	19.9	33.1	13.2
<u>Paseo Redondo</u>	1,027,000	42.8	71.4	28.6
<u>Pennington</u>	105,000	4.4	7.3	2.9

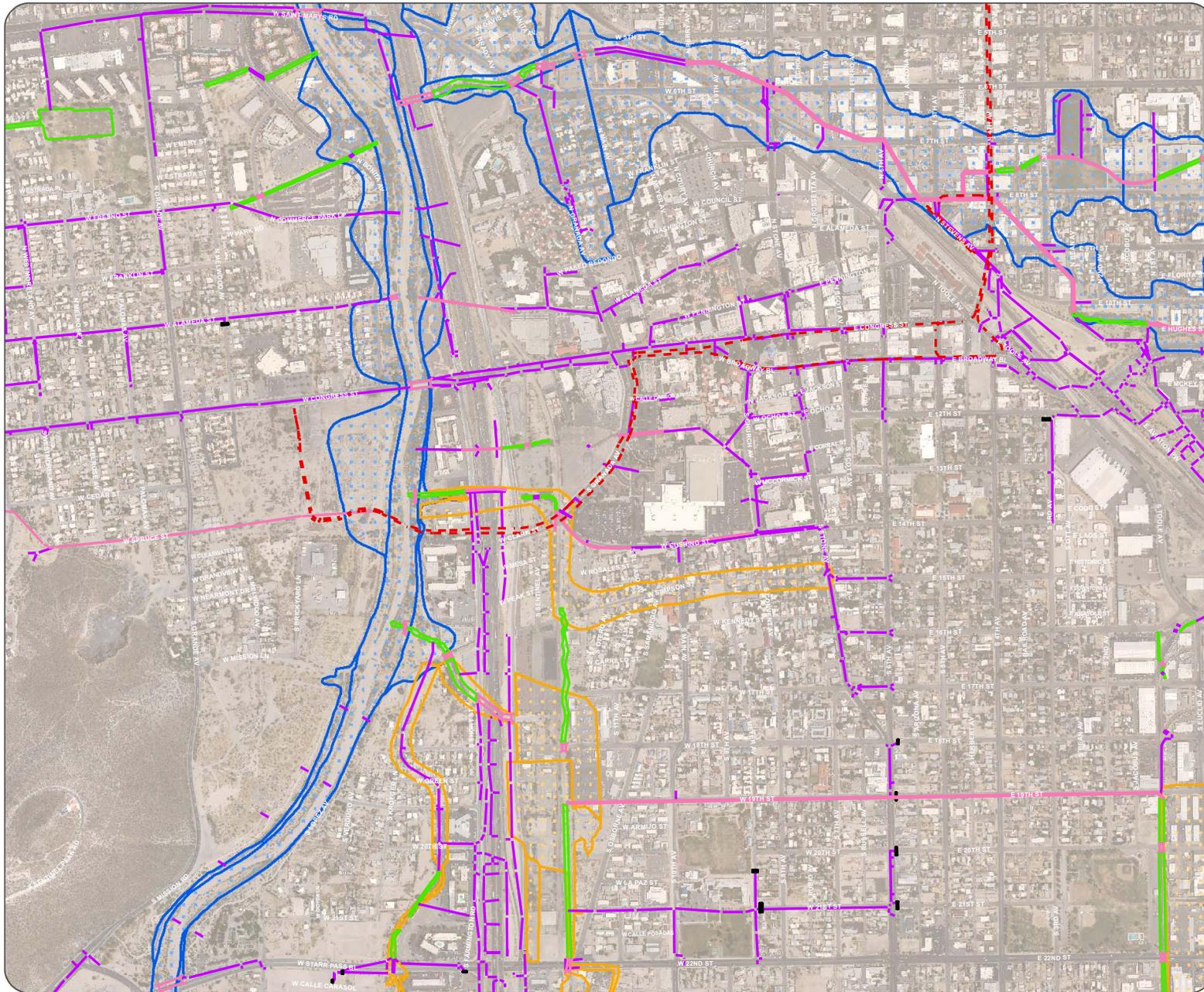
<u>Scott</u>	158,000	6.6	11.0	4.4
<u>Stone</u>	1,650,000	68.8	114.7	45.9
<u>Toole</u>	224,000	9.3	15.6	6.3
<u>Rail Road Frontage</u>	330,000	13.8	22.9	9.1
				TOTAL = 435.8 CFS

Downtown Infrastructure

Stormwater Existing Infrastructure

Legend

- Street Car Route
- Bridges and Culverts
- Grates
- Pipes
- Open Channels
- COT Identified Significant Flood Hazards
- 100 Year FEMA Flood Plain



N
1:10,000



Tucson
Downtown
Partnership



\\johnso1\COTProjects\k1eone\008\mxd\stormdrain.mxd

UNDERGROUND UTILITIES

TUCSON ELECTRIC POWER

OVERVIEW

The electrical franchise holder for the downtown Tucson area is Tucson Electric Power (TEP), who has sole distribution rights within City of Tucson rights-of-way. Existing TEP feeders in the downtown Tucson planning area are typically served from the Santa Cruz substation on the east bank of the Santa Cruz River, and the Tucson substation near St. Mary's Road and Main Avenue

Within the Tucson Convention Center, Tucson District Energy LLC generates electricity in parallel with TEP, and provides much of the power requirements of the Tucson Convention Center and the headquarters buildings for the Tucson Police and Tucson Fire Departments. Tucson District Energy's system is not considered further in this report.

Although some telecommunications providers, in particular Qwest and Cox Communications, often share a common trench or overhead line locations with TEP, they are considered under the Information Technology section of this report.

AGE OF INFRASTRUCTURE

The majority of TEP's distribution lines in the downtown area are 40 to 60 years old. Approximately 35 concrete vaults and pullboxes are located in the downtown study area. The majority of these concrete vaults were constructed between the late 1940s and the early 1970s. Many of these vaults contain abandoned cables that occupy space with newer distribution lines. Fiber optic cables from several of the downtown communication companies also run in these vaults. There are six vaults along Congress Street and Broadway Boulevard. Several of these are located beneath the newly-approved streetcar route.

ASSESSMENT OF CAPACITY

Most of the existing underground system in the downtown area is at or near capacity based on its original design. Adding additional load without upgrading the system is not possible. In recent years there have been various electrical upgrades to some of the buildings in the downtown area. Utilizing these facilities will be factored in on a spot demand basis. These upgrades are not expected to contribute significantly to meeting future demand.

Power supply to some areas is complicated by lack of available open space needed for the placement of transformers and switch cabinets. The street-front, zero lot-line configuration that characterizes much of the downtown area is a major obstacle to increasing electrical capacity to existing older buildings.

Calculations for future capacity loads were derived from information provided by the Infrastructure Task Force to TEP on anticipated future development. The baseline assumptions provided are as follows: the area of existing buildings of all types within the study area is 5.4

million square feet, projected new construction over the entire planning period is estimated at 8.8 million square feet, for a total built-out area of approximately 14.2 million square feet.

To meet anticipated future development loads, TEP has determined that a new 138kV substation will be required to serve the 38,000 Kilowatt of additional load for the ultimate 20 year build-out in the downtown area. The exact substation location cannot be determined at this time, however, the preliminary location would be somewhere along the Congress Street corridor on either the east or west ends of the downtown area. This substation would be served from an overhead 138kV line. A new overhead 138kV line and the possible upgrading of the existing 138kV system would also be required. The approximate cost for a new 138 kV substation is \$8-9 million dollars. This cost does not include land acquisition, underground feeder routes, and the 138kV overhead line. These items have too many variables to determine an approximate cost at this time.

Along with a new substation, additional distribution feeders will be needed. These feeders will run east/west and north/south (see drawing), and will consist of one or two 6 - inch conduits with associated pullboxes and manholes. They would terminate in above grade switchgear and would be distributed to customers throughout downtown. Additionally, TEP recommends that 6 - inch sleeves be placed in all streets undergoing improvements, before trenches are backfilled. The exact quantity and location would be determined at the time of the roadway design.

If the City decides to rebuild downtown streets, including major excavating and trenching, TEP would evaluate the existing underground electric infrastructure and possibly look to modernize aging below-grade equipment. The long-term benefits of these improvements could be very significant given the limited available property for above-ground facilities.

MODERN STREETCAR

The streetcar project will affect underground TEP facilities within the Broadway Boulevard, Congress Street, and Granada Avenue alignments. It is tentatively estimated that the cost to relocate and/or improve the underground TEP conduit system under these streets is \$1,900,000. This cost does not include vaults and pull boxes.

TEP has reviewed the preliminary route of the streetcar and have the following comments:

- The catenaries for the historic trolley along 4th Avenue provide adequate clearance for TEP overhead transmission lines. If the catenary elevations for the modern streetcar are higher and do not provide adequate clearance from overhead TEP lines, the lines will have to be altered (undergrounded or raised). If catenary heights remain the same as those on 4th Avenue, there should be minimal conflicts with the existing overhead system downtown.
- TEP has underground facilities in Congress Street, Broadway Boulevard, Granada and 5th Avenue. These facilities include pullboxes and manholes which may need to be relocated if the streetcar tracks pass over them.
- TEP has overhead lines at Arizona Avenue crossing Broadway Boulevard and at Sentinel Ave crossing Granada. The heights of the existing power lines may need to be adjusted to accommodate the streetcar.
- TEP has a 138 kV transmission along the Santa Cruz River and the streetcar will be passing under. These facilities may need to be adjusted depending on the exact height of the street and associated equipment.

- There are several underground vaults under the proposed streetcar route. It may be determined after further evaluation that these vaults need to be relocated due to stray electricity from the streetcar, because of conflicts with the placement of catenary pole footers, or as a response to the 4 foot cone of pressure that will be exerted by the streetcar on the underground system.

OVERHEAD TO UNDERGROUND CONVERSION

There are approximately 20,200 linear feet of overhead lines within the study area boundaries development. Approximately 12,000 linear feet of these lines lie along major streetscape improvement routes and are strong candidates for undergrounding. The approximate cost is \$300 a foot for a total of \$3.6 million. This figure does not cover residential areas or the area on Toole Avenue, Stone Avenue and 4th Avenue. This does not include transformers, secondary distribution, land costs for easement acquisition, or underground relocation of Telco and cable television. This cost should only be used for 13.8kV distribution lines, 46 kV and 138kV were not considered.

The overhead cables that are located along Toole Avenue corridor from Stone Avenue to 4th Avenue are currently being designed for conversion to underground. This is being done on two projects that are currently under contract: the 4th Avenue Underpass Project and the Pima County Courts building. Additionally, there are two underground feeders that will be relocated from the Council Street alignment to Alameda that is in conflict with the new courts building. TEP suggests that in addition to the undergrounding requirements of these two projects, an additional 6 – inch conduit be placed in the trench with the two feeders that are being relocated.

COST & FUNDING

The City of Tucson/TEP franchise agreement, TEP rules and regulations, and subsequent contract agreements may determine how system improvements will be funded.

Typically, the costs of expanding the power system are shared between TEP and the developer. Costs of expanding an overhead distribution system are almost entirely borne by TEP. Underground distribution system costs are shared between TEP and the developer or the city, divided on the basis of work additional to that required for an overhead system. When relocating an existing system to accommodate out-of-rights-of-way developer improvements, the developer may carry a greater share of the relocation costs. When relocating an existing system to accommodate City roadway or drainage improvements, TEP is required to assume the relocation costs. The City of Tucson/TEP franchise agreement and the TEP Electric Service Requirements Book carry full information on responsibilities for work on the power system.

According to TEP, costs associated with relocation of underground cable along the streetcar alignment are the responsibility of the “light rail system,” not TEP (see A.R.S. Sec. 48-5315 for more information). TDOT staff believes that this provision does not apply to Tucson’s modern streetcar because it is not considered a “light rail system.”

Downtown Infrastructure

Tucson Electric Power
Existing Infrastructure

Legend

- + Life Support Premise
- Premise
- ⊙ Primary Meter
- Transclosure
- Steel Structure
- Substation
- OH Service
- OH Primary
- OH Secondary
- Jumper Span

Subtransmission Line

- 138 kV
- 46 kV



1:10,000

The information contained herein is for informational purposes only, and is provided without warranty of any kind, expressed or implied, and without any guarantee as to accuracy or currency. This data is not suitable for location or excavation purposes. The Blue Stake Center should be contacted at 1-800-782-5348 two working days before excavation. The risk of using this information is assumed by the user and Tucson Electric Power Company shall not be liable for any damages arising out of or in connection with use of the information. This information is the property of Tucson Electric Power Company and shall not be redistributed to any other party in digital or hard copy form without prior written approval from Tucson Electric Power.



**Tucson
Downtown
Partnership**



Downtown Infrastructure

TEP Communications
Anticipated Infrastructure
Needs

Legend

 Street Car Route

 Single 6" Duct

 Double 6" Duct



1:10,000

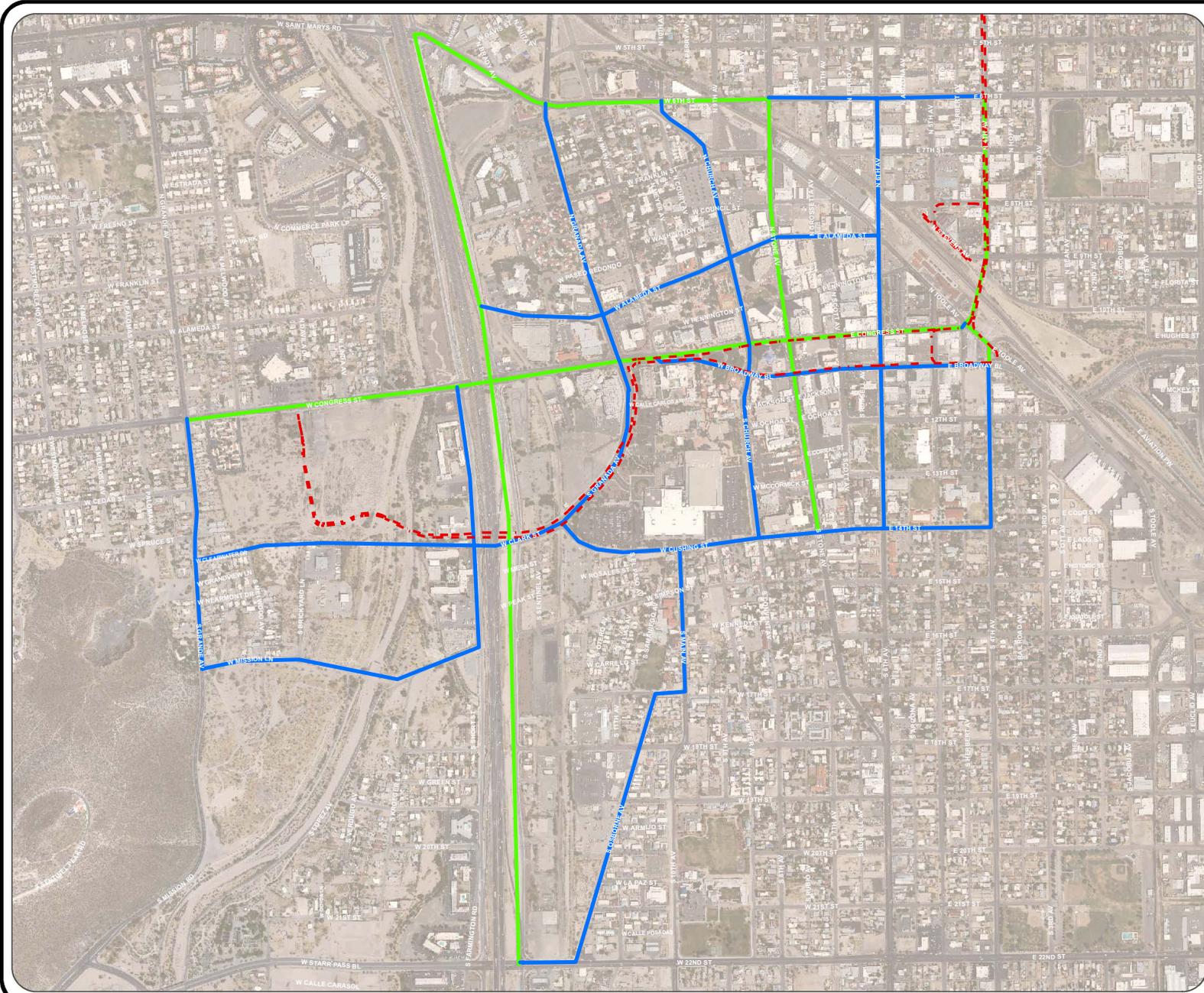
"The information contained herein is for informational purposes only, and is provided without warranty of any kind, expressed or implied, and without any guarantee as to accuracy or currency. This data is not suitable for location or excavation purposes. The Blue Stake Center should be contacted at 1-800-762-5348 two working days before excavation. The risk of using this information is assumed by the user and Tucson Electric Power Company shall not be liable for any damages arising out of or in connection with use of the information. This information is the property of Tucson Electric Power Company and shall not be redistributed to any other party in digital or hard copy form without prior written approval from Tucson Electric Power."



**Tucson
Downtown
Partnership**



\\johnson1\COTProjects\kleone\008\mxd\slp_infrastructure.mxd



UNDERGROUND UTILITIES

TUCSON WATER

OVERVIEW

The potable (drinking) water system located in the downtown development plan area is owned and maintained by the City of Tucson Water Department (COTWD). The majority of these water lines are within the public right-of-way. Only in a few instances are water lines located within privately owned properties which require a water line easement. Tucson Water's system ranges in size from 1" diameter pipes to 36" diameter. Pipe material varies and includes ductile iron pipe (DIP), cast iron (CI) polyvinylchloride (PVC), concrete cylinder pipe (CCP), and cement asbestos (CA) pipe.

AGE OF INFRASTRUCTURE

Water service life for pipeline varies on location, pipe material and water chemistry, but a conservative value is 50-60 year service life. Pipes considered for replacement are those which are 40 years and older assuming that within the project planning period of 20 years, replacement or rehabilitation will have to be done.

Costs for replacement were calculated by identifying footages and diameters and then multiplying by unit construction costs. Small diameter pipes less than 4 inch will be replaced with 6 inch diameter to comply with current Tucson Water Design Standards. The Design Standards require 6 inch or greater pipe diameters for adequate pressure and flow for fire suppression. The total cost for replacing pipes in the area is \$ 6.8 million.

ASSESSMENT OF CAPACITY

For the entire area of this study, the service area is within one pressure zone, designated "A" zone by COTWD. This water system is typical of other Tucson service zones in that redundant reservoirs located at pressure zone high-water elevations, provide constant pressure and water supply under various demand scenarios. The City's information for existing buildings of all types within the downtown Tucson boundaries is approximately 5.4 million square feet. The City's projected new construction over the entire planning period is approximately 8.8 million square feet, for a total building area of approximately 14.2 million square feet.

GLHN analyzed existing and future building loads against industry-typical consumption data, and projected existing and future utility requirements for potable water demands. Hydraulic modeling analysis was carried out to determine possible main transmission upgrades (larger diameters) for future demands. Results indicated that current transmission mains have enough capacity to supply future water demands. Projected water demands from the building and utility model were estimated two ways: by population and by building square footage. Both methods produced fairly close results. The building and utility model projected water daily demand is 2,150,000 gallons per day (based upon projected occupancy populations). The existing water system for the study area inventory of total footage is approximately 100,000 linear feet.

Reclaimed Water

Reclaimed water service is currently available in some of the downtown Rio Nuevo development area; however, main extensions and new laterals will be required to serve many of the facilities identified for reclaimed water service. The Business Improvement District (BID) currently does not have any reclaimed mains or extensions. A determination of the economic and practical feasibility of making these improvements is recommended prior to committing to service. Consideration should be given to the volume of reclaimed water to be delivered to the individual facilities, the Rio Nuevo area, and beyond versus the cost of the infrastructure to supply it. Opportunities to combine reclaimed water system construction with other street/pipeline work should also be considered.

It is recommended that funds be set aside for the enhancement of the reclaimed system in the downtown area. For the purpose of preliminary budgeting, funds for 2 miles of 8" reclaimed water pipe (\$1,500,000) should be set aside. This cost estimate includes 30% for contingency.

Reclaimed water use is governed by ADEQ regulations (Title 18, Chapter 9) and the Uniform Plumbing Code. The Plumbing Code prohibits reclaimed water for residential toilet flushing. The ADEQ regulations contain rules for the operation of sites using reclaimed water, i.e. irrigation can be done only during times when the potential for public is minimized and ponding and runoff of reclaimed water is prohibited.

Plant One Relocation

Tucson Water operates a citywide maintenance facility at 18th Street and Osborne Avenue. It is on twelve acres of land. Operations located there include daily maintenance crews, dispatch, meter readers reporting to work for billing customers, equipment maintenance, electronic shop, welding shop, fueling, Bluestake locating services, training, planning/scheduling, administrative offices, meter shop, salvage, and Backflow offices.

This is a critical facility for Tucson Water. The development plans for downtown require the relocation of this facility. Costs for rebuilding the facility including additional offices will be approximately \$40 million. The total required relocated building square footage is from a space analysis of all the current and future uses of the facility. Cost estimates were taken from recent construction costs of a new similar, maintenance facility on the east side of Tucson.

It is anticipated the Plant One Relocation project design and construction will be coincident to the Kino Boulevard/22nd St RTA Project. Design starts in 2011 with construction in 2014.

STREETCAR ALIGNMENT

This category of water work involves moving all pipes in the route of the modern streetcar. Pipes need to be relocated due the excessive cost of system maintenance below the streetcar alignment. The methodology for the analysis was to calculate costs to move pipes for the modern streetcar started with the creation of a GIS data set of the modern streetcar route. Next buffers were created along this route. All water infrastructure within the buffer was selected. Additional costs were included for cathodic protection required to reduce the potential for accelerated pipe corrosion from stray electric currents in the vicinity of the streetcar system.

The following potential water utility conflicts were identified during the early stages of the streetcar project:

- Broadway Boulevard - 16" water line in left curb lane from Church to Broadway/Congress split

- Congress Street - 8" water in/near left curb lane from Stone to Pennington (Federal Building)
- Granada Avenue - 24" water line along east curb line (off street near Hotel Arizona); 16" water in median of Granada, southwest to Cushing

The total estimated cost for removing and relocation of all waterlines in the streetcar route is \$4.1 million.

COST & FUNDING

Water costs were derived from GIS and hydraulic model analysis of modern streetcar routes, approximate future demands of specific projects in the downtown area, age and materials of the water system. These costs provide an order-of-magnitude estimate of the capital costs of water projects that are required in the downtown area for the Rio Nuevo development. These cost estimates were made without detailed engineering design data and are based on previous bids of similar construction projects. Capital cost estimates were not adjusted for inflation. Contingency cost was calculated as 30 percent of the total cost estimate. The total costs are \$52.4 million. Costs for improvements outside the planning area are not included within this study.

TUCSON WATER PLANT ONE RELOCATION

SPACE SUMMARY

WORK GROUPS	BLDG SQ.FT.	SHOP/ WAREHOUSE SQ.FT.	EXTERIOR SQ.FT.	TOTAL SQ.FT.
O&M Central Mx., Sys. Supt.	7,771	5,520		13,291
O&M Sys. Maintenance	5,579	24,540	95,718	125,837
Customer Svc Metering	2,890			2,890
Planning & Engineering	17,011	8,640		25,651
Common Areas	17,160	48,000	241,200	306,360
Totals	50,411	86,700	336,918	

COST SUMMARY

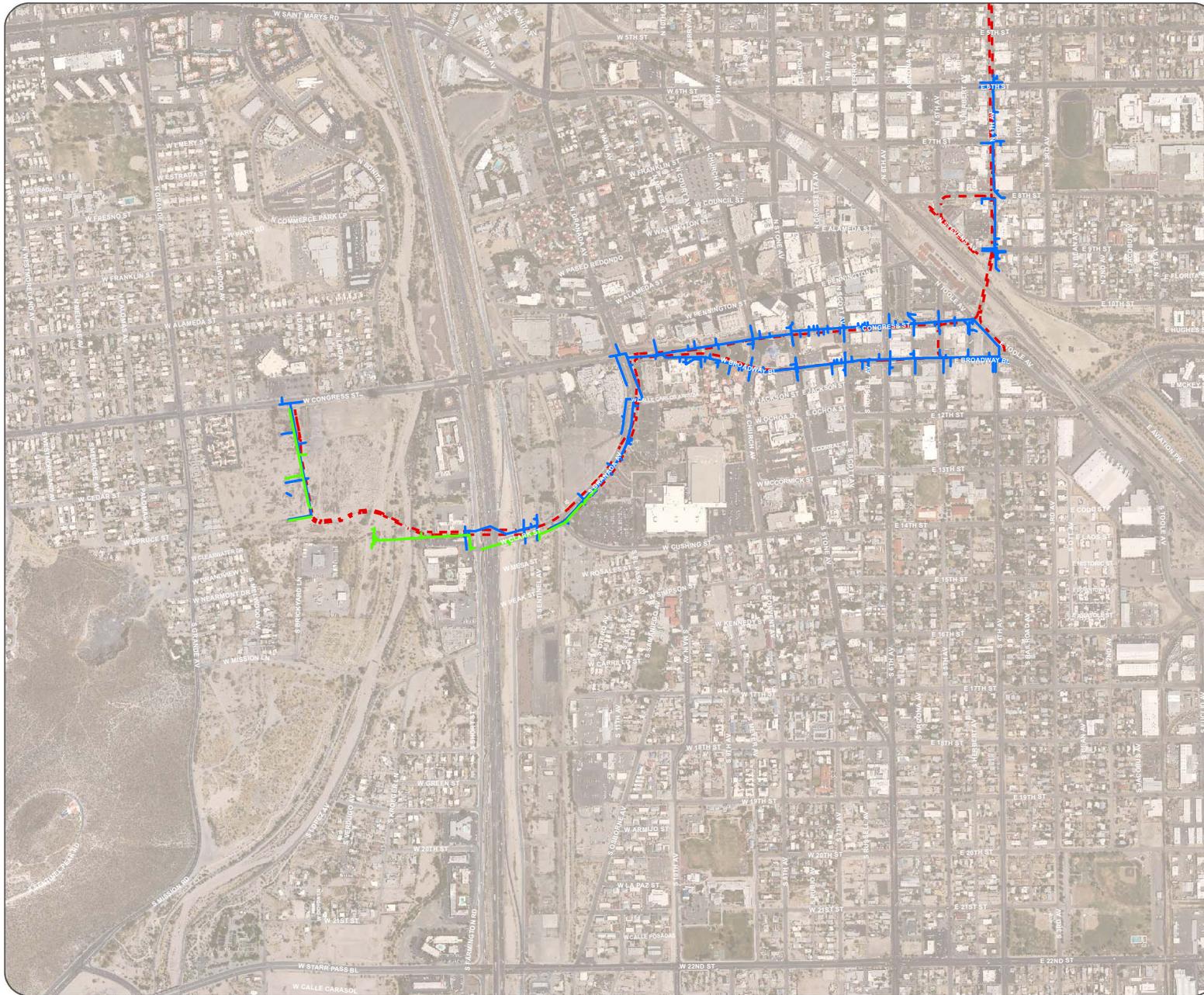
Unit Costs \$/SQ.FT.	\$ 250.00	\$ 175.00	\$ 10.00	
Construction Cost	\$ 12,602,700	\$ 15,172,500	\$ 3,369,180	\$ 31,144,380
Contingency	25%			\$ 7,786,095
Professional Fees	10%			\$ 778,610
Totals				\$ 39,709,085

Downtown Infrastructure

Tucson Water Lines and Street Car Alignment

Legend

- Potential Street Car Conflict - Non-Potable Water
- Potential Street Car Conflict - Potable Water
- Street Car Route



1:10,000



**Tucson
Downtown
Partnership**



INFORMATION TECHNOLOGY

CITY OF TUCSON FIBER NETWORK

OVERVIEW

The City of Tucson fiber optic network infrastructure currently connects City of Tucson buildings in the downtown area. In addition the City of Tucson fiber network has existing and planned connections to all public schools in the area. The system is operated by the City of Tucson Department of Information Technology, Communications Engineering. City of Tucson Fiber Network facilities are identified as City of Tucson INET in the records of the Arizona Blue Stake Center.

Regulations pertaining to the Tucson Fiber Network can be found in the Tucson Regional Networking and Communications Guidelines (latest edition), published by City of Tucson's Department of Information Technology, Communications Engineering. This guideline establishes the underground infrastructure requirements for the City's wide-area data, voice, and video network. In particular, refer to the Rio Nuevo Planning and Design Objectives and the Rio Nuevo Execution Requirements.

Refer also to the Rio Nuevo Utility Master Plan, prepared by GLHN Architects and Engineers Inc. in 2006, which depicts utilities within the Rio Nuevo planning area in more detail.

ASSESSMENT OF CAPACITY

The City of Tucson Fiber Network is currently only partially extended within the study area. Some conduit for future use is in place east of the Tucson Convention Center, and there is fiber optic cable connectivity to the TCC, Music Hall, and Leo Rich Theater.

Current City policy provides for installation of fiber optic conduit on any City projects that provide open trenching along critical communication areas. (See attached memo.) Although the Modern Streetcar project will not require significant trenching as part of the track construction, it is expected that the City would wish to take advantage of major-street excavation to install a 4" conduit in the Congress Street, Broadway Boulevard, and Granada Avenue alignments as part of the modern streetcar project. This cost, including approximately 10,000 feet of underground 4" conduit and pull boxes located approximately 500 feet apart, is estimated at \$1 million.

Unlike other major metropolitan markets, Tucson has not created a comprehensive Wi-Fi free zone to date. Information Technology staff are currently working on a feasibility study on creating a free-zone downtown, as well as extending this service throughout the metropolitan area. The results of this study will be presented to Mayor and Council sometime in May or June of 2007.

The downtown system will be comprised of a series of Wi-Fi access points mounted on rooftops, streetlights, and City of Tucson facilities. Some fiber optic cable may have to be installed underground to support the system. The cost estimate for the creation of a downtown Wi-Fi free zone is \$5-\$6 million.

INFORMATION TECHNOLOGY

COX COMMUNICATIONS, INC.

OVERVIEW

The cable television franchise holder in the downtown Tucson area is Cox Communications, who also provides information services, broadband communications services, and high speed data transmission lines to the area customers. Cox Communications typically installs all work related to their system, including conduit, cabling, and equipment.

AGE OF INFRASTRUCTURE

The age of the existing system is reported to be in good condition. What few facilities exist in the core downtown area were installed between 1983-85 at the time of Cox's first franchise agreement with the city.

ASSESSMENT OF CAPACITY

Cox Communications has provided a conceptual drawing to GLHN Architects and Engineers, Inc., showing existing Cox fiber optic routes and possible routes of new 4" conduit that would be required to support future development within the downtown planning area. The drawing shows 66 vaults, and approximately 23,000 feet of underground 4" conduit. The cost for these improvements is estimated at \$2.3 million.

Except for a 1-½ block area between Arizona Avenue and Scott Avenue, Cox Communications does not have service or conduits along the streetcar route east of I-10. Additionally, south 6th Avenue from Toole Avenue to Cushing Street, and Stone Avenue from Pennington to McCormick Street are also without service.

STREETCAR ALIGNMENT

The Cox Communications drawing shows little existing facilities in the streetcar route. Short runs on Congress Street between Scott Ave – 5th Ave and from Granada Ave east to the Pima County complex are shown. Cox shares a vault with Qwest at an average depth of 36 inches at those locations. The cost to relocate approximately 1000 feet of underground facilities is estimated at \$200,000. These estimates do not include trenching.

COST & FUNDING

The costs for relocating an existing system to accommodate out-of-right-of-way developer improvements are usually borne by the developer or Cox Communications. The cost of relocating an existing system to accommodate City roadway or drainage improvements are usually borne by Cox Communications in accordance with its franchise agreement with City of Tucson. The company shares overhead pole lines and underground trenches with Tucson Electric Power, and their routes generally follow those of TEP.

MCI NETWORK SERVICES (PARENT COMPANY VERIZON)

OVERVIEW

MCI Network Services (recently purchased by Verizon) provides voice and data communications services to business customers in the downtown area. MCI is one of three Competitive Local Exchange Carriers (CLEC's) operating in the downtown Tucson area.

MCI Network Services has a business office and communication node at 71 E. Alameda Street, now identified as the Verizon office.

MCI facilities in the downtown area are mainly located underground, in a system of company owned and rented ducts. South of 15th Street and west of I-10, MCI shifts to aerial facilities. MCI facilities are typically buried at a depth of 36 to 48 inches and are not encased in concrete unless 36-inch depth could not be achieved.

MCI also has long distance underground fiber optic facilities, but these are contained entirely within the Union Pacific Railroad right-of-way.

AGE OF INFRASTRUCTURE

No response was received on infrastructure age.

ASSESSMENT OF CAPACITY

MCI has no plans for expansion of the local network in Tucson at this time. Relocation of underground cable (possibly to temporary aerial cable attached to TEP poles) will be required in the area of the new Justice Court/Municipal Court Complex, located southeast of the Stone Avenue/Toole Avenue intersection.

STREETCAR ALIGNMENT

MCI has duct runs parallel to and crossing the planned Modern Streetcar track location on Congress between Pennington and Granada, and on Granada south of Congress.

At this time no determination has been made on whether upgrades or relocations of MCI facilities will be needed in connection with the Streetcar construction. Verizon's normal policy is to remain in place unless its facilities are directly impacted or put in jeopardy by construction activities.

COST & FUNDING

Relocation required by public roadway improvements will be paid for by the company. Occasionally the City of Tucson offers joint trench opportunities, where the City pays for the cost of the trench and (possibly) conduit installation.

INFORMATION TECHNOLOGY

PIMA COUNTY FIBER NETWORK

OVERVIEW

Pima County Information Technology (PC IT) has leased Tucson Electric Power spare underground ducts where available.

Pima County desires to establish connectivity between an existing pull box on the NW corner of Pennington and Congress Streets, and the County Detention facility at Silverlake Avenue and Mission Road. To this end, the Utility Master plans shows conduit through Rio Nuevo to the southwestern boundary of Tucson Origins Heritage Park; other work along Mission Road should take any opportunity to further this conduit path.

It is expected that Pima County would wish to take advantage of major-street excavation to install a 4" conduit in the Congress Street, Broadway Boulevard, and Granada Avenue alignments as part of the modern streetcar project. This cost, including approximately 10,000 feet of underground 4" conduit and pull boxes at approximately 500 feet apart, is estimated at \$1 million.

INFORMATION TECHNOLOGY

QWEST COMMUNICATIONS

OVERVIEW

Qwest Communications owns an extensive fiber optic and copper network in the downtown area, selling telecommunication services to local customers. Qwest owns the local distribution infrastructure that was accumulated by Mountain Bell (originally AT&T) while operating as the local telephone monopoly, in the years before the 1996 Cabling Act opened local communication services distribution to competitive marketing.

Typically, where possible, Qwest conduits share a joint trench with Tucson Electric Power conduits, at a shallower burial depth.

Qwest also owns a long haul fiber line, usually referred to as Qwest National (and identified as "Qwest World" or "Qwest Net" in Arizona Blue Stake Center records). The long haul line is located in the Union Pacific Railroad (UPRR) right-of-way.

AGE OF INFRASTRUCTURE

The local distribution network in the study area is a mix of copper aerial lines, constructed mainly in the 1940s, and underground copper and fiber optic cables, installed primarily in the late 1940s (copper) and late 1980s (fiber).

ASSESSMENT OF CAPACITY

Qwest central office facilities are located within two miles of all proposed developments.

STREETCAR ALIGNMENT

If it is decided that utilities will be relocated, Qwest estimates their cost to relocate their underground infrastructure along the line to be approximately \$3 million. This includes cost to relocate new facilities to the appropriate side of the street.

There may be opportunities for joint trench installation of relocated and new Qwest conduit along the planned Modern Streetcar alignment, which extends from the UA owned University Medical Center (UMC) through the main campus, downtown, and terminates at the Rio Nuevo Development District west of the Santa Cruz River.

COST & FUNDING

Cost to underground existing aerial cable: Qwest may have over 10,000 feet of cable on TEP poles in the downtown planning area. At an assumed cost of approximately \$150/ft to underground this infrastructure a possible cost of this effort might be \$2.1 million.

Relocation and Expansion Costs: Qwest is responsible for cabling and connections to the Qwest network in new installations. The developer typically pays for all conduit, vault, and earthwork costs related to new connections to the Qwest system. When relocating an existing system to accommodate onsite developer improvements, the developer will carry all costs of the development.

Downtown Infrastructure

Qwest
Existing Infrastructure

Legend

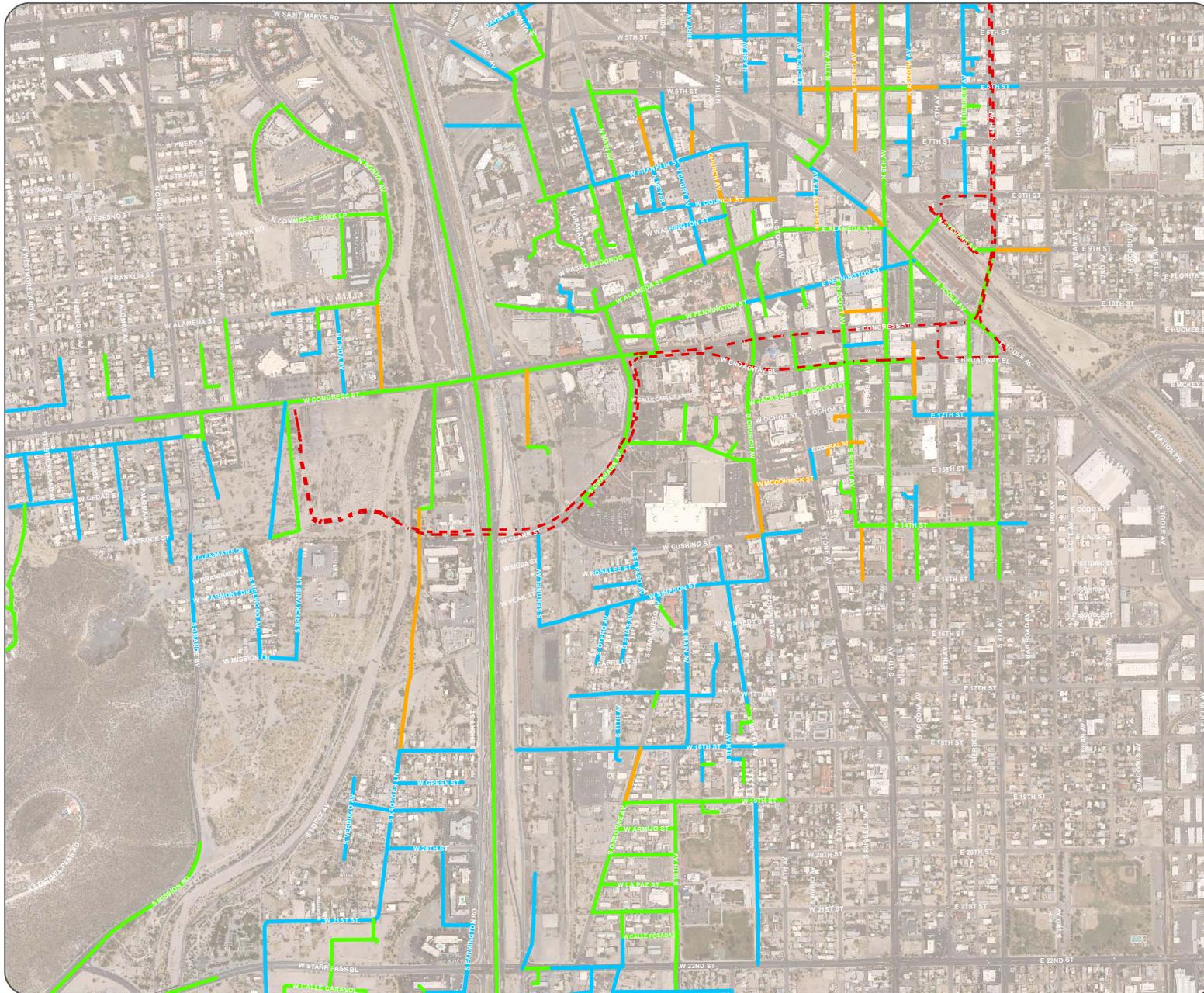
- - - Street Car Route

Qwest Infrastructure

— Aerial

— Aerial and Underground

— Underground



Tucson
Downtown
Partnership



\\johnso1\COT\Projects\k1eone\008\mxd\qwest.mxd

AT&T

OVERVIEW

AT&T provides no direct service to local customers, but provides optional long distance service for calls/internet originating in the local Qwest network. This type of operation is known as Long Distance Competitive Access Service (LDCA).

AT&T has two distinct communications lines running through the City: the AT& T Core Line, constructed in 1986, and the "Nex Gen" line completed in 2002. ("nex gen" is short for "next generation") The "nex gen" line is located west of the Core Line. Both lines converge on the downtown AT&T building, 126 E. Alameda.

The Core AT&T line is multiple ducts, encased in 4500 psi concrete, located approximately 3' below the surface, except at some of the major intersections, where AT&T used a steel sleeve and a deeper installation to stay clear of existing utilities.

The "Nex Gen" line is multi-duct HDPE installed by directional boring methods. It is located at a depth of about 3 feet in Alameda, but can be quite deep.

AT&T requires any new installations to maintain a 2' horizontal and vertical clearance from AT&T facilities. Also, AT&T requires that any excavation taking place within 5 feet of AT&T lines be undertaken only while an AT&T representative is onsite to monitor the digging.

AGE OF INFRASTRUCTURE

The Core AT&T line was constructed in 1986. The "Nex Gen" line was constructed in 2002.

ASSESSMENT OF CAPACITY

AT&T provided no information about planned capacity increases.

STREETCAR ALIGNMENT

AT&T duct runs parallel to the planned Modern Streetcar track location on Congress between Stone and Church. At this time it is not known whether relocations or upgrades would be needed in connection with the Streetcar construction.

COST & FUNDING

Relocation required by public roadway improvements will be paid for by the company. Relocations needed to accommodate private development will be paid by the developer.

LEVEL 3/BROADWING/WITTEL COMMUNICATIONS

OVERVIEW

Level 3 Communications has recently acquired two other telecommunication companies in downtown Tucson. These are WilTel Communications (acquired December 2005) and Broadwing Communications (acquired January 2007). These separate business identities are still maintained on the Arizona Blue Stake listings.

Level 3 (along with and its recently acquired telecoms) is a long haul fiber carrier, with a fiber optic presence in the Union Pacific Railroad right-of-way. Broadwing owns aerial cable in the UPRR right-of-way that goes underground at TEP's Tucson Substation (near 5th Street and Main) and continues in TEP duct bank to 33 North Stone, where it enters the building from the Pennington Street side. WilTel's fiber optic presence leaves the UPRR right-of-way near the historic train station, and lands in the Level 3 telecommunications building at 135 N. 6th Avenue, just east of the AT&T/Qwest Tucson Main building at 126 E. Alameda. This fiber is typically installed in TEP duct bank. TEP is no longer renting duct space to telecommunications providers, but it is not requiring existing duct bank tenants to vacate.

AGE OF INFRASTRUCTURE

No information was provided on infrastructure age.

ASSESSMENT OF CAPACITY

No information was provided on existing capacity or any plans for capacity improvements.

STREETCAR ALIGNMENT

Because of the location of the Level 3 facilities (at least 1/2 block north of Congress), no impacts are expected from the planned Modern Streetcar project.

COST & FUNDING

No information was provided.

McLEOD USA

OVERVIEW

McLeod USA operates a small city ring which offers internet services. The ring has its northwest corner at the 12th Street/3rd Avenue intersection. Long distance transport is on cable infrastructure owned by others. Because of the location of the McLeod facilities, no impacts are expected in the downtown Tucson planning area, or with the planned Modern Streetcar.

AGE OF INFRASTRUCTURE

No information was provided on infrastructure age.

ASSESSMENT OF CAPACITY

No information was provided on existing capacity or any plans for capacity improvements.

STREETCAR ALIGNMENT

Because of the location of the McLeod facilities, entirely located south and east of 12th Street and 3rd Avenue, the northwest corner, no impacts with the planned Modern Streetcar.

COST & FUNDING

No information was provided.

INFORMATION TECHNOLOGY

TIME WARNER TELECOM/XSPEDIUS

OVERVIEW

Time Warner Telecom provides voice and communications services and data transport services to a variety of customers, as a Competitive Local Exchange Carrier (CLEC) operating in the Tucson metropolitan area. With the merger of Time Warner Telecom and Xspedius in 2007, the number of CLEC's operating in the downtown Tucson was reduced to three. Customers of Time Warner/Xspedius include small and large businesses and various government agencies.

Time Warner maintains underground facilities in a majority of the streets located in the downtown and Rio Nuevo areas as part of a city wide fiber ring.

The Time Warner system is almost entirely underground in the downtown area. Time Warner cable switches from underground to aerial at the intersection of Court and Church, and then heads north across 6th Street and along 10th Avenue to the MCI Point of Presence (POP) at 220 West Elm. Time Warner also owns aerial fiber along Toole Avenue between Stone and 6th Avenue at this time, but this cable is scheduled to be relocated underground in the next few months, to accommodate construction of the Pima County/City Joint Courts Complex .

AGE OF INFRASTRUCTURE

Much of the Time Warner fiber system is located in underground conduit leased from TEP. All duct owned by Time Warner (as opposed to cable systems occupying rented TEP duct) has been installed since 1996. This comprises approximately 50% of the Time Warner communications system in the downtown and Rio Nuevo area. These newer duct systems were installed by Time Warner and Xspedius as stand alone (not joint trench) projects.

ASSESSMENT OF CAPACITY

At this time the Time Warner system has adequate capacity to meet customer needs. Cable extensions are designed and installed to meet new customer demand. No forecast or business plan providing for system expansion exists at this time, although this could change with the addition of one or two major customers.

STREETCAR ALIGNMENT

Time Warner has provided information on possible conflicts with the proposed Modern Streetcar alignment. There are many Time Warner underground crossings of the planned streetcar alignment in the downtown area, and many locations where underground conduit occupies Congress and Broadway. The most likely points of conflict (where Time Warner ducts are located parallel and in close proximity to the planned track locations) are: Congress directly east of Granada, and both Congress and Broadway, between Stone Avenue and 6th Avenue,

Splice length considerations will, in most cases, prevent reconstruction of underground crossings under the new streetcar track, but sleeves constructed in conjunction with the Streetcar might be used in future years.

Time Warner would be interested in joint trench opportunities associated with the Streetcar construction.

COST & FUNDING

Relocation required by public roadway improvements will be paid for by Time Warner. Occasionally the City of Tucson offers joint trench opportunities, where the City pays for the cost of the trench and (possibly) conduit installation.

Duct systems in new subdivisions would be placed at the developer's expense. Time Warner installs cable and makes connection. Funding for other customer-driven system expansions would be determined on a case-by-case basis.

UNIVERSITY OF ARIZONA FIBER OPTIC SYSTEM

OVERVIEW

The University of Arizona (UA) maintains a fiber optic system throughout its Main Campus. Within the downtown and Rio Nuevo study area the UA campus fiber net is limited to aerial cable attached to TEP power poles, along the north side of 6th Street, between the University Service Annex (USA) Building at 220 West 6th Street and Park Avenue. The 6th Street fiber optic line connects the main campus to the USA building. A second fiber connection to the Main Campus enters the USA building from the north.

The University of Arizona maintains off-campus connectivity through two fiber optic connections to the WiITel (Level 3) node at 235 North 6th Avenue. The first long distance connection is through aerial fiber optic cable running down the Union Pacific Railroad right-of-way from the USA building to a point near Toole Avenue and Alameda, where it leave the Railroad to connect to WiITel. The second runs from WiITel across the railroad right-of-way, then east along 8th Street to Herbert, and north to 6th Street and then east to Euclid.

New UA facilities will be constructed as part of the Rio Nuevo development. The extent and location of these new UA facilities are currently in negotiation between City of Tucson and UA. Communications connections between these facilities and the Main Campus are expected to run through the City of Tucson Fiber Network. The City has a fully redundant fiber ring which is already connected to the UA Computer Center located at 1077 N. Highland (SW corner of Speedway and Highland). Any additional UA facilities constructed in the downtown Rio Nuevo area will be connected to UA via the City's fiber network.

AGE OF INFRASTRUCTURE

The University's aerial fiber optic line running along the north side of 6th Street was installed in 2002. The UA WiITel connections were installed in 2005 and 2006.

All components of the Tucson Fiber Network have been constructed in the last 8 years.

ASSESSMENT OF CAPACITY

Communications engineers at UA calculate that the existing infrastructure will provide adequate capacity for 10 to 15 years.

STREETCAR ALIGNMENT

At this time it is expected that any fiber infrastructure expansion in conjunction with the Modern Streetcar alignment will be the responsibility of City of Tucson Fiber Network, with no direct involvement by UA.

COST & FUNDING

The University's communications needs for the new UA Rio Nuevo sites will be provided by the City of Tucson Fiber Network, and funded from the Rio Nuevo project.

UNION PACIFIC RAILROAD – INTERSTATE COMMUNICATIONS CORRIDOR

OVERVIEW

The Union Pacific Railroad (UPRR) right-of-way is a major interstate communication corridor. Copper and fiber optic lines for a number of interstate carriers, including Qwest National, Level 3 Communications, and MCI/Verizon are contained within the railroad right-of-way. Major nodes for these carriers are maintained at the Qwest/AT&T building on Alameda west of 6th Avenue, and at the MCI Building at 220 West Elm Street.

AGE OF INFRASTRUCTURE

No attempt was made, as part of this study, to obtain information on the specific ages and configurations of the individual long haul fiber systems occupying the UPRR right-of-way.

ASSESSMENT OF CAPACITY

No attempt was made, as part of this study, to obtain information on existing capacity or planned capacity improvements for the long haul fiber systems occupying the UPRR right-of-way.

STREETCAR ALIGNMENT

The planned Modern Streetcar route will take the streetcar under the Union Pacific Railroad tracks at the new 4th Avenue underpass, which is currently under construction. It is anticipated that the streetcar tracks will be installed in the underpass as part of the current 4th Avenue construction project. Therefore, no obstructions or conflicts are anticipated for the streetcar project.

COST & FUNDING

Any work performed in the UPRR right-of-way requires many additional regulatory and review steps. It is assumed that any work in the railroad right-of-way will be in connection with a public improvement project or utility expansion/relocation project. Private development projects should have no reason to disturb any facilities in the UPRR right-of-way.

INFORMATION TECHNOLOGY

VALLEY TELECOM GROUP

OVERVIEW

Valley Telecom Group is an incumbent local exchange carrier serving rural communities east of Tucson. Valley Telecom's presence in downtown Tucson is limited to a long distance fiber optic line, whose primary purpose is transfer of long distance calls from Valley Telecom customers (residing outside of Tucson) to Qwest, for further long distance distribution. The Valley Telecom fiber system is also utilized as Long Haul Transport for other communications companies.

The downtown Valley Telecom facility is an 8-duct underground fiber optic line, with minimum depth 50 inches, originating on the south side of Alameda at the Qwest building in the block directly west of Toole Avenue, then traveling south and east on Toole Avenue and local streets until passing outside of the downtown area. In some areas the conduit depth may be as great as 20 feet to avoid other utilities. The City of Tucson has 2 ducts in the same trench through most of this run.

Valley Telecom recently completed relocations in the Toole and 5th Avenue/4th Avenue area to eliminate conflicts with the upcoming 4th Avenue Railroad Underpass project. The relocated duct is placed at a minimum depth of 5 feet.

AGE OF INFRASTRUCTURE

The downtown part of Valley Telecom's system was placed in 2002 and 2003.

ASSESSMENT OF CAPACITY

Valley Telecom has plans to increase its internet capacity by leasing existing fiber from Time Warner. There are no plans for new construction in Tucson streets, however.

STREETCAR ALIGNMENT

The current Valley Telecom route crosses the planned Modern Streetcar track on 5th Avenue at Broadway and at Congress. This is part of the new duct bank that was installed at a depth of 5 feet to avoid conflicts with the 4th Avenue Underpass project. No upgrades should be needed during construction of the Modern Streetcar.

COST & FUNDING

Construction and operation of the system is paid from long distance tolls applied to Valley Telecom's local customers outside of Tucson.

Downtown Infrastructure

Other Utilities Existing Infrastructure

Legend

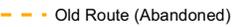
 Street Car Route

 McLeodUSA

 AT & T Infrastructure

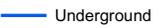
Valley Telephone Infrastructure

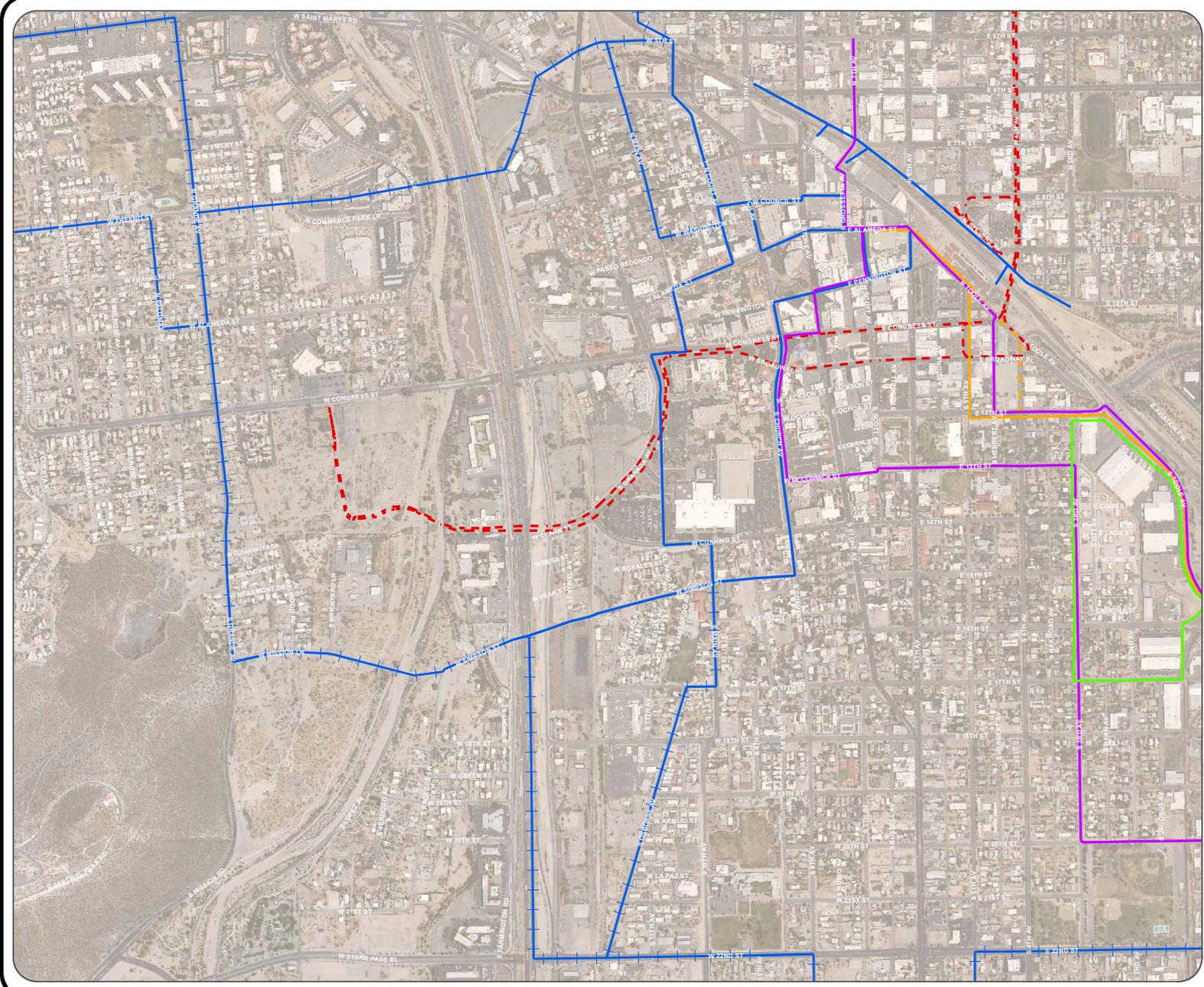
 Current Valley Telephone Conduit

 Old Route (Abandoned)

MCI Infrastructure

 Aerial

 Underground




N
1:10,000



**Tucson
Downtown
Partnership**



\\johnso1\1\CO2\Projects\k\leon\008\mxd\otherutilities_infrastructure.mxd

TRANSPORTATION

4TH AVENUE UNDERPASS

OVERVIEW

Planning is underway for a new 4th Avenue Underpass that will replace the existing underpass. Upon completion, it will provide for two lanes carrying traffic and streetcars, separate bicycle lanes, and two pedestrian walkways accessible for persons with disabilities. The pedestrian pathways will be 20 feet wide on the east side of the underpass and 10 feet wide on the west side.

To assist with pedestrian and bicycle access during the construction period, TDOT plans to install sidewalk and street light improvements along Eighth Street, to link 4th Avenue with the Sixth Avenue Underpass. Additionally, TDOT will complete a paved bike and pedestrian pathway from the Coronado Hotel to the existing sidewalk and bike lane on the north side of the Broadway Underpass.

PROJECT TIMELINE

The project is currently in the planning and engineering design phase. Construction of the new underpass will begin in summer 2007 and will take approximately 18 months to complete. The construction will require that the underpass be closed (between Congress Street and Ninth Street) for approximately 10 to 14 months.

STREETCAR ALIGNMENT

The streetcar will go through the new underpass. The new underpass will accommodate both the historic trolley and the modern streetcar.

COST & FUNDING

It is estimated that the total construction costs related to the project will be \$26 million. Most of the funding will come from State Highway User Revenue Funds (HURF). Utility companies will provide for approximately \$1.0 million of the costs associated with relocating their facilities and equipment involved in the project. Approximately \$1.7 million will be required from other funding sources.

TRANSPORTATION

CORPS OF ENGINEERS

OVERVIEW

The United States Army Corps of Engineers (USACE) provides engineering services to the nation including designing, building and operating water resources and other civil works projects (Navigation, Flood Control, Environmental Protection, Disaster Response)

In the downtown area the USACE is engaged in feasibility studies for the Paseo de las Iglesias project and the El Rio Medio Ranch project. The USACE is conducting feasibility studies for restoration of the Santa Cruz River in two reaches where portions of which are in downtown Tucson.

Paseo de las Iglesias Reach

The Paseo de las Iglesias Environmental Restoration Feasibility Study addresses a 7-mile reach of the Santa Cruz River from Los Reales Road on the south to Congress Street on the north. The study was undertaken by the US Army Corps of Engineers and the Pima County Regional Flood Control District, with input from the City of Tucson and other stakeholders. The study, completed in 2005, evaluated ecosystem restoration, flood control improvements, and river park trail development. The project is currently awaiting Federal authorization. The Recommended Plan includes 1,100 acres of mesquite bosques on river terraces and floodplain, bordered by palo verde woodland and desert shrubs. Plan features are consistent with the desires expressed by public involvement work groups, and have been endorsed by the County. Total first cost is \$97,000,000. The federal share is \$59,666,800. Of the remaining \$34,195,000 non-federal share, \$26,242,000 is accounted for by land contributions, leaving \$7,953,000 as the local sponsor's financial commitment. Local funding currently available includes \$14,000,000 in dedicated 2004 bonds.

El Rio Medio Reach

The El Rio Medio Feasibility Study focuses on a 4.5 miles reach of the Santa Cruz River and adjacent lands from Congress Street on the south to Prince Road on the north, constituting a study area of approximately 3,080 acres. The feasibility study phase was initiated in January 2001. The Pima County Regional Flood Control District and the City of Tucson are the current non-Federal sponsors of the project, which is being conducted by the US Army Corps of Engineers. The total cost of the feasibility phase is \$3,427,000, which is being shared equally (50/50) between the Corps and the non-Federal sponsors. The primary purpose of the study is ecosystem restoration. Water supply recharge for later recovery and municipal use is a secondary project purpose. The study team is developing an initial array of ecosystem restoration alternatives, and a separate array of water supply recharge alternatives. The best of each of these alternatives will be selected and combined to create a final recommended plan using tradeoff analysis. The study team anticipates having the recommended plan complete by December 2007.

TRANSPORTATION

I-10 WIDENING

OVERVIEW

Interstate 10 (I-10) through Tucson carries an estimated 60 million vehicles per day. Arizona Department of Transportation (ADOT) recently began construction on widening I-10 in the City of Tucson from Prince Road to 29th Street. This project will widen I-10 from the current six lanes of freeway to eight lanes (including the addition of two auxiliary lanes). The widening began in January 2007 and it is expected to be completed by Spring 2010.

CONDITION OF FREEWAY

The downtown portion of I-10 was constructed in the early 1960s. This section of the freeway is one of the oldest in Arizona. It was reconstructed in 1996; however, the reconstruction (primarily concentrated on the frontage roads) did not fully prepare for future traffic demand. Once the current I-10 Mainline Widening project from Prince Road to 29th Street is completed in 2010, the I-10 mainline and frontage roads will be adequate to handle the traffic needs through the year 2030.

CLARK STREET BRIDGE AND UNDERPASS

The widening of the Clark Street underpass will create greater east-west connectivity in the downtown area. Currently, approximately 2000 vehicles drive across Clark Street every day. Commuters make half of the daily vehicle trips across Clark Street.

In addition to the widening of the underpass, the Clark Street Bridge will be moved approximately 100 feet to the north of the existing bridge as part of the circulation and drainage plan for Rio Nuevo. The bridge opening was expanded to 230 feet to accommodate 140 feet of pedestrian/bicycle facilities. The I-10 widening project will also accommodate the streetcar passing underneath.

COST & FUNDING

It is estimated that ADOT will have spent in excess of \$220 million by the completion of the I-10 widening from Prince Road to 29th Street. TIF funds in the amount of \$9 million have been dedicated to construction related to the Clark Street Underpass. Additionally, the City has committed another \$4 million (in non-TIF funds) for underground box culverts and drainage improvements on and around the site of the proposed new arena.

TRANSPORTATION

DOWNTOWN LINKS

OVERVIEW

Downtown Links is a roadway construction project recently initiated by the Tucson Department of Transportation that will provide links between Barraza-Aviation Parkway and I-10, Broadway Boulevard and the 4th Avenue shopping district, and downtown and the neighborhoods to its north. These Downtown Links have been conceived as a modest, four-lane roadway on the north side of the railroad tracks, enhanced pedestrian and bicycle access routes, and the connection of Barraza-Aviation Parkway to 22nd Street and I-10. Enhancements on this corridor will provide more efficient access to downtown, new and safer underpasses, railroad crossings and sidewalks.

Downtown Links is part of the long-range Regional Transportation Authority (RTA) plan that was approved by Tucson-area voters in May 2006. All of the projects contained in the plan, including Downtown Links, will be funded by a half-cent transportation sales tax that went into effect on July 1, 2006

HISTORY

Moving traffic from the eastside of downtown Tucson to I-10 has been an ongoing debate since the 1970s. In 1972, plans for the Butterfield Parkway were rejected because the El Trajito Shrine, which was in the parkway's path, was placed on the National Register of Historic Places. In the early 1980s, Tucson's City Council directed staff to begin developing plans for the Aviation Parkway. After several routes for the Parkway were accepted and rejected, the downtown portion or "last mile" of Aviation Parkway was approved in 1985. However, in 1986 the voters turned down a vote to raise the sales tax by ½ cent and fund transportation projects that included money for the downtown leg of Aviation Parkway. Shortly after the election, many neighborhood and other community leaders began opposing the elevated 6-lane Aviation Parkway being built through downtown because it destroyed many historic buildings and cut off sections of the downtown, such as the Warehouse District and the 4th Avenue Business District.

In the late 1980s, the City of Tucson initiated the Downtown Land Use and Circulation Study (DLUCS) in response to citizen's concerns with a previous design concept and roadway alignment for the "last mile" of the parkway, through downtown Tucson. The DLUCS planning process allowed the community to develop a preferred alternative for the downtown section of the parkway. This new concept for the "last mile" was a four-lane roadway, which followed the Steven Avenue alignment, parallel to and north of the Southern Pacific Railroad. The new roadway would cross over 4th Avenue at about the same level as the railroad. It would dip down to meet 6th Avenue and then follow the Toole Avenue alignment to Stone Avenue. From this point, it would follow the Franklin Street alignment to Church Avenue at 6th Street, and would continue to I-10. The new roadway would provide a means to and from downtown and have bicycle and pedestrian pathways, as well as public art and urban design amenities. In addition, the design concept included a new roadway drainage system and major reconstruction of the Tucson Arroyo that would remove parts of downtown from the 100-year flood plain. In 1993, the

Mayor and Council approved the DLUCS Design Concept Report and in 1996, they approved the Barraza-Aviation Parkway General Plan.

At its meeting on December 12, 2006, the Downtown Links Citizen's Advisory Committee approved a concept to move forward for more detailed engineering and environmental study. The concept consists of a modest four-lane roadway starting at the Broadway/Barraza-Aviation Parkway Interchange and parallels the north side of the Union Pacific Railroad tracks and turns north along the existing Seventh Avenue alignment until it intersects with Sixth Street. The concept proceeds to the west and passes beneath a proposed railroad bridge in the proximity of Ninth Avenue. It is anticipated that this roadway will have vehicular connections to Fifth and Sixth Avenues and additional bicycle and pedestrian connections throughout.

The design concept phase of project development has begun and is anticipated to be complete by the end of 2007. Once the design concept phase is complete the final design phase will begin and is expected to take 18 to 24 months. Construction is expected to begin when funding from the RTA becomes available, currently in 2011.

TRANSPORTATION

PARKING

OVERVIEW

ParkWise, the City of Tucson Department of Transportation parking division, is responsible for on-street parking and a number of parking garages and lots in the downtown area. The Division also operates the Tucson Inner City Express Transit, the free downtown shuttle service, and administers both residential and non-resident parking permit programs throughout the community. ParkWise is a fully self-supporting program with both capital and operating budgets being paid through user fees.

OFF-STREET PARKING REQUIREMENTS

ParkWise has developed a 5-year off-street parking master plan for the core of downtown based on the same development assumptions used in this study. It is estimated that 13,000 parking spaces will be developed in new parking structures – 6,000 to replace existing surface parking, and 6,000 new spaces to meet the demand of new development. The projected cost for all of these structured spaces is \$230 million. It is anticipated that approximately \$73.5 million of TIF assistance will be required over the life of the district to help cover the shortfall of revenues to operating and debt service expenses. The timing of construction of each parking structure will need to be carefully considered to coincide with parking needs in order to assure the financial strategy can be successful. Prior to the TIF district terminating, it is anticipated that the off-street parking system will be fully self-supporting.

ON-STREET PARKING REQUIREMENTS

Downtown Tucson has a basic on-street metered parking system. Consideration should be given to an upgrade of this approach that would replace meters with a pay-by-space system and offer multiple payment options to customers. The pay-by-space system would also allow ParkWise to implement a pricing strategy that would eliminate the need for on-street time limits that are often a source of customer frustration. The cost to implement such a system is approximately \$3 million – with \$1.5 million in TIF assistance necessary.

PARKING INCENTIVES

The ParkWise Program and Commission are open to considering incentives such as a “first hour free” program in off-street facilities (on-street parking would not be included). This program would be available to all downtown customers as opposed to select ones. One hour free in garages may be a good marketing tool and should not significantly impact the revenue needed to build and provide the parking needed to support downtown revitalization. Longer periods of time, such as two-hours free, or overall rate reductions, would significantly impact revenue and could be easily abused. These incentives would also require a significantly larger contribution from the TIF district to make the system work.

See appendix for further details on parking.

ParkWise/Rio Nuevo Parking Funding Partnership

Fiscal Year	08	08	09	09	10	10	11	11	12	12
	PW	RN	PW	RN	PW	RN	PW	RN	PW	RN
Contribution (millions)	\$ 38.4	\$ 3.9	\$ 26.4	\$ 6.5	\$ 87.5	\$ 14.5	\$ 53.9	\$ 16.9	\$ 23.9	\$ 15.6

Fiscal Year	13	13	14	14	15	15	16	16	17	17
	PW	RN	PW	RN	PW	RN	PW	RN	PW	RN
Contribution	\$ -	\$ 10.2	OP* \$	6.5	OP \$	-	OP \$	-	OP \$	-

Fiscal Year	18	18	19	19	20	20	21	21	22	22
	PW	RN								
Contribution	OP \$	-								

* OP = operating & debt service expenses only

	Period 1		Period 2		Period 3		Period 4	
	PW	RN	PW	RN	PW	RN	PW	RN
	38.4	3.9	87.5	6.5	53.9	16.9	0	10.2
	26.4		14.5		23.9	15.6		6.5
	64.8	3.9	87.5	21	77.8	32.5	0	16.7
Totals								
	PW	RN	PW	RN	PW	RN	PW	RN
	64.8	3.9	87.5	3.9	60.9	3.9	66.5	21
	87.5	21	14.5	21	66.5	21	45.3	32.5
	77.8	32.5			45.3	32.5	0	16.7
	0	16.7			0	16.7		
	230.1	74.1	304.2	74.1	172.7	74.1	246.8	

Totals with RN backed out of PW Numbers

Downtown Infrastructure

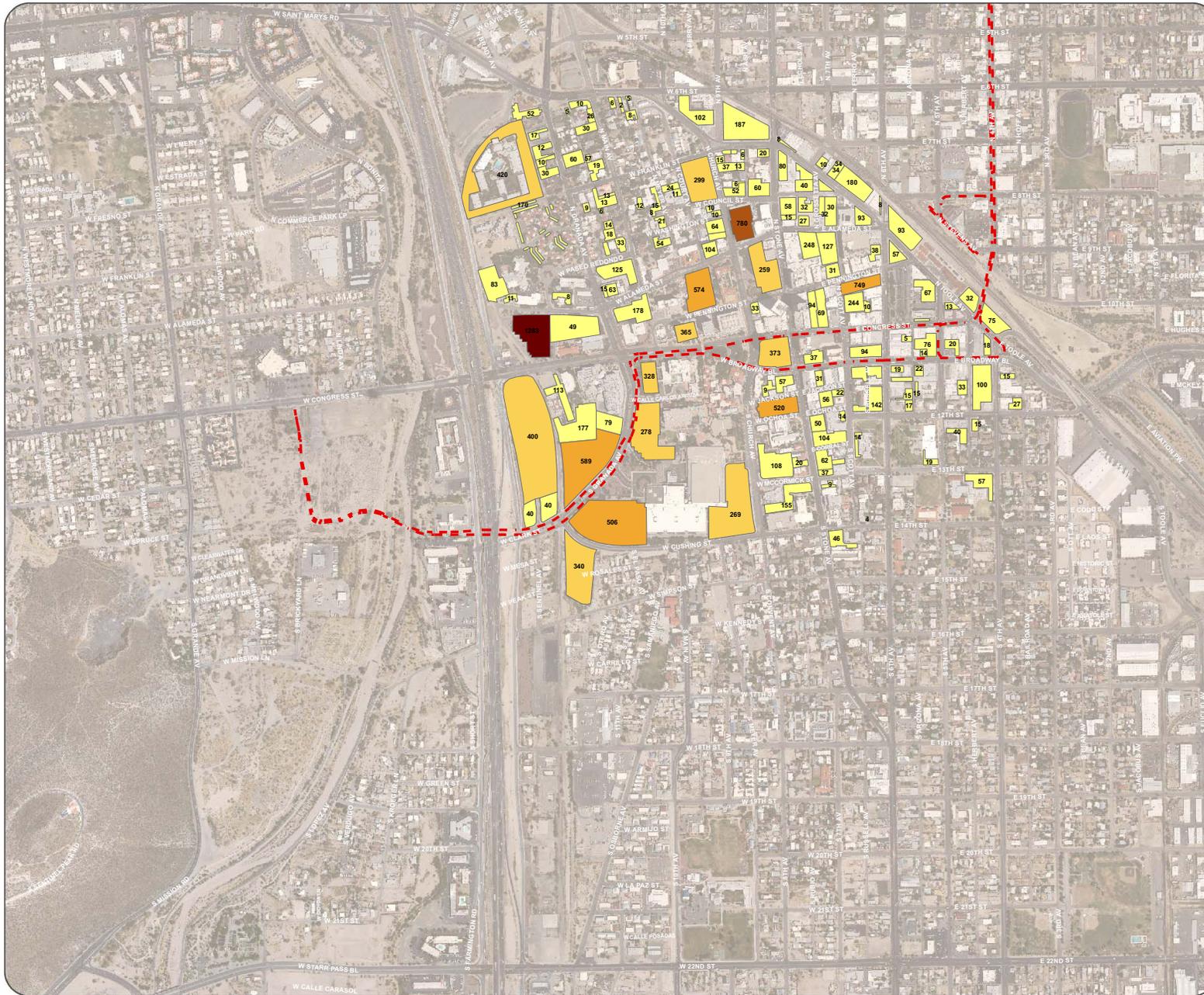
Parkwise Downtown Parking

Legend

- - - Street Car Route

Parkwise Parking Spaces

- 2 - 250
- 251 - 500
- 501 - 750
- 751 - 1000
- 1001 - 1283



1:10,000



**Tucson
Downtown
Partnership**



Downtown Infrastructure

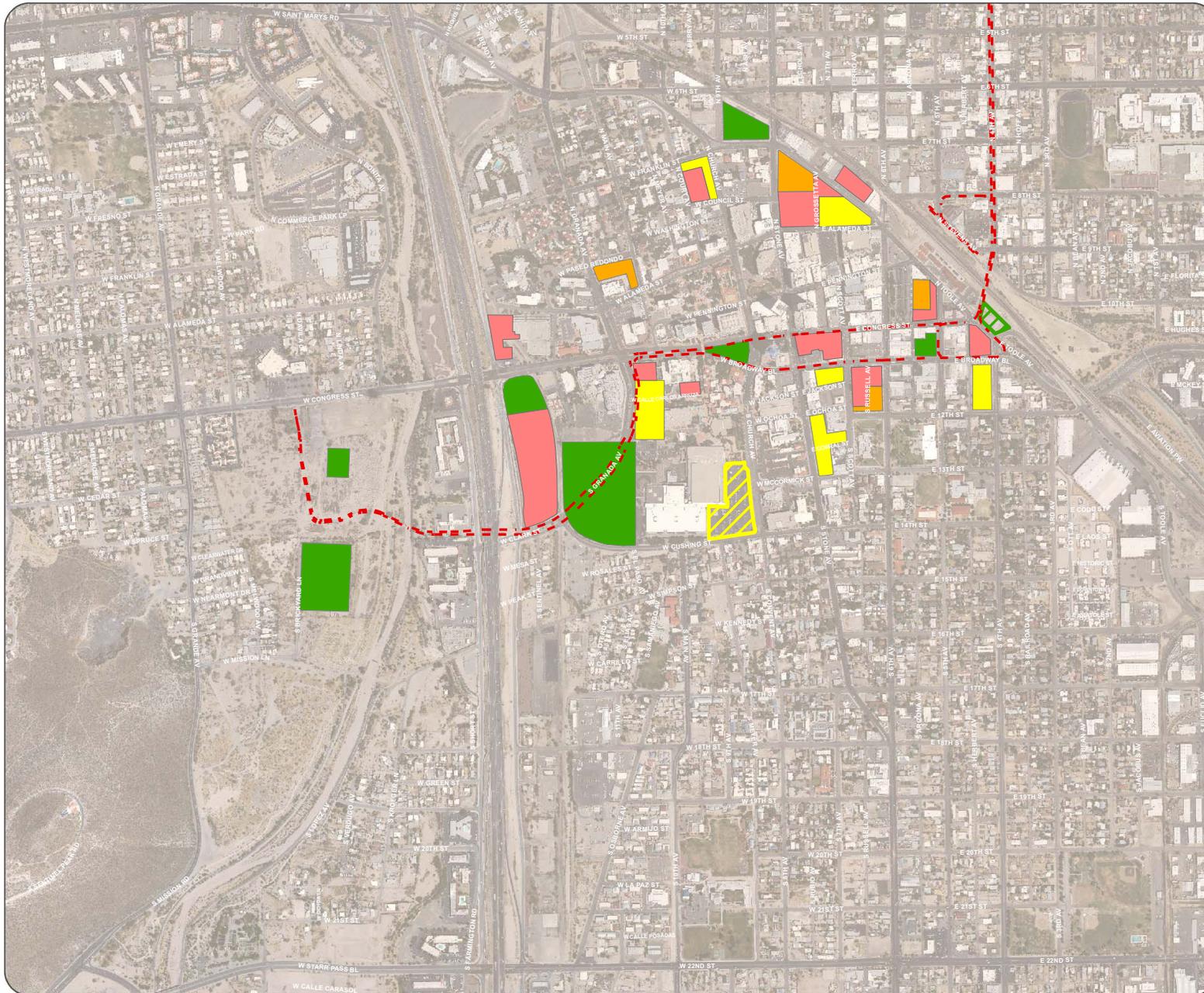
Parkwise Future Downtown Parking

Legend

- - - Street Car Route

Future Parking Development Plans

- 5-year redevelopment parcels
- Mixed 5-year redevelopment and new parking structure (0-18 months)
- New parking structure (19-36 months)
- Mixed 5-year redevelopment and new parking structure (19-36 months)
- New parking structure (3-5 years)
- Mixed 5-year redevelopment and new parking structure (3-5 years)



N
1:10,000



**Tucson
Downtown
Partnership**



\\johnso1\COTProjects\kleeone\008\mxd\parkwise_all.mxd

TRANSPORTATION

MODERN STREETCAR

OVERVIEW

The Modern Streetcar is currently undergoing preliminary engineering and will connect the University of Arizona to downtown Tucson along a four-mile route. It is anticipated that the construction of the Modern Streetcar will be completed in early 2010.

BACKGROUND

In the fall of 2004, the Tucson Department of Transportation (TDOT) began a federally sponsored Major Transit Investment Study now referenced as the Tucson Urban Corridor Study, to identify potential transit solutions in central Tucson. The study area boundaries are Grant Road on the north, 22nd Street on the south, Grande Avenue on the west and Campbell Avenue on the east. The study's goals are to provide a sustainable transportation investment within the central core that is able to:

- Connect major activity centers
- Create economic development
- Support population and employment growth
- Improve transit service
- Mitigate parking constraints

PROJECT TIMELINE

Phase 1 - 2004 – 2007 - Alternatives analysis and adoption of the locally preferred alternative

Phase 2 - 2006 – 2008 - Draft and final environmental assessment and preliminary engineering

Phase 3 - 2008 - 2010 - final design, vehicle testing, and construction

STREETCAR ALIGNMENT

In the downtown area, the streetcar will run west from the 4th Avenue Underpass along Congress and turn south on Granada and connect again to Congress on the west side of the freeway. Heading east, the streetcar runs along Broadway from Church Avenue to the 4th Avenue Underpass. Transit-oriented development opportunities are maximized on this route.

COST & FUNDING

The Modern Streetcar project is currently being advanced through the Federal Transit Administration (FTA) project development process to secure federal funding. Local funding for the Modern Streetcar project was approved by Pima County voters as part of the successful Regional Transportation Authority Plan in May 2006. It is anticipated that the construction of the Modern Streetcar will be funded by a 50 percent federal/local share.

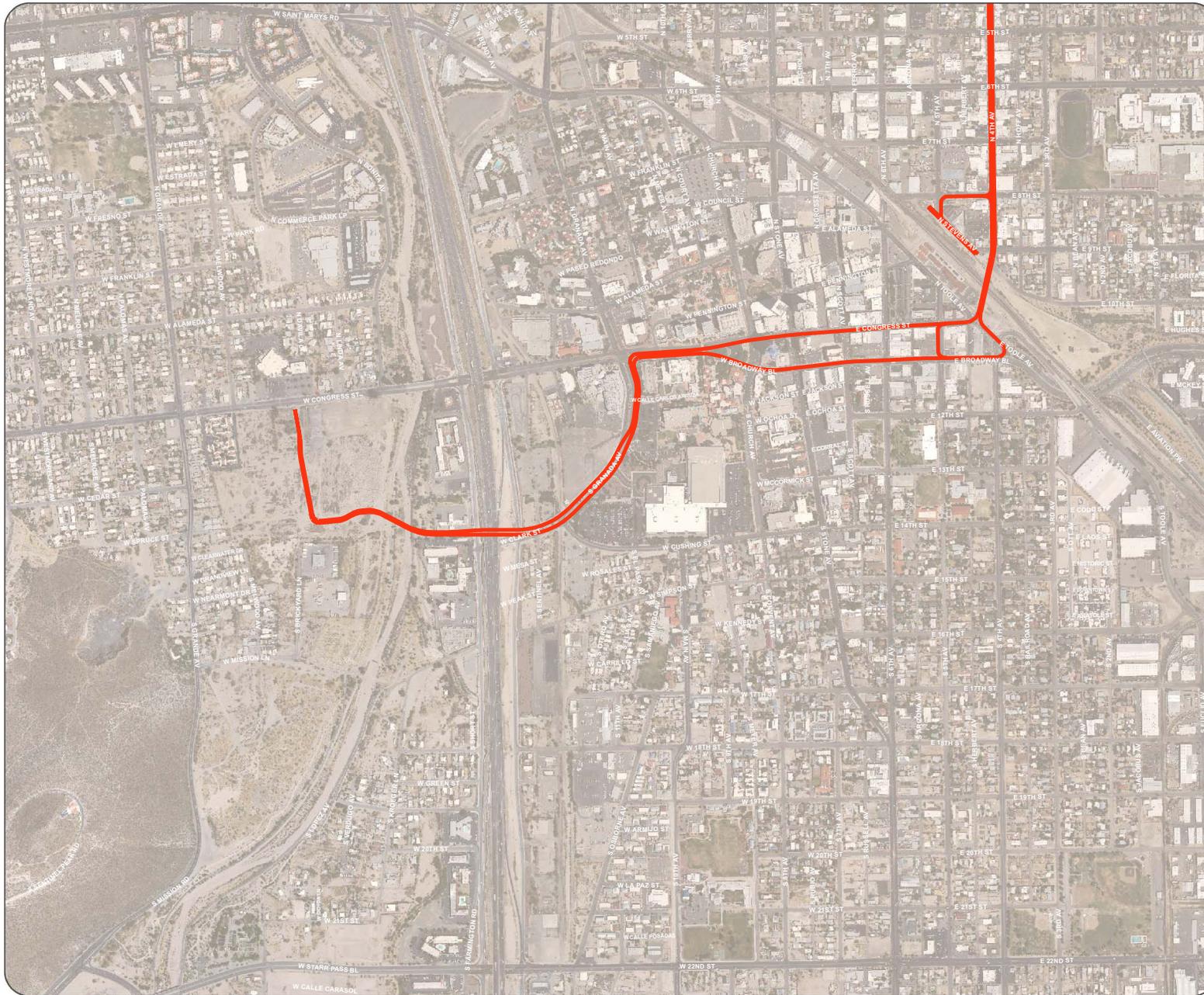
Additional funding is needed for the extension of the streetcar from its original terminus at the center of the Mercado at Menlo Park on Avenida del Convento, to its approved terminus on West Congress Street (see Streetcar map). Costs are estimated at \$10 million.

Downtown Infrastructure

Street Car Route

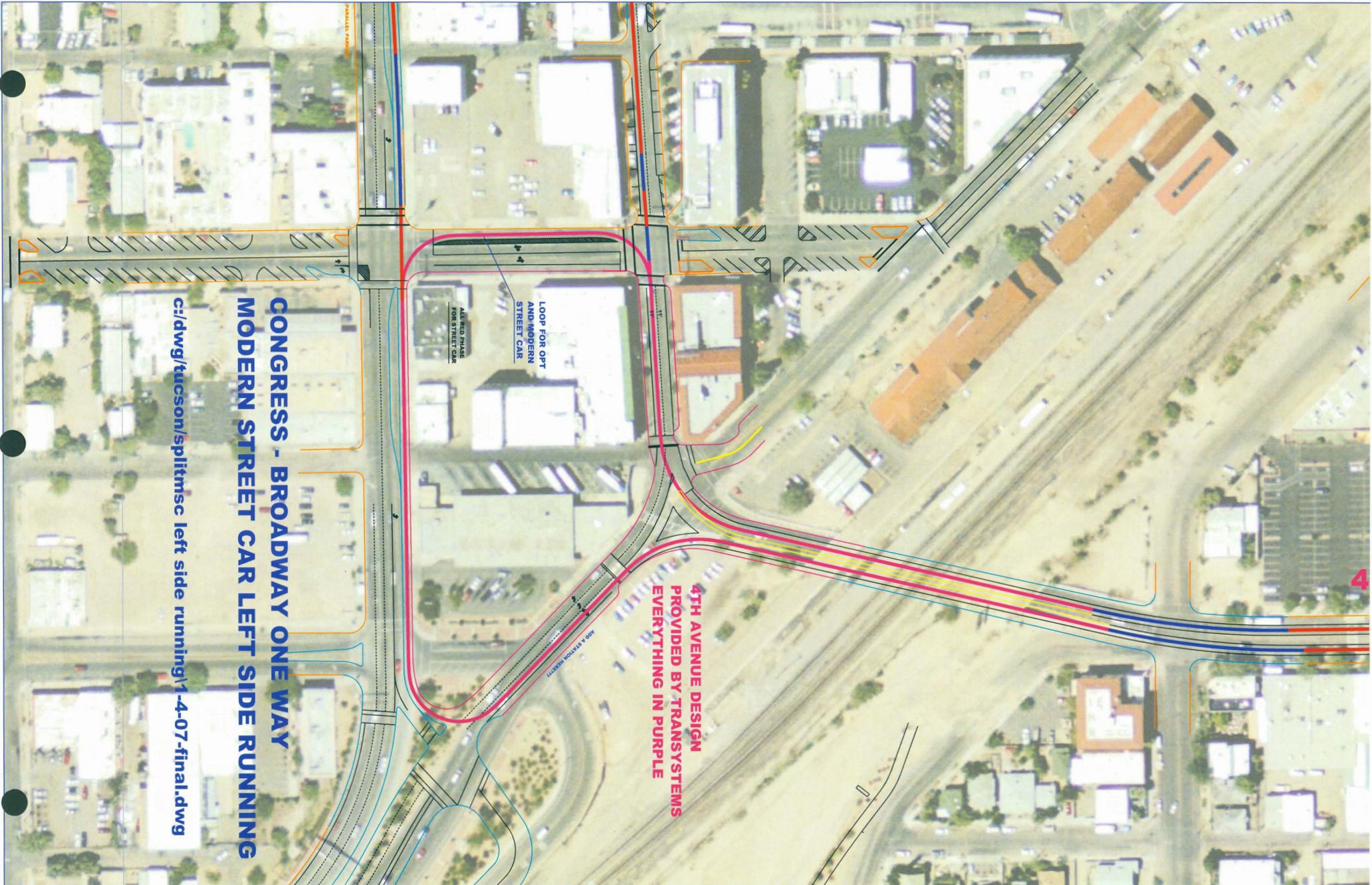
Legend

 Street Car Route



**Tucson
Downtown
Partnership**





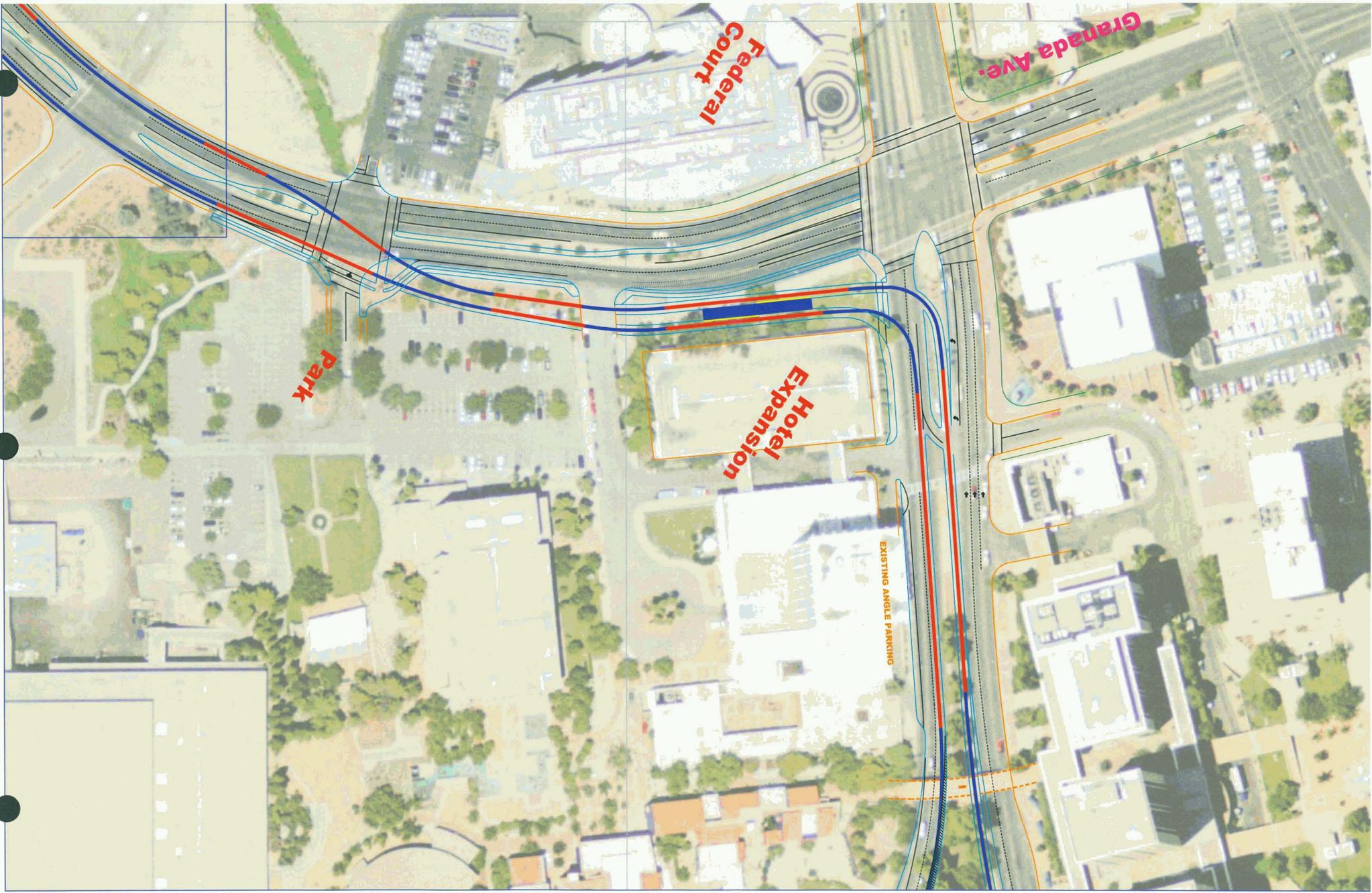
**4TH AVENUE DESIGN
PROVIDED BY TRANSYSTEMS
EVERYTHING IN PURPLE**

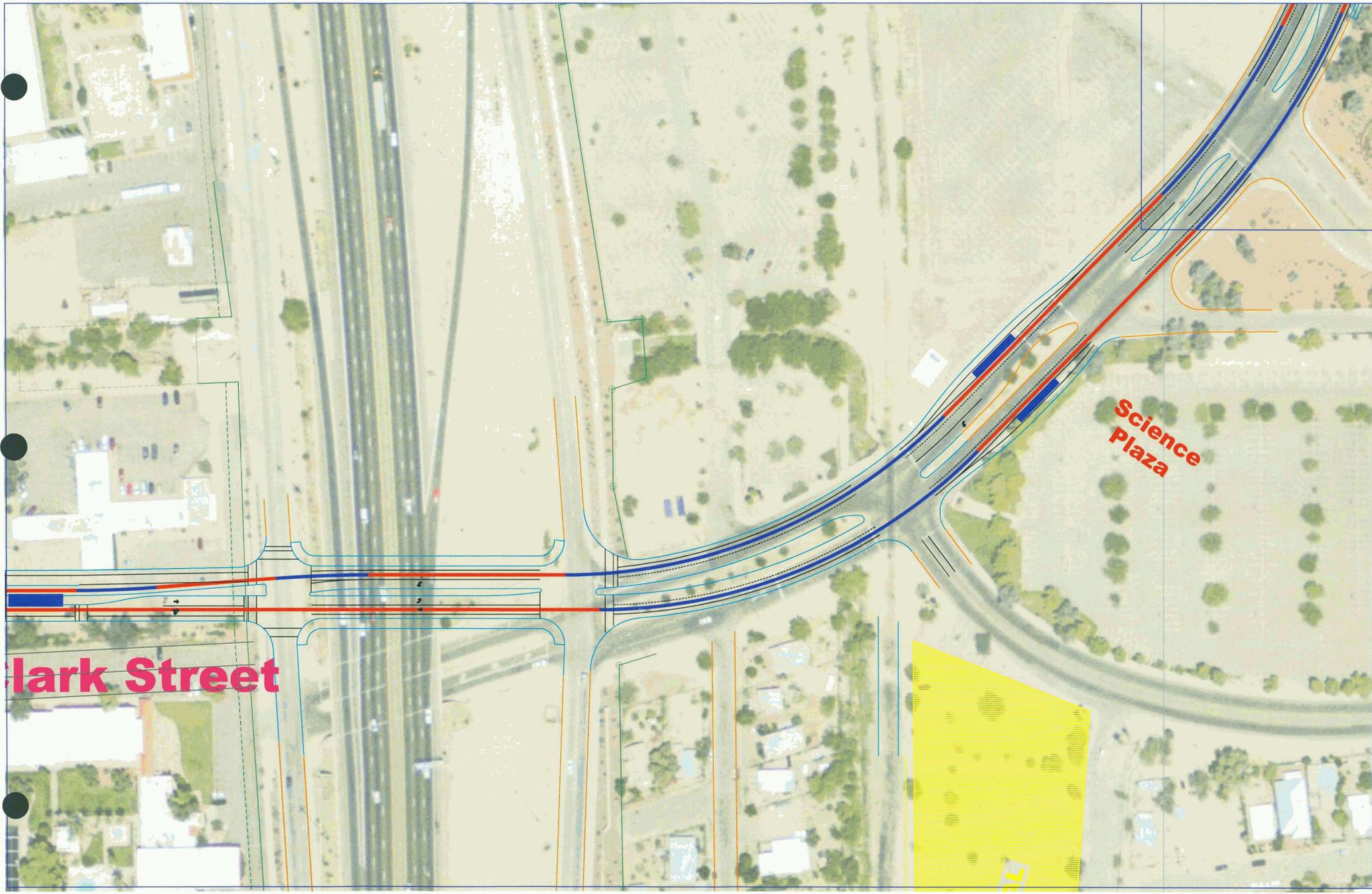
**LOOP FOR OPT
AND MODERN
STREET CAR**

**ALL RED PHASE
FOR STREET CAR**

**CONGRESS - BROADWAY ONE WAY
MODERN STREET CAR LEFT SIDE RUNNING**

c:/dwg/fucson/splitmnc left side running\1-4-07-final.dwg





Mark Street

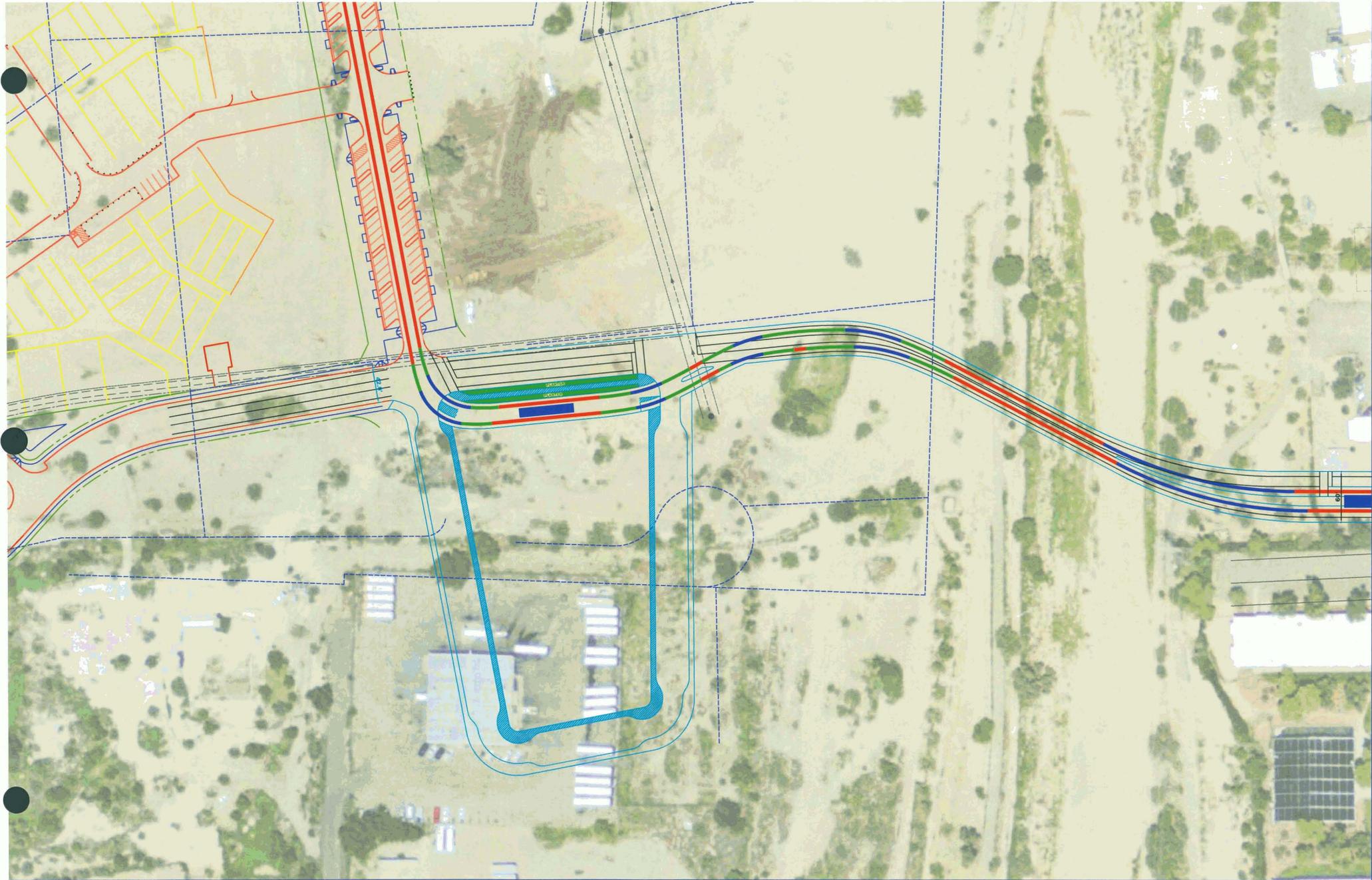
Science Plaza



**EOL WEST ALTERNATE FOUR
NO STORAGE TRACKS**



**EOL WEST ALTERNATE 3 B
NO STORAGE TRACKS**





**PROPOSED MSF AREA
OPTION - 1**



**S. R. BEARD
& ASSOCIATES**



CITY OF TUCSON RIGHT-OF-WAY IMPROVEMENTS/STREETScape

OVERVIEW

The majority of Tucson's downtown streetscape is owned by the City of Tucson (COT). For purposes of this report, streetscape includes all sidewalks, landscaped areas, plazas, parks, and streets located within the public right-of-way (ROW). Within these areas, specific elements include trees, shrubs, flowering plants, potted plants, lawns, sidewalks, plazas, crosswalks, street lighting, traffic lighting, pedestrian lighting, benches, trash receptacles, public art, drinking fountains, public restrooms, parking meters, information and security kiosks, and signage.

The focus of this study is the streetscape within the commercial business district, the TCC, and portions of the west Congress/Mercado district. Residential neighborhoods were not considered for this study.

AGE OF INFRASTRUCTURE

Much of the downtown streetscape has become physically and functionally obsolete. The concrete sidewalk, some almost a century old, is cracked and heaving. Brick surfaces vary in age and condition and many date back to the urban renewal efforts of the 1960s. Street lighting varies as well, from turn-of-the-century historic globe lighting to heavily oxidized 1970s modern fixtures. Much of the street furniture (e.g., benches, trash receptacles, and kiosks) are dated and dilapidated.

ASSESSMENT OF CAPACITY

A large portion of the public ROW area lacks the infrastructure necessary for elevating Tucson's decaying downtown environment to modern metropolitan standards. Reclaimed water lines, necessary for irrigating an expanded landscape, are not in place. Electrical service for lighting, irrigation, electronic parking meters, and special events will have to be installed. Water harvesting, including rain water and stormwater collection, can be implemented, but will require careful pre-planning and coordination with streetscape improvements.

Lighting needs to be thoroughly evaluated and a comprehensive array of streetlights, landscape lighting, façade lights, pedestrian lights, and festival lights needs to be implemented. The conduits, pull boxes, outlets, and fixtures that support this system need to be installed.

Pavers need to be considered carefully. Concerns regarding heat island effect, porosity, safety, and durability need to be balanced with value-enhancing style selections.

An extensive drought-tolerant native vegetation landscape should be developed and implemented. Consideration should be given to creating bio-diverse habitats within landscaped areas. Water harvesting combined with reclaimed water should be utilized in place of depleting potable water resources.

PILOT STREETScape

It is recommended that a pilot streetscape be constructed as an initial demonstration project. The pilot would cover the east end of downtown (5th Avenue from Broadway to Toole, Broadway Boulevard from 5th Avenue to 4th Avenue, 4th Avenue between Broadway and Toole, Congress Street from 4th Avenue to Arizona Avenue, and Toole Avenue from 4th Avenue to 5th Avenue). The estimated cost for this pilot streetscape is \$3.1 million (this is not broken out in the budget breakdown on the following page, but is included in the totals in the breakdown).

COST & FUNDING

Funding for implementing this comprehensive streetscape plan is estimated at \$107 million. The majority of streetscape improvements are anticipated to occur along the existing built environment. Future development projects may be responsible for funding portions of the streetscape bordering their project. A budget breakdown for the streetscape is on the following page.

City of Tucson Right-of-Way Improvements/Streetscape		
Budget Breakdown		
Right of Way	Pavers through intersections	\$ 402,950
Parking	Solar power meters, pay-by-space	\$ 502,750
Transit	Transportation stops (streetcar, bus)	\$ 237,500
Public Interest	Signage (traffic, parking, other)	\$ 1,094,200
Landscaping	Planters, plants	\$ 5,676,448
Hardscape	Pavers, tree grates	\$ 6,471,314
Lighting	Street lights, landscape lights, upgraded catenary poles, traffic signals, festival lights	\$ 10,876,920
Furnishings	Bollards, trash bins, seating, fountains	\$ 4,946,000
Features + Amenities	Shard structures, restrooms, speakers	\$ 4,510,113
Infrastructure	Irrigation lines, water lines, sewer (for restrooms), electrical, fountains	\$ 24,360,365
<i>Sub-total</i>		\$ 59,078,560
Demolition	Remove existing concrete, pavers, etc.	\$ 2,888,528
Escalation	1% per month	\$ 15,861,026
Contractor Fees	23%	\$ 17,900,466
A/E Fees	20%	\$ 19,145,716
Public Art	1% of budget	\$ 1,148,743
<i>Sub-total</i>		\$ 116,023,039
Additional Streetscapes:		
Pedestrian Bridges	Civic plaza/arena, south of 4th Avenue	\$ 3,000,000
TCC Landscaping	Not included in TCC/Arena budget	\$ 19,500,000
Mercado/Origins	Upgrade landscape	\$ 537,600
Congress St. - Grande/Silverbell	Extension of sidewalk and landscaping	\$ 1,080,000
<i>Sub-total</i>		\$ 140,140,639
Potential Deducts	Budgeted elsewhere in report	\$ 23,205,400
Sub-total		\$ 116,935,239
Streetscapes Outside Rio Nuevo Boundary	Deduct streetscapes out of the boundaries of Rio Nuevo	\$ 9,774,895
Streetscape Total		\$ 107,160,344

5TH AVENUE LOOKING
NORTH FROM BROADWAY



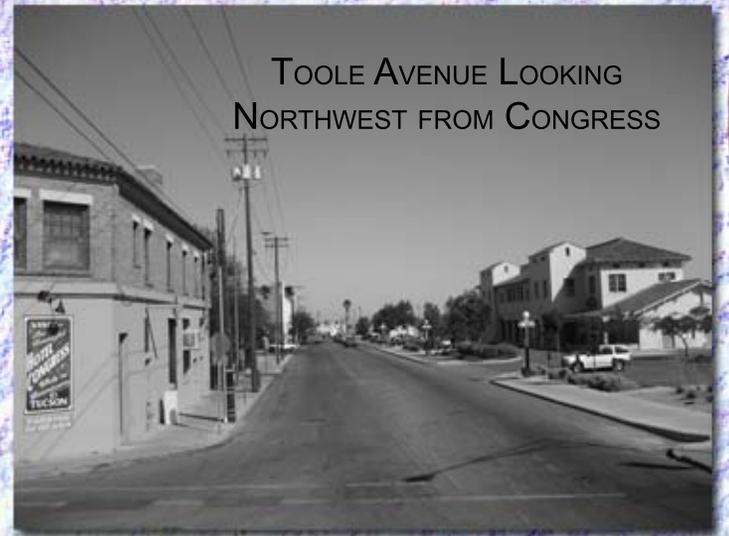


ARIZONA AVENUE LOOKING
NORTH FROM BROADWAY



BROADWAY LOOKING WEST FROM 5TH AVENUE

TOOLE AVENUE LOOKING
NORTHWEST FROM CONGRESS



Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Definition																				
	Block Length (North side - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Blight of Way																				
	Street Width	Intersection Type	Intersection Quantity	SideWalk With (North side - A)	SideWalk With (East side - A)	SideWalk With (South side - B)	SideWalk With (West side - B)	Signal Segment Square Footage	Parking				Transit												
									No Parking	Angle Parking	Parallel Parking	Parking Meters (rows)	Street Car Route	Street Car Stop (per segment)	Bus Route	Bus Stop (per segment)	TTCET Route	TTCET Stop (per segment)							
									P1A				T1A		T2A		T2C								
Arterial / Streetcar	4th Avenue				55	A	4	-	12	-	12	28392	-	-	●	6	●	2	●	-	-	-	-		
	6th Street to 9th Street	-	1178	-	1188	26	-	-	-	7	-	7	7000	●	-	-	-	●	0	●	-	-	-		
	9th Street to Congress	-	480	-	520																				
	Congress				40	A	1	10	-	10	-	4000	-	●	●	3	●	1	-	●	0	●	2		
	Toole Avenue to 5th Avenue	200	-	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	5th Avenue to 6th Avenue	355	-	355	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	6th Avenue to Scott	328	-	275	-	40	A	1	13	-	10	-	7014	-	-	-	-	●	0	-	●	0	0		
	Scott to Stone Avenue	391	-	391	-	50	A	1	13	-	10	-	8993	-	●	●	4	●	0	-	●	0	0		
	Stone Avenue to Church Street	996	-	944	-	55	A	2	12	-	12	-	23280	●	-	-	2	●	1	-	●	1	●	1	
	Church Street to Granada	721	-	673	-	56	A	1	12	-	12	-	16800	-	-	-	●	6	●	2	-	?	-	-	
	Broadway				55	A	1	12	-	12	-	9852	-	●	●	3	●	1	-	●	1	-	-	-	
	Toole (4th Avenue) to 5th Avenue	397	-	424	-	55	A	1	12	-	12	-	9840	-	●	●	3	●	1	-	●	1	-	-	
	5th Avenue to 6th Avenue	396	-	424	-	55	A	1	12	-	12	-	6132	-	-	-	●	2	●	0	-	●	0	-	
	6th Avenue to Scott	286	-	245	-	44	A	1	10	-	10	-	6750	-	●	-	-	4	●	1	-	●	1	-	
	Scott to Stone Avenue	371	-	304	-	40	A	1	10	-	10	-	19040	-	●	-	-	-	●	1	-	●	1	-	
	Stone Avenue to Pennington Street	891	-	1013	-																				
	Granada Avenue				50	A	1	-	10	-	9	25120	●	-	-	-	-	-	●	2	-	●	4	●	1
	Congress to Cushing Street	-	1360	-	1280																				
	Clark Street				50	A	2	12	-	12	-	6840	●	-	-	-	-	-	●	1	-	?	-	-	-
	Granada to Interstate 10	280	-	310	-	50	A	6	12	-	12	-	53760	●	-	-	-	-	●	2	-	?	-	-	
Interstate 10 to Mercado District**	2240	-	2240	-																					
SUB TOTALS				7812	3018	7804	2388		A	17		165301			34		12		9		4				

20852
46387
41762

Downtown Tucson Streetscape Matrix

Street Type	Street Segment	Amenities													Infrastructure						Notes										
		Furnishings													Infrastructure																
		Bench ²	Blue Recs ²	Drinking Fountains ²	Ash Trays ²	Trash Cans ²	Recycling Bins ⁴	Bollards ²	Media Enclosure ² / Trash Enclosures	Chairs	Banners	Sound System (public address speaking)	Wire Signage	Bike Lockers	Shade Structures	Water Features	Overhead Utility Line Relocation	Irrigation (fl)	Electrical for Street Lighting	Power for Landscape/Security Lighting	Power for Signage Lighting	Electrical grid connection for PHS	WiFi	Water Meters (fl)	Sewer Lines (fl)						
		F8A	F8C	F9A	F5A	F7A	F7D	F1C	F10A	A2A	A3A	A4A	A1A																		
Arterial / Streetcar	4th Avenue																														
	6th Street to 9th Street	-	1178	-	1188	100	23.7	100	23.7	200	11.8	50	47.3	50	47.3	50	47.3	4	1												
	9th Street to Congress	-	480	-	520	100	10	-	-	-	50	20	20	50	20	4	-	63.09	-	7.887	2.366										
	Congress																														
	Toole Avenue to 5th Avenue	200	-	200	-	100	4	100	4	200	2	50	8	50	8	50	8	4	1	10.29	10.29	1.333	0.4								
	5th Avenue to 6th Avenue	355	-	355	-	100	7.1	100	7.1	200	3.55	50	14.2	50	14.2	50	14.2	4	1	18.26	18.26	2.367	0.71								
	6th Avenue to Scott	328	-	275	-	100	6.03	100	6.03	200	3.02	50	12.1	50	12.1	50	12.1	4	1	15.51	15.51	2.01	0.603								
	Scott to Stone Avenue	391	-	391	-	150	5.21	100	7.82	300	2.61	50	15.6	50	15.6	50	15.6	4	1	20.85	20.85	2.607	0.521								
	Stone Avenue to Church Street	996	-	944	-	150	12.9	100	19.4	300	6.47	50	38.8	50	38.8	50	38.8	4	1	51.73	51.73	6.467	1.293								
	Church Street to Granada	721	-	673	-	150	9.32	100	14	300	4.67	50	28	50	28	50	28	-	1	37.33	-	4.667	0.933								
	Broadway																														
	Toole (4th Avenue) to 5th Avenue	397	-	424	-	150	5.47	100	8.21	300	2.74	50	16.4	50	16.4	50	16.4	-	1	21.89	21.89	2.737	0.547								
	5th Avenue to 6th Avenue	396	-	424	-	150	5.47	100	8.2	300	2.73	50	16.4	50	16.4	50	16.4	-	1	21.87	21.87	2.733	0.547								
	6th Avenue to Scott	286	-	245	-	150	3.41	100	5.11	300	1.7	50	10.2	50	10.2	50	10.2	-	1	13.63	13.63	1.703	0.341								
	Scott to Stone Avenue	371	-	304	-	150	4.5	100	6.75	300	2.25	50	13.5	50	13.5	50	13.5	-	1	17.36	17.36	2.25	0.45								
Stone Avenue to Pennington Street	891	-	1013	-	150	12.7	100	19	300	6.35	50	38.1	50	38.1	50	38.1	-	1	48.96	48.96	6.347	1.269									
Granada Avenue																															
Congress to Cushing Street	-	1360	-	1280	150	17.6	100	26.4	300	8.8	65	40.6	65	40.6	65	40.6	-	2	59.09	-	8.8	1.76									
Clark Street																															
Granada to Interstate 10	390	-	310	-	200	2.85	100	5.7	400	1.43	65	8.77	65	8.77	65	8.77	-	1	13.3	-	1.9	0.285									
Interstate 10 to Mercado District**	2240	-	2240	-	200	22.4	100	44.8	400	11.2	65	68.9	65	68.9	65	68.9	-	2	104.5	-	14.93	2.24									
SUB TOTALS		7812	3018	7804	2388	110.8	149.2	55.39	283.6	283.6	283.6	20	13	381	208.2	49.74	11.08														

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Definition																			
	Block Length (North side - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Street Width	Intersection Type	Intersection Quantity	Shoulder Width (North side - A)	Shoulder Width (East side - A)	Shoulder Width (South side - B)	Shoulder Width (West side - B)	Street Segment Square Footage	Parking	Transit	T2A	T2C								
Arterial	Congress Street				55	C	3	12	-	12	-	21840	●	-	-	●	2	●	2					
	Granada Avenue to Interstate 10*	900	-	920	-	55	C	4	12	-	12	-	14400	-	-	-	●	2	●	1				
	Interstate 10 to Santa Cruz River	500	-	600	-	56	A	1	12	-	12	-	15360	●	-	-	●	2	●	0				
	Santa Cruz River to Grande Avenue*	1280	-	1280	-	56	C	3	12	-	12	-	24000	●	-	-	●	-	-	-				
	Grande Avenue to Silverbell Ave.	1000	-	1000	-																			
	6th Avenue to Stone				55	B	2	-	12	-	12	16896	-	-	●	-	-	-	●	1	●	2		
	6th Street to Underpass	-	734	-	674	26	-	-	-	9	-	9	3519	-	-	●	-	-	-	●	2	●	2	
	Underpass to Alameda	-	238	-	153	55	B	1	-	12	-	12	15708	-	-	●	2	-	-	-	-	-		
	Alameda to Congress	-	594	-	715	60	-	-	-	12	-	12	5640	-	-	●	2	-	-	-	●	0	-	-
	Congress to Broadway Blvd.	-	235	-	235	55	B	1	-	12	-	12	9504	-	●	6	-	-	-	●	0	-	-	
	Broadway to 12th Street	-	396	-	396	55	B	1	-	12	-	12	9240	-	-	●	-	-	-	●	1	-	-	
	12th Street to 13th Street	-	385	-	385	55	B	1	-	12	-	12	9504	-	-	●	-	-	-	●	0	-	-	
	13th Street to 14th Street	-	396	-	396																			
	Stone Avenue				40	-	-	-	9	-	9	6714	-	-	●	-	-	-	●	0	-	-		
	6th Street to Toole Avenue	-	362	-	384	55	B	2	-	12	-	12	14952	-	-	●	-	-	-	-	-	-		
	Toole Avenue to Alameda	-	623	-	623	60	B	1	-	12	-	12	11400	-	-	●	2	-	-	-	-	-		
	Alameda to Pennington	-	481	-	469	47	-	-	-	10	-	10	5840	●	-	-	-	-	-	-	-	-		
	Pennington to Congress	-	293	-	291	52	-	-	-	10	-	10	4940	-	-	●	2	-	-	-	●	0	-	-
	Congress to Broadway Blvd.	-	246	-	248	50	B	3	-	10	-	10	19400	-	-	●	4	-	-	-	●	1	-	-
	Broadway Blvd. to Cushing	-	1030	-	910																			
	6th Street				55	B	3	12	-	12	-	25764	●	-	-	-	-	-	●	1	-	-		
	4th Avenue to 7th Avenue	1010	-	1137	-	55	B	3	12	-	12	-	38652	●	-	-	-	-	-	●	1	-	-	
	7th Avenue to Granada Avenue	1516	-	1705	-																			
	Toole Avenue				60	A	3	10	-	10	-	15970	●	-	-	-	-	-	●	0	-	-		
	4th Avenue to 6th Avenue	840	-	757	-	44	A	1	10	-	10	-	18880	●	-	-	-	-	-	-	-	-		
	6th Avenue to Stone	1005	-	863	-																			
	SUB TOTALS 8171 6013 8262 5879				A	4	224357					10	10					6						
					B	15	198593																	
				C	6	5640																		

Downtown Tucson Streetscape Matrix

Street Type	Street Segment	Street Character																																														
		Public Interest								Landscape												Hardscape								Lighting																		
		Block Length (North side - A)	Block Length (East side - A')	Block Length (South side - B)	Block Length (West side - B')	Art Installation	Historic Context	Signage	Directional Info / Kiosk	Gateway Markers	Special Events	Trees (side A)	Spacing (feet on center)	Quantity	Trees (side B)	Spacing (feet on center)	Quantity	Planter Extension / Median Planter	Frequency	Quantity	Raised Planter	Area (LF per segment shown)	Quantity	Ground Cover	Area (SF per segment shown)	Quantity	Building Frontage Planters	Area (LF per segment shown)	Quantity	Staircase / Parking	Area (SF per segment shown)	Accent 1	Area (SF per segment shown)	Accent 2	Area (SF per segment shown)	Tree Canopy	Street Light Spacing (ft)	Quantity	Canopy Pole Light	Pedestrian Light (Spacing)	Quantity	Landscape Lighting	Quantity	Festival Tree Lighting				
Arterial	Congress Street																																															
	Granada Avenue to Interstate 10	900	-	920	-	1	-	-	-	-	-	L6F	30	30	L6F	30	30.7	-	-	-	L1B	1	1820	L1D	1	1820	L1B	1	1820	H1A	19656	H1B	1092	H1C	1092	60.667	150	12.1	-	100	18.2	9.1	60.667					
	Interstate 10 to Santa Cruz River	500	-	600	-	1	-	1	-	-	-	L6F	30	20	L6F	30	20	-	-	-	L1B	1	1200	L1D	1	1200	L1B	1	1200	H1A	12960	H1B	720	H1C	720	40	150	8	-	100	12	6	40					
	Santa Cruz River to Grande Avenue	1280	-	1280	-	1	-	-	-	-	-	L6F	30	42.7	L6F	30	42.7	-	-	-	L1B	1	1280	L1D	1	1280	L1B	1	1280	H1A	13824	H1B	768	H1C	768	42.667	150	8.53	-	100	12.8	6.4	42.667					
	Grande Avenue to Silverbell Ave.	1000	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
	6th Avenue to Stone																																															
	6th Street to Underpass	-	734	-	674	-	-	-	-	-	-	-	L6A	20	36.7	L6A	20	33.7	L2A	350	2,097	L1B	0.5	704	L1D	0.5	704	L1B	1	1408	H1A	15206.4	H1B	844.8	H1C	844.8	70.4	150	9.39	-	100	14.1	3.52	70.4				
	Underpass to Alameda	-	238	-	153	-	-	-	1	●	-	-	L6A	20	11.9	L6A	20	7.65	L2A	350	0.68	L1B	0.75	293.25	L1D	0.75	293.25	L1B	0	0	H1A	3167.1	H1B	175.95	H1C	175.95	19.55	175	2.23	-	100	3.91	1.466	19.55				
	Alameda to Congress	-	594	-	715	-	-	-	-	-	-	-	L6A	20	29.7	L6A	20	35.8	L2A	350	1,697	L1B	1	1309	L1D	1	1309	L1B	1	1309	H1A	14137.2	H1B	785.4	H1C	785.4	65.45	150	8.73	-	100	13.1	6.545	65.45				
	Congress to Broadway Blvd.	-	235	-	235	-	1	-	-	-	-	-	L6A	10	23.5	L6A	10	23.5	L2A	350	0.671	L1B	1	470	L1D	1	470	L1B	1	470	H1A	5076	H1B	282	H1C	282	47	150	3.13	-	100	4.7	2.35	47				
	Broadway to 12th Street	-	396	-	396	-	1	-	-	-	-	-	L6A	10	39.6	L6A	10	39.6	L2A	350	1.131	L1B	0.5	396	L1D	0.5	396	L1B	0.5	396	H1A	8533.6	H1B	475.2	H1C	475.2	79.2	150	5.28	-	100	7.92	1.96	79.2				
	12th Street to 13th Street	-	385	-	385	-	-	-	-	-	-	-	PIR	-	-	PIR	-	-	L2A	350	1.1	PIR	-	-	PIR	-	-	PIR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	13th Street to 14th Street	-	396	-	396	-	-	-	-	-	-	-	L6A	20	19.8	L6A	20	19.8	L2A	350	1.131	L1B	1	792	L1D	1	792	L1B	1	792	H1A	8533.6	H1B	475.2	H1C	475.2	39.6	150	5.28	-	100	7.92	3.96	39.6				
	Stone Avenue																																															
	6th Street to Toole Avenue	-	362	-	384	-	-	-	-	-	-	-	L6A	20	18.1	L6A	20	19.2	L2A	350	1.034	-	0	0	-	0	-	0	-	0	H1A	6042.6	H1B	335.7	H1C	335.7	37.3	175	4.26	-	100	7.46	0	37.3				
	Toole Avenue to Alameda	-	623	-	623	-	-	-	-	-	-	-	L6A	20	31.2	L6A	20	31.2	L2A	350	1.78	L1B	1	1246	L1D	1	1246	L1B	1	1246	H1A	13456.8	H1B	747.6	H1C	747.6	62.3	150	8.31	-	100	12.5	6.23	62.3				
	Alameda to Pennington	-	481	-	469	-	-	-	-	-	-	-	L6A	20	24.1	L6A	20	23.5	L2A	350	1.374	L1B	0.5	475	L1D	0.5	475	L1B	1	950	H1A	10260	H1B	570	H1C	570	47.5	150	6.33	-	100	9.5	2.375	47.5				
	Pennington to Congress	-	293	-	291	-	-	-	-	-	-	-	L6A	20	14.7	L6A	20	14.6	-	-	-	L1B	1	584	L1D	1	584	L1B	0.33	192.72	H1A	5256	H1B	292	H1C	292	29.2	175	3.34	-	100	5.84	2.92	29.2				
	Congress to Broadway Blvd.	-	246	-	248	-	-	-	-	-	-	-	L6A	20	12.3	L6A	20	12.4	L2A	350	0.703	L1B	0.5	247	L1D	0.5	247	L1B	0.33	163.02	H1A	4446	H1B	247	H1C	247	24.7	150	3.29	-	100	4.94	1.235	24.7				
	Broadway Blvd. to Cushing	-	1030	-	910	-	-	-	1	-	-	-	L6A	20	51.5	L6A	20	45.5	L2A	350	2.943	L1B	0	0	L1D	0.5	970	L1B	0	0	H1A	17460	H1B	970	H1C	970	97	150	12.9	-	100	19.4	0	97				
6th Street																																																
4th Avenue to 7th Avenue	1010	-	1137	-	-	-	-	-	●	-	-	L6B	20	50.5	L6C	20	56.9	-	-	-	L1B	1	2147	L1D	1	2147	L1B	1	2147	H1A	23187.6	H1B	1288.2	H1C	1288.2	107.35	150	14.3	-	100	21.5	10.74	107.35					
7th Avenue to Granada Avenue	1516	-	1705	-	-	-	-	●	-	-	-	L6B	20	75.8	L6C	20	85.3	-	-	-	L1B	1	3221	L1D	1	3221	L1B	1	3221	H1A	34786.8	H1B	1932.6	H1C	1932.6	161.05	150	21.5	-	100	32.2	16.11	161.05					
Toole Avenue																																																
4th Avenue to 6th Avenue	840	-	757	-	-	●	3	1	1	●	-	L6E	20	42	L6E	20	37.9	-	-	-	L1A	1	1597	L1D	1	1597	L1A	0.33	527.01	H2A	14373	H2B	798.5	H2C	798.5	79.85	150	10.6	-	100	16	7.985	79.85					
6th Avenue to Stone	1005	-	863	-	-	●	-	1	1	●	-	L6E	20	51.3	L6E	20	43.2	L2B	3	3075	L1A	1	1888	L1D	1	1888	L1A	0.33	623.04	H2A	16992	H2B	944	H2C	944	94.4	175	10.8	-	100	18.9	9.44	94.4					
SUB TOTALS		8171	6013	8262	5879		7	2	4			L6A	294.9	L6A	287.1	L2B	3075	L1A	3485	L1D	16218.3	L1A	1150.05	H1A	162240.3	H1B	9013.35	H1C	9013.35	966.83	158.4							250.5	98.35	1205.2								
												L6B	50.5	L6C	56.85	L2A	15.31	L1B	11763.3				L1B	12173.7	H2A	31365	H2B	1742.5	H2C	1742.5																		
												L6E	93.25	L6E	81																																	
												L6F	72.67	L6F	30.67																																	
												TOTALS	L6A	581.9	L6B	50.5	L6C	56.85	L6E	174.3	L6F	103.3	L1A	4635.05	L1B	23937																						

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Definition																							
	Block Length (North side - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Street Width	Intersection Type	Intersection Quantity	Shoulder Width (North side - A)	Shoulder Width (East side - A)	Shoulder Width (South side - B)	Shoulder Width (West side - B)	Street Segment Square Footage	Parking	No Parking	Angle Parking	Parallel Parking	Parking Meters (new)	Transit	Street Car Route	Street Car Stop (per segment)	Bus Route	Bus Stop (per segment)	TTCET Route	TTCET Stop (per segment)				
Collector/Local	5th Avenue				55	D	1	-	12	-	12	9996	-	-	•	•	6	-	-	-	-	-	-	-	-			
	Tools to Broadway	-	374	-	459	55	C	1	-	12	-	10	8712	-	-	•	•	6	-	-	-	-	-	-	-			
	Broadway to 12th Street	-	396	-	396	55	D	1	-	12	-	10	8520	-	-	•	•	6	-	-	-	-	-	-	-			
	12th Street to 13th Street	-	380	-	396																							
	Church Avenue				50	C	1	-	5	-	5	4400	-	-	•	•	-	-	-	-	-	-	-	-	-			
	6th Street to Franklin Avenue	-	440	-	440	49	C	2	-	10	-	8	13462	•	-	-	-	-	-	-	•	1	-	-	-			
	Franklin Avenue to Alameda	-	751	-	744	59	C	1	-	10	-	8	7314	•	-	-	-	-	-	-	•	0	-	-	-			
	Alameda to Pennington	-	425	-	383	50	-	-	-	9	-	10	4869	-	-	•	2	-	-	-	-	-	-	-	-			
	Pennington to Congress	-	261	-	252	50	-	-	-	12	-	12	5412	•	-	-	-	-	-	-	-	-	-	-	-			
	Congress to Broadway	-	243	-	208	50	D	2	-	12.5	-	14	11285	-	-	•	•	4	-	-	-	•	1	-	-			
	Broadway to Ochoa (La Placita)	-	410	-	440	50	D	2	-	12	-	12	18840	-	-	•	•	-	-	-	-	•	1	-	-			
	Ochoa to Cushing Street (Convention)	-	760	-	810																							
	Granada Avenue				51	C	1	-	10	-	11	14332	-	-	•	-	-	-	-	-	-	•	4	-	-	-		
	6th Street to Franklin	-	692	-	692	35	C	2	-	10	-	10	17920	•	-	-	-	-	-	-	-	-	-	-	-			
	Franklin to Alameda	-	896	-	896	47	-	-	-	9	-	10	6000	•	-	-	-	-	-	-	-	•	0	-	-	-		
	Alameda to Congress	-	320	-	312																							
	Alameda Street				40	C	1	10	-	10	-	15280	-	-	•	2	-	-	-	-	-	-	-	-	-	-		
	Tools to Stone Avenue	711	-	815	-	40	-	-	10	-	10	-	20280	-	-	•	2	-	-	-	-	-	-	-	-	-		
	Stone to Granada	1052	-	976	-																							
	Pennington Street				48	-	-	8	-	8	-	12312	-	-	•	•	4	-	-	-	-	-	-	-	-	-		
	6th Avenue to Stone Avenue	784	-	755	-	32	-	-	8	-	8	-	4696	-	-	•	2	-	-	-	-	-	-	-	-	-		
	Stone Ave. to Church Ave.	295	-	292	-	45	-	-	0	-	0	-	0	•	-	-	-	-	-	-	-	-	-	-	-			
	Church Avenue to Congress Street (EW)	660	-	640	-	45	D	1	-	8	-	8	2400	•	-	-	-	-	-	-	-	-	-	-	-			
	Church Avenue to Congress Street (NS)	-	140	-	180																							
Cushing Street				48	-	-	10	-	10	-	11000	-	-	•	-	-	-	-	-	-	-	-	-	-	-			
Stone Avenue to Church Avenue	550	-	550	-	45	-	-	10	-	8	-	33300	-	-	•	-	-	-	-	-	•	2	-	-				
Church Avenue to Granada Avenue	1850	-	1850	-																								

SUB TOTALS 5902 6488 5878 6588

C 9
D 7

230510

34

9

92810
4356

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Character																																												
	Block Length (North side - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Public Interest	Art Installation	Historic Content	Signage	Directional Info / Kiosk	Gateway Markers	Special Events	Landscape	Trees (side A)	Spacing (between trees)	Quantity	Trees (side B)	Spacing (between trees)	Quantity	Plants: Extension / Modern Planters	Frequency	Quantity	Raised Planter	Area (ft. Per segment shown)	Quantity	Ground Cover	Area (ft. Per segment shown)	Quantity	Building Finisher Plantes	Area (ft. Per segment shown)	Quantity	Hardscape	Stonewall Paving	Quantity	Account 1	Quantity	Account 2	Quantity	Tree Grates	H6B	Lighting	Street Light Spacing ¹⁰	Quantity	Canney Pole Light ¹¹	Pedestrian Light (Spacing)	Quantity	Landscape Lighting ¹²	Festival Tree Lighting		
Collector Local	5th Avenue				1	-	-	-	-	-	-	L6A	20	18.7	L6A	20	23	L2A	350	2	L1C	1	833	L1D	1	833	L1C	1	833	H3A	8996.4	H3B	499.8	H3C	499.8	41.65	150	5.55	-	100	8.33	4.165	-						
	Tools to Broadway	-	374	-	459	-	-	1	-	-	-	L6A	20	19.8	L6A	20	19.8	L2A	350	2	L1C	0.5	396	L1D	0.5	396	L1C	0.33	261.36	H3A	7940.8	H3B	435.6	H3C	435.6	39.6	150	5.28	-	100	7.92	1.98	-						
	12th Street to 13th Street	-	380	-	396	-	-	-	-	-	-	-	L6A	20	19	L6A	20	19.8	L2A	350	2	L1C	0.5	388	L1D	0.5	388	L1C	0.33	256.08	H3A	7868	H3B	426	H3C	426	38.8	150	5.17	-	100	7.76	1.94	-					
	Church Avenue				-	-	-	-	-	-	-	L6A	20	22	L6A	20	22	L2A	350	3	-	0	-	0	-	0	-	0	0	H1A	3960	H1B	220	H1C	220	44	150	5.67	-	100	8.8	-	-						
	6th Street to Franklin Avenue	-	440	-	440	1	-	-	1	-	-	L6A	20	37.6	L6A	20	37.2	-	-	-	L1C	0.25	373.75	L1D	0.25	373.75	L1C	0	0	H1A	12115.8	H1B	673.1	H1C	673.1	74.75	175	8.54	-	100	15	1.869	-						
	Franklin Avenue to Alameda	-	751	-	744	1	-	-	-	-	●	PR	-	-	L6A	20	19.2	L2B	3	1275	L1C	0.25	202	L1D	0.25	202	L1C	0.33	266.64	H1A	6582.6	H1B	365.7	H1C	365.7	19.15	150	5.39	-	100	8.08	1.01	-						
	Alameda to Pennington	-	425	-	383	1	-	-	-	-	-	L6A	20	13.1	L6A	20	12.6	L2B	3	783	L1C	0.25	128.25	L1D	0.25	128.25	L1C	0.33	169.29	H1A	4382.1	H1B	243.45	H1C	243.45	25.65	150	3.42	-	100	5.13	0.641	-						
	Pennington to Congress	-	261	-	252	-	-	-	-	-	-	L6A	10	24.3	PR	-	-	L2A	350	1	-	0	-	0	-	0	-	0	0	H1A	4870.8	H1B	270.6	H1C	270.6	24.3	150	3.01	-	100	4.61	-	-						
	Congress to Broadway	-	243	-	208	-	-	-	-	-	-	L6A	20	20.5	L6A	20	22	L2B	3	1230	L1C	1	850	L1D	1	850	L1C	1	850	H1A	10156.5	H1B	564.25	H1C	564.25	42.5	150	5.67	-	100	8.5	4.25	-						
	Broadway to Ochoa (La Placita)	-	410	-	440	-	-	-	-	-	-	L6A	20	38	X	-	-	L2B	3	2280	L1C	1	1570	L1D	1	1570	L1C	1	1570	H1A	16956	H1B	942	H1C	942	38	150	10.5	-	100	15.7	7.85	-						
	Ochoa to Cushing Street (Convention)	-	760	-	810	-	-	1	-	-	●	L6D	20	34.6	L6D	20	34.6	L2A	350	4	L1C	0.25	346	L1D	0.25	346	L1C	0.33	456.72	H1A	13078.8	H1B	726.6	H1C	726.6	69.2	150	9.23	-	100	13.8	1.73	-						
	Granada Avenue				-	-	-	-	-	-	-	L6D	20	44.8	L6D	20	44.8	L2B	3	2888	L1C	0.25	448	L1D	0.25	448	L1C	0.33	591.36	H1A	18128	H1B	896	H1C	896	89.6	150	11.9	-	100	17.9	2.24	-						
	6th Street to Franklin	-	692	-	692	-	-	1	-	-	-	L6D	20	16	L6D	20	15.6	L2B	3	960	L1C	0.25	158	L1D	0.25	158	L1C	0.33	208.56	H1A	5400	H1B	300	H1C	300	31.6	175	3.61	-	100	6.32	0.79	-						
	Franklin to Alameda	-	896	-	896	-	-	1	-	-	-	L6B	30	23.7	L6C	30	27.2	L2A	350	4	L1C	0.5	763	L1D	0.5	763	L1C	0.33	503.58	H3A	13734	H3B	763	H3C	763	50.87	175	8.72	-	100	15.3	3.815	-						
	Alameda to Congress	-	320	-	312	-	-	1	-	-	-	L6B	30	35.1	X	-	-	L2A	350	6	L1C	0.5	1014	L1D	0.5	1014	L1C	0.33	669.24	H3A	18252	H3B	1014	H3C	1014	35.07	175	11.6	-	100	20.3	5.07	-						
	Alameda Street				-	-	-	-	-	-	-	L6B	30	26.1	L6C	30	25.2	L2A	350	4	-	0	0	-	0	0	-	0	0	-	0	0	H3A	11080.8	H3B	615.6	H3C	615.6	51.3	175	8.79	-	100	15.4	-	-			
	Tools to Stone Avenue	711	-	815	-	1	-	-	-	-	-	PR	-	-	L6C	30	9.73	L2A	350	2	-	0	0	-	0	0	-	0	0	H3A	4226.4	H3B	234.8	H3C	234.8	9.733	175	3.35	-	100	5.87	-	-						
	Stone to Granada	1052	-	978	-	-	-	-	-	-	-	X	-	-	X	-	-	-	-	-	0	0	-	0	0	-	0	0	-	0	0	-	0	0	0	175	7.43	-	100	13	-	-							
	Pennington Street				-	-	-	-	-	-	-	X	-	-	X	-	-	-	-	-	-	0	0	-	0	0	-	0	0	H3A	2160	H3B	120	H3C	120	0	175	1.71	-	100	3	-	-						
	6th Avenue to Stone Avenue	784	-	755	-	1	-	-	-	-	-	L6B	30	18.3	L6C	30	18.3	-	-	-	L1C	0.25	275	L1D	0.25	275	L1C	0	0	H1A	9900	H1B	1100	H1C	1100	36.67	175	6.29	-	100	11	1.375	-						
Stone Ave. to Church Ave.	295	-	292	-	1	-	1	-	-	-	L6B	30	61.7	L6C	30	61.7	-	-	-	L1C	0.25	925	L1D	0.25	925	L1C	0	0	H1A	29970	H1B	3330	H1C	3330	123.3	175	21.1	-	100	37	4.625	-							
Church Avenue to Congress Street (EW)	660	-	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Church Avenue to Congress Street (NS)	-	140	-	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Cushing Street				1	-	-	1	-	-	-	L6B	30	18.3	L6C	30	18.3	-	-	-	-	L1C	0.25	275	L1D	0.25	275	L1C	0	0	H1A	9900	H1B	1100	H1C	1100	36.67	175	6.29	-	100	11	1.375	-						
Stone Avenue to Church Avenue	550	-	550	-	1	-	1	-	-	-	L6B	30	61.7	L6C	30	61.7	-	-	-	-	L1C	0.25	925	L1D	0.25	925	L1C	0	0	H1A	29970	H1B	3330	H1C	3330	123.3	175	21.1	-	100	37	4.625	-						
Church Avenue to Granada Avenue	1850	-	1850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
SUB TOTALS				5902	6488	5878	6588	8	2	6	L6A	212.9	L6A	175.5	L2B	5568	L1C	8670	L1D	8670	L1C	6635.8	H1A	133580.6	H1B	8631.7	H1C	8631.7	885.8	152.2	246.6	43.35	-	-	-	-	-	-	-	-	-	-	-						
											L6B	164.9	L6C	142.1	L2A	31								H3A	71798.4	H3B	3988.8	H3C	3988.8																				
											L6D	95.4	L6D	95																																			
											L6A	388.4	L6B	164.9	L6C	142.1	L6D	190.4																															
											L1C	15305.83																																					

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Amenities																	Infrastructure															
	Block Length (North side - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Furnishings	Benches ^a	Quantity	Bike Racks ^a	Quantity	Drinking Fountains ^a	Quantity	Art Trays ^a	Quantity	Traffic Cones ^a	Quantity	Recycling Bins ^a	Quantity	Bollards (Spacing: 1000/1500) ^a	Quantity	Media Enclosures / Dumpster Enclosures	Quantity	Columns	Benches	Sound System (public address, speaking)	Water Signs	Bike Lockers	Shade Structures	Water Features	Infrastructure	Overhead Utility Line Relocation	Inflation (ft)	Electrical for Street Lighting	Power for Landscaping/Festivity Lighting	Power for Signage Lighting	Electrical grid connection for PAs	WiFi	Water Utilities (ft)
Collector/Local	5th Avenue				150	5.593	150	5.553	450	1.851	75	11.11	75	11.11	75	11.11	11.11	-	-	-	-	13.88	-	1.666	0.555	833	833	2.38	-	-	-	-	-	833	833		
	Tools to Broadway	-	374	-	459	150	5.28	150	5.28	450	1.76	75	10.56	75	10.56	75	10.56	-	-	-	-	13.2	-	1.584	0.528	792	792	2.263	-	-	-	-	-	792	792		
	12th Street to 13th Street	-	380	-	396	150	5.173	150	5.173	450	1.724	75	10.35	75	10.35	75	10.35	-	-	-	-	12.93	-	1.552	0.517	776	776	2.217	-	-	-	-	-	776	776		
	Church Avenue				175	5.029	150	5.867	350	2.514	75	11.73	75	11.73	75	11.73	-	-	-	-	-	-	14.67	-	1.76	0.503	880	880	-	-	-	-	-	-	880	880	
	6th Street to Franklin Avenue	-	440	-	440	175	5.543	150	9.967	350	4.271	75	19.93	75	19.93	75	19.93	-	-	-	-	23.49	-	2.99	0.854	1495	1495	4.271	2.136	-	-	-	-	1495	1495		
	Franklin Avenue to Alameda	-	751	-	744	175	4.617	150	5.387	350	2.309	75	10.77	75	10.77	75	10.77	10	5.0	-	-	13.47	-	1.616	0.462	383	808	2.309	1.154	-	-	-	-	808	808		
	Alameda to Pennington	-	425	-	383	175	2.931	150	3.42	350	1.466	75	6.84	75	6.84	75	6.84	-	-	-	-	8.55	-	1.026	0.293	513	513	1.466	-	-	-	-	-	513	513		
	Pennington to Congress	-	261	-	252	175	2.577	150	3.007	350	1.289	75	6.013	75	6.013	75	6.013	-	-	-	-	7.517	-	0.902	0.258	243	451	-	-	-	-	-	-	451	451		
	Congress to Broadway	-	243	-	208	175	4.857	150	5.867	350	2.429	75	11.33	75	11.33	75	11.33	-	-	-	-	14.17	-	1.7	0.486	850	850	2.429	1.214	-	-	-	-	850	850		
	Broadway to Ochoa (La Placita)	-	410	-	440	200	7.85	150	10.47	350	4.486	75	20.93	75	20.93	75	20.93	10	5	-	-	26.17	-	3.14	0.785	760	1570	4.486	2.243	-	-	-	-	1570	1570		
	Ochoa to Cushing Street (Convention)	-	760	-	810	Granada Avenue				175	7.909	150	9.227	450	3.076	65	21.29	65	21.29	65	21.29	-	-	23.07	-	2.768	0.791	1384	1384	3.954	1	-	-	-	-	1384	1384
	6th Street to Franklin	-	692	-	692	175	10.24	150	11.95	450	3.982	65	27.57	65	27.57	65	27.57	-	-	-	-	29.87	-	3.584	1.024	1792	1792	5.12	-	-	-	-	-	1792	1792		
	Franklin to Alameda	-	896	-	896	175	3.611	150	4.213	450	1.404	65	9.723	65	9.723	65	9.723	-	-	-	-	9.931	-	1.284	0.361	632	632	1.806	0.903	-	-	-	-	632	632		
	Alameda to Congress	-	320	-	312	Alameda Street				150	10.17	150	10.17	450	3.391	65	23.48	65	23.48	65	23.48	-	-	23.98	-	3.052	1.017	1526	1526	4.36	-	-	-	-	-	1526	1526
	Tools to Stone Avenue	711	-	815	-	150	13.52	150	13.52	450	4.507	65	31.2	65	31.2	65	31.2	-	-	-	-	31.87	-	4.056	1.352	1052	2028	5.794	-	-	-	-	-	2028	2028		
	Stone to Granada	1052	-	978	-	Pennington Street				150	10.26	150	10.26	450	3.42	65	23.68	65	23.68	65	23.68	-	-	24.18	-	3.078	1.026	1539	1539	-	-	-	-	-	-	1539	1539
	6th Avenue to Stone Avenue	784	-	755	-	150	3.913	150	3.913	450	1.304	65	9.031	65	9.031	65	9.031	-	-	-	-	9.224	-	1.174	0.391	292	587	-	-	-	-	-	-	587	587		
	Stone Ave. to Church Ave	295	-	292	-	-	-	-	-	-	-	-	-	-	-	-	-	10	4.5	-	-	20.43	-	-	-	-	1300	-	-	-	-	-	-	-	-		
	Church Avenue to Congress Street (EW)	660	-	640	-	175	1.714	150	2	450	0.867	65	4.615	65	4.615	65	4.615	10	4.5	-	-	4.714	-	0.6	0.171	-	300	-	-	-	-	-	-	300	300		
	Church Avenue to Congress Street (NS)	-	140	-	180	Cushing Street				200	5.5	150	7.333	450	2.444	75	14.67	75	14.67	75	14.67	-	-	17.29	-	2.2	0.55	1100	1100	3.143	-	-	-	-	-	1100	1100
	Stone Avenue to Church Avenue	550	-	550	-	200	18.5	150	24.67	450	8.222	75	49.33	75	49.33	75	49.33	75	49.33	-	-	-	58.14	-	7.4	1.85	3700	3700	10.57	1	-	-	-	-	3700	3700	
	Church Avenue to Granada Avenue	1850	-	1850	-	SUB TOTALS				5902	6488	5878	6588	137.8	157	56.52	334.2	334.2	334.2	19.9	400.7	47.11	13.78	20542	24856	56.57	9.65	23556	23556								

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Definition																								
	Block Length (Northside - A)	Block Length (East side - A)	Block Length (South side - B)	Block Length (West side - B)	Right of Way	Street Width	Intersection Type	Intersection Quantity	SideWalk Width (North side - A)	SideWalk Width (East side - A)	SideWalk Width (South side - B)	SideWalk Width (West side - B)	Street Segment Square Footage	Parking	No Parking	Angled Parking	Parallel Parking	Parallel (Metric) (mtr)	Transit	Street Car Route	Street Car Stop (per segment)	Bike Route	Bus Route	Bus Stop (per segment)	TICET Route	TICET Stop (per segment)			
Local / Alley	Arizona Avenue (Alley)				26	D	6	-	6	-	6	-	16640		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Toole to 12th Street				-	640	-	639																					
	8th Avenue				55	D	3	-	12	-	12	-	9504		-	-	●	-	6		-	-	-	-	-	-	-		
	Broadway Boulevard to 12th Street				-	396	-	396																					
	12th Street				55	-	-	12	-	12	-	-	22752		-	●	-	-	6		-	-	-	-	-	-	-		
	Scott Avenue to 4th Avenue				948	-	-	948	-	-	-	-	-	-															
	Scott Avenue				30	C	1	-	5	-	5	-	3565		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Pennington to Congress				-	350	-	383																					
	Congress to Broadway				-	197	-	229																					
	Broadway to 12th Street				-	396	-	259																					
	12th Street to 13th Street				-	385	-	513																					
	13th Street to 14th Street				-	396	-	393																					
	Harbert Avenue (Alley)				26	C	1	-	0	-	0	-	6942		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Congress Street to Broadway Boulevard				-	287	-	287																					
	Broadway Boulevard to 12th Street				-	396	-	396																					
	McCormick Street				50	-	-	10	-	8	-	-	7168		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Church Avenue to Stone Avenue				400	-	-	396	-	-	-	-	-	-															
	Stone Avenue to Scott Avenue				220	-	-	210	-	-	-	-	-																
	13th Street				55	-	-	17	-	9	-	-	5780		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Scott Avenue - 6th Avenue				226	-	-	212	-	-	-	-	-																
	6th Avenue - 5th Avenue				391	-	-	365	-	-	-	-	-																
	5th Avenue - 4th Avenue				350	-	-	396	-	-	-	-	-																
	Corral Street				20	D	2	6	-	6	-	-	2856		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Scott Avenue to Stone Avenue				240	-	-	235	-	-	-	-	-																
	Delina Street				37	-	-	8	-	8	-	-	5040		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Church Avenue to Scott Avenue				318	-	-	312	-	-	-	-	-																
	Jackson Street				39	C	1	8	-	8	-	-	11832		●	-	-	-	-	-	-	-	-	-	-	-	-		
	Church Avenue to Scott Avenue				748	-	-	730	-	-	-	-	-																
	Council Street				36	-	-	6	-	7	-	-	3068		-	-	●	-	-	-	-	-	-	-	-	-	-		
	Court Avenue to Church Avenue				236	-	-	236	-	-	-	-	-																
Church Avenue to Stone Avenue				367	-	-	368	-	-	-	-	-																	
Franklin Street				37	-	-	8	-	8	-	-	4400		-	-	●	-	-	-	-	-	-	-	-	-	-			
Court Avenue to Church Avenue				306	-	-	244	-	-	-	-	-																	
Church Avenue to Stone Avenue				396	-	-	450	-	-	-	-	-																	
Court Avenue				40	C	2	-	8	-	8	-	5520		-	-	●	-	-	-	-	-	-	-	-	-	-			
Franklin Street to Council Street				-	349	-	341																						
13th Avenue (Alley)				28	D	2	-	0	-	0	-	11088		●	-	-	-	-	-	-	-	-	-	-	-	-			
Council Street to Franklin Street				-	396	-	396																						
SUB TOTALS				5147	4168	5103	4192						193716						25										
				C	11																								
				D	13																								

5546.7

Downtown Tucson Streetscape Matrix

Street Type	Street Segment				Street Character																																																															
	Back Length (Northside - A)	Back Length (East side - A)	Back Length (South side - B)	Back Length (West side - B)																																																																
Local / Alley	Arizona Avenue (Alley)																																																																			
	Toole to 12th Street				640	639																																																														
	8th Avenue																																																																			
	Broadway Boulevard to 12th Street				396	396																																																														
	12th Street																																																																			
	Scott Avenue to 4th Avenue				945	945																																																														
	Scott Avenue																																																																			
	Pennington to Congress				350	383																																																														
	Congress to Broadway				197	229																																																														
	Broadway to 12th Street				396	259																																																														
	12th Street to 13th Street				385	513																																																														
	13th Street to 14th Street				396	393																																																														
	Herbert Avenue (Alley)																																																																			
	Congress Street to Broadway Boulevard				287	287																																																														
	Broadway Boulevard to 12th Street				396	396																																																														
	McCormick Street																																																																			
	Church Avenue to Stone Avenue				400	396																																																														
	Stone Avenue to Scott Avenue				220	210																																																														
	13th Street																																																																			
	Scott Avenue - 6th Avenue				226	212																																																														
	6th Avenue - 5th Avenue				391	365																																																														
	5th Avenue - 4th Avenue				350	396																																																														
Corral Street																																																																				
Scott Avenue to Stone Avenue				240	235																																																															
Dehna Street																																																																				
Franklin Avenue to Scott Avenue				315	312																																																															
Jackson Street																																																																				
Church Avenue to Scott Avenue				749	730																																																															
Concill Street																																																																				
Court Avenue to Church Avenue				236	236																																																															
Church Avenue to Stone Avenue				367	388																																																															
Franklin Street																																																																				
Court Avenue to Church Avenue				306	244																																																															
Church Avenue to Stone Avenue				396	450																																																															
Court Avenue																																																																				
Franklin Street to Council Street				349	341																																																															
13th Avenue (Alley)																																																																				
Council Street to Franklin Street				396	396																																																															
SUB TOTALS				5147	4168	5103	4192																					2	L6A 19.8 L6B 241.6 L6D 103.7 L7A 260.6 L6A 39.6 L6D 209				L6A 19.8 L6C 207.8 L6D 105.1 L7A 260.4 L7A 521				L2A 22.73 L2B 1198 L1C 3519				L8A 849.3 L1C 3519				L1D 3519 L1C 3516				H1C 105038 H2A 15681.6 H3A 39380.4 H5A 18030				H2B 871.2 H3C 2188 H3C 2188				H2C 871.2 H3C 1219				E3D 101.14 E3E 25.675				186.1 14.56			

Prepared by: Rob Paulus Architect, Ltd.

Downtown Tucson Streetscape Matrix

Street Type	Street Segment	Amenities														Infrastructure							
		Furnishings				Furniture				Features						Infrastructure							
		F8C	F8E	F98	F5C	F7C	F7E	F1C	F18	A2A	A3A	A4A	A1A	Overhead Utility Line Relocation	Irrigation (I)	Electricity for Street Lighting	Power for Landscape/Festival Lighting	Power for Storage Lighting	Electricity for connection for Pkts	WiFi	Water Utilities (U)	Sewer Lines (U)	
Local / Alley	Arizona Avenue (Alley)																						
	Toole to 12th Street	-	640	-	639																		
	8th Avenue																						
	Broadway Boulevard to 12th Street	-	396	-	396																		
	12th Street																						
	Scott Avenue to 4th Avenue	948	-	948	-																		
	Scott Avenue																						
	Pennington to Congress	-	350	-	383																		
	Congress to Broadway	-	197	-	229																		
	Broadway to 12th Street	-	396	-	259																		
	12th Street to 13th Street	-	385	-	513																		
	13th Street to 14th Street	-	396	-	393																		
	Harbert Avenue (Alley)																						
	Congress Street to Broadway Boulevard	-	287	-	287																		
	Broadway Boulevard to 12th Street	-	396	-	396																		
	McCormick Street																						
	Church Avenue to Stone Avenue	400	-	396	-																		
	Stone Avenue to Scott Avenue	220	-	210	-																		
	13th Street																						
	Scott Avenue - 6th Avenue	226	-	212	-																		
	6th Avenue - 5th Avenue	391	-	365	-																		
	5th Avenue - 4th Avenue	350	-	396	-																		
Corral Street																							
Scott Avenue to Stone Avenue	240	-	235	-																			
Dehna Street																							
Church Avenue to Scott Avenue	315	-	312	-																			
Jackson Street																							
Church Avenue to Scott Avenue	749	-	730	-																			
Council Street																							
Court Avenue to Church Avenue	236	-	236	-																			
Church Avenue to Stone Avenue	367	-	368	-																			
Franklin Street																							
Court Avenue to Church Avenue	306	-	244	-																			
Church Avenue to Stone Avenue	396	-	450	-																			
Court Avenue																							
Franklin Street to Council Street	-	349	-	341																			
18th Avenue (Alley)																							
Council Street to Franklin Street	-	396	-	396																			
SUB TOTALS		5147	4168	5103	4192	23.21	23.21	9.52	54.01	54.01	54.01	8	6	5.802	17821	18610	29.81			4760	4760		

Downtown Tucson Streetscape Matrix

General Notes

P/R Parks + Recreation - refer to Parks + Rec plans

X Existing to remain

- Not Applicable

red indicates information to be verified / confirmed

blue indicates quantities *NOT* included in component totals or sub-totals; components for these segments are calculated in a separate budget number (included as line item in streetscape budget report) or excluded from streetscape budget

green indicates quantity that has been reduced by an amount as indicated in Notes column at far right end of respective matrix row

* Refer to plans for Hotel Arizona / Arena project

** Refer to plans for the Mercado district

*** Refer to plans for the Origins project

Footnotes

1 Street segment lengths (shown in feet) based on plans provided by Tucson Department of Transportation archives (March 2007)
Lengths shown are for sidewalk street frontage; intersections are excluded and should be quantified separately

2 Right-of-way widths (shown in feet) based on plans provided by Tucson Department of Transportation archives (March 2007)

3 El Presidio neighborhood includes no intersection modifications

4 Apply one unit per length of linear feet indicated; unit frequency is per single side of street

5 Catenary poles for streetcar may double as street light poles; apply spacing from street light column on street

6 All street lights are to be staggered on both sides of the street unless ROW is 50' or greater.

7 Signage (including transportation signage, downtown signage, destination signage, etc.) to be allocated by TDOT
Signage budget - not yet incorporated

8 *not used*

9 Intersection types established for a general budget depending on elaboration of paving material, plantings and interest

10 Apply one unit per length of linear feet indicated across right-of-way street width

11 If spacing of trees is less than 20', it indicates a double-row of trees to occur along sidewalk

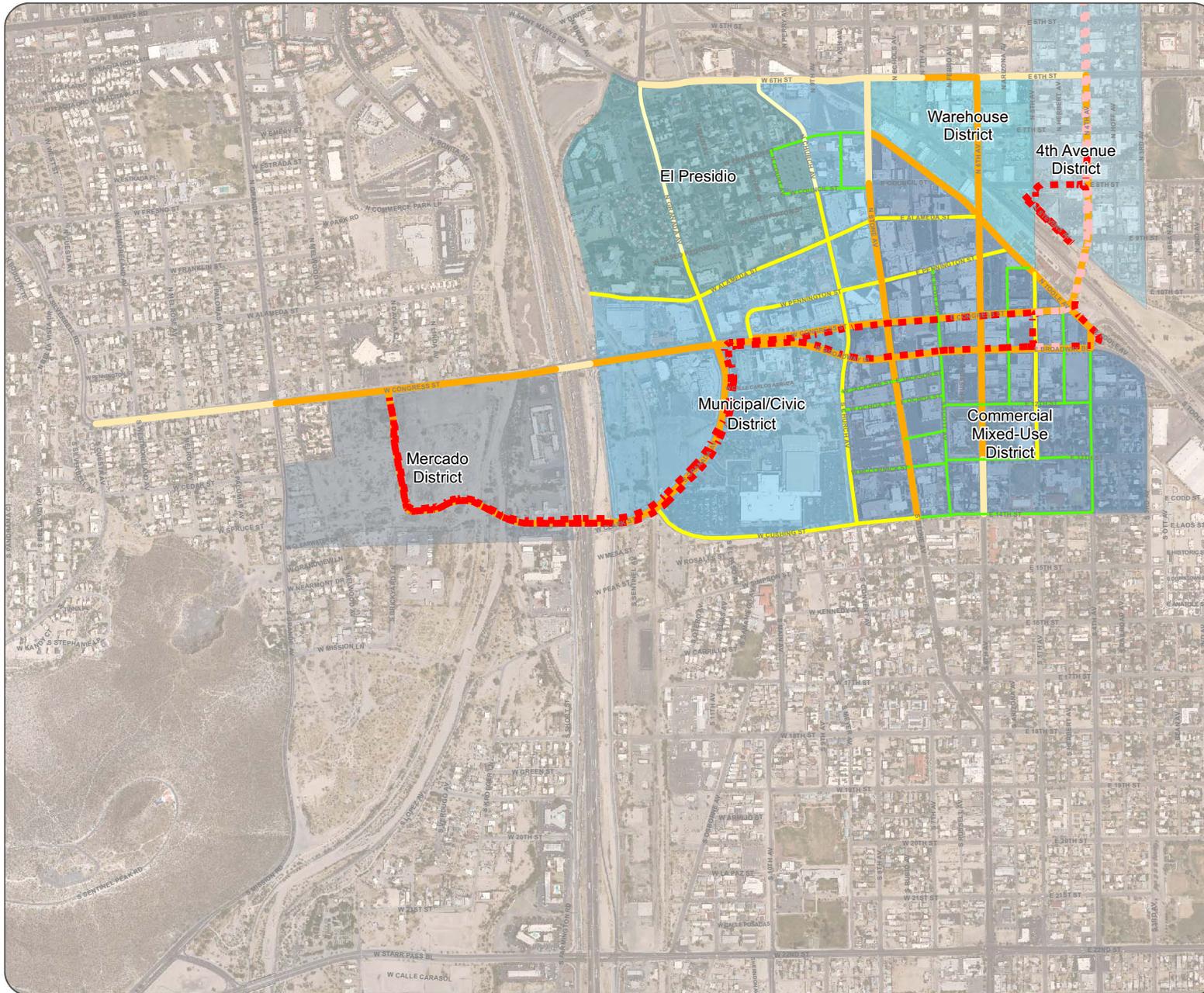
12 Landscape Lights = 1/200sf of Raised Planter area on arterial + collector; 1/300sf of raised planter on local

Downtown Infrastructure

Streetscape

Legend

- Street Car Line
- Arterial
- Collector
- Local Street or Alleyway



N
1:10,000



\\johnso1\COT\Projects\kleone\008\mxd\streetscape.mxd

Downtown Tucson Streetscape

Component List + Budget

MasterFormat	MasterFormat Category	Item	Keynote	Letter	Location	Description	Material	Labor/Equip	Cost	Unit
Right of Way										
	Intersection Type	Intersection paving + design		A	streetcar / arterial	Intensive: pavers continuing across street + patterns, landscape curb-outs	\$4,000	\$3,400	\$7,400	ea
		Intersection paving + design		B	collector	Medium: pavers continuing across street, landscape curb-outs	\$3,000	\$2,850	\$5,850	ea
		Intersection paving + design		C	local	Standard: painted crosswalk indicators	\$2,000	\$800	\$2,800	ea
		Intersection paving + design		D	local / alley	T-type intersection paver design at termination crossing	\$1,500	\$2,850	\$4,350	ea
Parking										
11 12 26	Parking Collection	Parking Meter		P1	A streetcar / arterial	Solar powered, multiple space meter (includes power source)	\$8,000	\$250	\$8,250	ea
				B	collector / local	Pay-by-space meter (includes power source)	\$1,000	\$250	\$1,250	ea
	Parking Striping	Paint Striping			parallel parking	angled parking				
Transit										
10 73 43	Transportation Stop Shelters	Streetcar Stop		T1	A streetcar routes	Solar powered, LED-lit shelter	\$10,000	\$1,700	\$11,700	ea
				B	streetcar routes (alt)	Euronodel "Urban Shelter"	\$8,500	\$850	\$9,350	ea
10 73 43	Transportation Stop Shelters	Bus Transit Stop		T2	A streetcar / arterial	Custom bus shelter w/ PVs integrated	\$2,500	\$950	\$3,350	ea
				B	collector / local	Custom bus shelter	\$2,000	\$950	\$2,850	ea
				C	TICET route	Custom bus shelter	\$1,000	\$850	\$1,850	ea
Public Interest										
	Public Art	Art Installations			TBD	public art = 1% of streetscape budget				
	Signage	Street Name Signage			intersections	street name signs (lump sum allocation)				\$500,000
10	Signage	Signage			RND	Signage kiosks for downtown (per ParkWise allocation)				\$20,000 ea
10	Signage	Historic Content		S1	A streetcar / arterial route	Historic signage indicator (plaque, lighting, engraved paver)	\$1,000	\$350	\$1,350	ea
				B	collector / local	Historic signage indicator (plaque, lighting, engraved paver)	\$800	\$350	\$1,150	ea
10 13 00	Directories	Directional Info Kiosk		S2	A streetcar / arterial route	Euronodel free standing box, "Stealth" interactive kiosk	\$1,500	\$600	\$2,100	ea
10 18 00	Informational Kiosks			B	collector / local	Euronodel with seating, trash receptacle	\$1,000	\$600	\$1,600	ea
10	Signage	Gateway Markers		S3	A streetcar / arterial route	Elaborate gateway marquees (custom design, w/lighting, etc)	\$3,000	\$350	\$3,350	ea
				B	collector / local	Moderate gateway signage marquees	\$1,500	\$350	\$1,850	ea
Landscaping										
12 93 33	Planters	Raised Planters		L1	A streetcar route	Salvanized steel planters (with landscape + ped. lighting)	\$22	\$5.00	\$27.00	sf
				B	arterial routes	Stainless steel planters (with landscape + ped. lighting)	\$20	\$5.00	\$25.00	sf
				C	collector	Masonry planters (with landscape)	\$15	\$3.50	\$18.50	sf
				D	local	Cast concrete planters - with reservoir system for water conservation	\$10	\$3.00	\$13.00	sf
32 90 00	Planting	Planter Extension		L2	A between street pkgs	curb-out with plants, groundcover, total area of one parking space (~150sf)	\$1,500	\$250	\$1,750	ea
		Median Planters		L2	B at middle of street	median with plants, groundcover, pedestrian lights	\$25	\$5	\$30	sf
32 96 13	Groundcover	Groundcover plants		L4	A streetcar / arterial	mix of Verbena, bear grass, etc.	\$17	\$1.50	\$18.50	sf
				B	collector / local	mix of Salvia, agave, etc.	\$15	\$1.50	\$16.50	sf
32 96 43	Trees	Trees		L6	A east/west side of street	Hybrid Palo Verde (Desert Museum)	\$800	\$125	\$925	ea
				B	north side of street	Velvet Mesquite	\$800	\$125	\$925	ea
				C	south side of street	TBD (Varies)	\$800	\$125	\$925	ea
				D	east/west side of street	Sweet Acacia	\$800	\$125	\$925	ea
				E	Toole Ave	Phoenix Hybrid Mesquite	\$800	\$125	\$925	ea
				F	Mercado	Palo Verde	\$800	\$125	\$925	ea
	Trellis	Landscape - Trellis + Vines		L7	A alleys	custom trellis (steel + cable) with landscape vines	\$10	\$2.50	\$12.50	sf
	Boulders	Decorative boulders		L8	A Alley edges, ends		\$3	\$2.50	\$5.50	sf

Streetcar	Sub-Total	Arterial	Sub-Total	Collector	Sub-Total	Local	Sub-Total	Total	Category
17	\$125,800	4	\$29,600					\$155,400	\$402,950
		15	\$87,750					\$87,750	
		6	\$16,800	9	\$25,200	11	\$30,800	\$72,800	
				7	\$30,450	13	\$58,550	\$87,000	
34	\$280,500	18	\$448,500					\$429,000	\$502,750
				34	\$42,500	25	\$51,250	\$73,750	
10	\$111,000							\$111,000	\$237,500
2	\$18,700							\$18,700	
9	\$30,150	10	\$33,500					\$63,650	
4	\$7,400	6	\$11,100	9	\$25,650			\$25,650	
								\$18,500	
4	\$5,400	7	\$9,450					\$14,850	\$1,094,200
				8	\$9,200	2	\$2,300	\$11,500	see below
6	\$12,600	2	\$4,200					\$16,800	
				2	\$3,200			\$3,200	
1	\$3,350	4	\$13,400					\$16,750	
				6	\$11,100			\$11,100	
24050	\$648,350	4635	\$125,145					\$774,495	\$5,676,448
		23937	\$598,425					\$598,425	
				15306	\$283,161	7034	\$130,129	\$413,290	
				16218	\$210,834	8670	\$112,710	\$3519	\$45,747
								\$369,291	
30	\$52,500	15	\$26,250	31	\$54,250	23	\$40,250	\$173,250	
		3075	\$92,250	5568	\$187,040	1188	\$35,540	\$294,930	
12025	\$222,463							\$222,463	
								\$0	
112.6	\$104,155	582	\$538,350	368	\$340,400	40	\$37,000	\$1,019,905	
171.4	\$198,545	51	\$47,175	165	\$152,625	242	\$223,850	\$582,195	
125.7	\$118,273	57	\$52,725	142	\$131,350	208	\$192,400	\$482,748	
				190	\$175,750	209	\$193,325	\$369,075	
				174	\$160,950			\$160,950	
107	\$98,975	103	\$89,275					\$188,250	
							521	\$6,513	\$6,513
							849	\$4,670	\$4,670

Downtown Tucson Streetscape

Component List + Budget

MasterFormat	MasterFormat Category	Item	Keynote	Letter	Location	Description	Material	Labor/Equip	Cost	Unit
Features + Amenities										
10 71 00	Exterior Sun Control	Amenity - Shade Structures	A1	A	at seating areas, benches	Custom shade structures (incorporate PVs where feasible)	\$5,000	\$2,000	\$7,000	ea
			B	A	plazas	Euromodel shades	\$12,000	\$4,800	\$16,800	ea
			C	A	special event streets	Eide tensile shade structures (occasional use for special events)	\$2,500	\$1,000	\$3,500	ea
10 73 13	Awnings	Amenity - Awnings	A1	C	streetcar / arterial collector / local	Majestic shades Hunter Douglas shades	\$15,000 \$12,500	\$9 \$5	\$21,000 \$17,500	sf
10 83 16	Banners	Amenity - Banners	A2	A	arterial + collector streets	Includes banner + brackets on street-light poles	\$500	\$200	\$700	ea
	Sound System	Public Address Speakers	A3	A	streetcar / arterial	public address system (loudspeakers mounted on light poles)	\$150	\$25	\$175	ea
	Water Spigots	Water Spigots	A4	A	arterial + collector	power wash, lockable, water spigots for sidewalk cleaning	\$150	\$25	\$175	ea
13 12 13	Fountains	Amenity - Water Features	A5	A	plazas	Custom fountains, water features	\$10,000	\$4,000	\$14,000	ea
22 42 00	Public Restroom Facilities	Amenity - Restroom	A6	A	plazas	Exeloo East "Galaxy"	\$180,000	\$72,000	\$252,000	ea
			B	A	transit hubs	Hering Bau "WCmatic"	\$175,000	\$70,000	\$245,000	ea
	Storage Facilities	Maintenance Storage				parking bays for storage + maint vehicles + equipment				\$0

Streetcar	Sub-Total	Arterial	Sub-Total	Collector	Sub-Total	Local	Sub-Total	Total	Category
11	\$77,000	13	\$91,000	14	\$98,000	6	\$42,000	\$308,000	\$4,510,113
								\$0	
								\$140,000	
2750,16667	\$578,554	28044,625	\$988,937	23051	\$403,383	32286	\$565,005	\$1,167,491	
								\$968,398	
381	\$286,700	323	\$226,100	401	\$280,700			\$773,500	
208	\$36,400	56	\$9,800					\$46,200	
50	\$8,750	66	\$11,550	47	\$8,225			\$28,525	
								\$84,000	
								\$504,000	
								\$490,000	
								\$0	

Streetscape Budget (before sub-grade improvements)

SubTotals before Infrastructure

183,931	\$9,348,701	224,357	\$10,506,732	230,510	\$8,671,716	193,716	\$3,953,047	\$34,718,195	\$13,884
	of \$98.58		of \$46.83		of \$37.62		of \$20.41		sf

Infrastructure	Item	Description	Material	Labor/Equip	Cost	Unit
Irrigation	Landscape - Irrigation	at planted areas + trees			\$110	lf
Water	Water Line	for d.f. + spigots for water features for public restrooms			\$55	lf
					\$65	lf
					\$65	lf
Sewer	Sewer Line	for d.f. for water features for public restrooms			\$65	lf
					\$65	lf
					\$85	lf
Electrical	Electrical Line	streetcar streets arterial + collector local streets			\$155	lf
					\$110	lf
					\$75	lf
Power	Power source	power for landscape + festival lights power for signage power for gateway marquees			\$650	ea
					\$500	ea
					\$500	ea
Electrical PV	PV Grid Connection	contingency				

14921	\$1,641,310	19876	\$2,186,580	20432	\$2,249,720	17821	\$1,960,310	\$8,037,920	\$24,360,365
14921	\$820,656	19876	\$1,093,290	23556	\$1,295,580	4760	\$261,800	\$3,471,325	
2000	\$130,000	1500	\$97,500						
2000	\$130,000	1500	\$97,500						
14921	\$989,865	19876	\$1,292,070	23556	\$1,531,140	4760	\$309,400	\$4,102,475	
2000	\$130,000	1500	\$97,500						
2000	\$170,000	1500	\$127,500						
14921	\$2,312,755	19108	\$2,107,880	24856	\$2,734,160	18610	\$1,395,750	\$7,350,545	
43	\$27,950	55	\$35,750	56	\$36,400	30	\$19,500	\$119,600	
21	\$10,500	27	\$13,500	10	\$5,000	0	\$0	\$29,000	
1	\$500	4	\$2,000	6	\$3,000	0	\$0	\$5,500	
								\$50,000	

Streetscape Budget (with Infrastructure)

SubTotals

183,931	\$15,092,238	224,357	\$17,651,802	230,510	\$16,526,716	193,716	\$7,099,807	\$59,078,560	\$13,884
	of \$94.93		of \$78.69		of \$71.70		of \$40.76		total sf

Item	Description	Material	Labor/Equip	Cost	Unit
Demolition	Contingency			\$784,611.80	
Escalation	1% per month (phase: 1-year per type)			\$1,883,068	
Sub Total				\$18,359,916	
Contractor Fees	23% (per Sundt)			\$4,222,761	
Sub Total				\$22,582,677	
A/E Fees	20% (per TDOT)			\$4,516,539	
Sub Total				\$27,099,236	
Public Art	1% of Budget			\$270,992	
Out of TIF Boundary	Deduct for street segments outside of TIF boundary			\$29,800	
Streetscape Budget TOTAL	TOTAL			\$27,340,428	

								\$2,888,528	
								\$15,861,026	
								\$12,086,704	
								\$17,900,496	
								\$14,866,546	
								\$19,145,716	
								\$17,839,975	
								\$1,146,743	
								\$9,774,895	
								\$16,364,161	
								\$106,246,144	

Additional Project Streetscapes	Item	Description	Material	Labor/Equip	Cost	Unit
Pedestrian Bridges	Pedestrian Bridges	Civic Plaza / Arena south of 4th Ave			\$2,000,000	ea
					\$1,000,000	ea
Tucson Convention Center	Convention Center Landscape	TCC			\$75	sf
Mercado / Origins Improvements	Streetscape Improvements	Mercado/Origins			\$10	sf
Congress St.: Grande - Silverbell	Streetscape Improvements	west Congress St.			\$45	sf

								\$2,000,000	
								\$1,000,000	
								\$19,500,000	
								\$537,800	
53780	\$537,800							\$537,800	
		24000	\$1,080,000					\$1,080,000	

Streetscape Budget (with Additional Projects)

TOTAL

								\$130,365,744	
--	--	--	--	--	--	--	--	---------------	--

Downtown Tucson Streetscape

Component List + Budget

MasterFormat	MasterFormat Category	Item	Keynote	Letter	Location	Description	Material	Labor/Equip	Cost	Unit	Streetcar	Sub-Total	Arterial	Sub-Total	Collector	Sub-Total	Local	Sub-Total	Total	Category	
Potential Deducts (redundancies)																					
		Streetcar Budget Redundancy				per TDOT						(\$951,600)								(\$951,600)	
		Parking										(\$1,000,000)			(\$500,000)				(\$500,000)	(\$3,000,000)	
		Parks & Recreation				Toole Avenue						(\$5,000,000)								(\$5,000,000)	
		Parks & Recreation				Arizona Avenue														(\$2,000,000)	
		Parks & Recreation				Cushing Street/Armory Park link														(\$2,500,000)	
		Parks & Recreation				(C18)														(\$800,000)	
		Parks & Recreation				El Presidio Walk (50% of \$800,000 at Church + Alameda)														(\$400,000)	
		Infrastructure				Water + Sewer (well-coordinated installation + upgrades)						(\$2,350,520)			(\$2,805,380)				(\$2,826,720)	(\$8,553,800)	
		Streetscape Budget (with deducts)				TOTAL						\$26,389,029			\$30,333,213				\$32,925,917	\$18,264,161	\$107,160,344
Pilot Project																					
		East End (coverage on 4th Ave. underpass implementation)																			
		5th Avenue (Btwn. + Toole)							\$71.70	sf					9996				\$716,676	\$716,676	
		Broadway Ave. (1/2 block)							\$94.93	sf	9852	\$935,263								\$935,263	
		4th Ave (btwn Btwn. + Toole)							\$94.93	sf	3500	\$332,259								\$332,259	
		Congress Ave. (4th-42 Ave)							\$94.93	sf	7500	\$711,985								\$711,985	
		Toole Ave. (4th-5th Ave.)							\$78.68	sf			\$325	\$418,957						\$418,957	
		East End				TOTAL														\$3,115,140	

Descriptive Items

- 1 Demolition
- 2 Signage
- 3 Lighting
- 4 Plants
- 5 Parking
- 6 Trees
- 7 Barrio del Sol
- 8 Building Frontage Planting
- 9 Shade Structures
- 10 Awnings
- 11 Existing Billboards

Demolition of existing streetscape is included as a contingency number
 TDOT/ParkWise complete signage budget is not included; only additional portion for the kiosks and additional signage enhancement for streetscape
 Note: It is proposed that signage elements be integrated with or attached to other elements such as light poles, traffic signal poles, transit stop structures, shade structures, etc. This will alleviate the need for additional signage poles and related pole foundations, and will alleviate visual clutter along the streetscape.
 It is recommended that the street lighting be phased into an LED system. Utilization of PVs that offset the cost of street lighting is recommended
 Include as annual, recurring budget for seasonal plantings and maintenance (spring annuals and perennials)
 It is recommended that all parking meters be replaced with ticket-vendor meters.
 It is recommended that the City go into contract early with a nursery to train young trees to grow vertical for streetscape implementation. This additional nursery contract cost should be considered.
 The future Barrio del Sol neighborhood street improvement area is not included in this study.
 It is recommended that a building frontage planting zone be included on all sidewalks wider than 10'-0".
 Shade structures to incorporate photovoltaics where possible
 A portion of the streetscape budget should be allocated to business owners for installation of awnings (along streetcar routes + pedestrian alleys)
 Refurbish existing billboards (i.e., 6th Ave + Broadway)

Downtown Tucson Streetscape

Street Segments outside of TIF Boundary				
Streetcar				
4th Avenue	6th Street - 9th Street			28,392 sf
			Sub-Total	28,392 sf
Arterial				
W. Congress Street	Grande - Silverbell street improvements (phased in future)			24,000 sf
Congress Street	Melwood Ave. - Grande Ave.			3,840 sf
6th Street	4th Ave. - 6th Ave.			17,600 sf
Stone Avenue	Council Street - Toole Ave.			1,246 sf
6th Avenue	13th St. - 14th St.			9,504 sf
			Sub-Total	56,190 sf
Collector				
Granada Avenue	Paseo Redondo - 6th Street			25,284 sf
Church Avenue	Council Street - 6th Street			11,131 sf
			Sub-Total	36,415 sf
Local / Alley				
Court Avenue	Council Street - Franklin Street			5,520 sf
Franklin Street	Court Avenue - Stone Avenue			14,552 sf
Council Street	Church Avenue - Court Avenue			3,068 sf
4th Avenue	Broadway - 12th Street (12th - 14th St. already excluded from budget)			9,504 sf
Herbert Avenue	Broadway - 12th Street			7,920 sf
Scott Avenue	13th Street - 14th Street			9,468 sf
12th Street	4th Avenue - 5th Avenue			8,400 sf
13th Street	4th Avenue - 5th Avenue			7,110 sf
14th Street	Stone Avenue - 4th Avenue (already excluded from budget)			
			Sub-Total	65,542 sf
			TOTAL	186,539 sf

	\$94.93	\$78.68	\$71.70	\$40.78	
	\$2,695,289				\$2,695,289
				Sub-Total	\$2,695,289
	\$45	\$1,080,000			\$1,080,000
		\$302,121			\$302,121
		\$1,384,720			\$1,384,720
		\$98,032			\$98,032
		\$747,749			\$747,749
				Sub-Total	\$3,612,622
			\$1,812,769		\$1,812,769
			\$798,052		\$798,052
				Sub-Total	\$1,812,769
				\$225,108	\$225,108
				\$593,436	\$593,436
				\$125,114	\$125,114
				\$387,576	\$387,576
				\$322,980	\$322,980
				\$386,108	\$386,108
				\$342,555	\$342,555
				\$289,948	\$289,948
				n/a	n/a
				Sub-Total	\$1,654,214
				TOTAL	\$9,774,895

BUSINESS IMPROVEMENT DISTRICT

OVERVIEW

The Downtown Tucson Enhanced Municipal Services Improvement District (EMSID) was established by the City of Tucson in 1998, pursuant to A.R.S. 48-575, with the cooperation of a majority of the commercial property owners in the downtown core. The EMSID, more commonly known as the Business Improvement District (BID), was approved by the Mayor and Council, governing the delivery of services with “baseline services” performed by the City and “enhanced services” carried out by Tucson Downtown Alliance (TDA).

HISTORY

The BID was established with an initial five-year term, expiring on June 30, 2003. The BID was renewed for a second five-year term, which expires on June 30, 2008. The funding formula and boundaries remain as originally established.

Downtown properties that are not part of the BID include the Santa Rita Hotel, properties west of Granada Avenue and south of Congress, Pima County properties, State of Arizona properties, and U.S. Government properties. The Hotel Arizona and La Placita properties have recently joined the District by contract, although the BID boundaries have not been formally altered.

The Tucson Downtown Alliance (TDA) is under contract with the City of Tucson to provide the following services within the enhanced municipal district:

- Sidewalk pressure-washing
- Litter pickup, done manually and by machine vacuum
- Service pedestrian trash cans
- Graffiti Removal
- Weeding, Tree trimming
- Curb Painting
- Security

Security is also provided with foot, bicycle, and golf cart/GEM vehicle patrols, seven days a week, 16-18 hours per day. TDA’s Security Department is a licensed security agency through the Arizona Department of Public Safety (DPS), and all of its personnel are licensed through DPS.

BID EXPANSION

TDA, various stakeholders, and City officials desire to extend the BID boundaries to include the areas excluded in 1998 and 2003, as well as future Rio Nuevo developments. Under this expansion, the BID would be extended westward from its present-day boundary along Granada to bring in the new arena and private property between Cushing and Congress Streets, as well as the new developments west of the freeway: the 14 acres recently offered by the City as a

development opportunity, the Mercado District at Menlo Park, the Tucson Origins Heritage Park, and the Cultural Campus—consisting of the University of Arizona’s Science Center, Arizona State Museum, and the Arizona History Museum.

The expanded area is expected to see intensive new developments, accompanied by dramatically increased traffic flow. The new arena is expected to draw three quarters of a million visitors annually, and the new museums (on the west side) are anticipated to attract several hundred thousand as well.

SERVICE ASSESSMENT

Expanding the BID to the West Side would necessitate the use of a pickup truck to patrol the larger area. Foot, bicycle, and golf cart patrols could serve specific zones or districts as they presently do in downtown, in order for lightly staffed shifts to serve the entire area, they would need to rely on a truck.

Many BID members desire 24/7 security. With the increase in staffing at the Tucson Police Department’s Operations Division Downtown, downtown will have 24/7 police coverage effective April 1, 2007. With this change, it is now more practical for BID Security to consider 24-hour coverage as well because BID Security personnel are not armed and it is safer and more practical for them to patrol when they can depend on police backup.

Other factors necessitating an additional nighttime security presence include:

- A developing residential base in the downtown core
- Development of the Congress Street Entertainment District; more late-night venues open to attracting increased numbers of patrons
- Downtown becoming a nighttime destination due to the new arena
- More public investment in high-quality amenities requiring vandalism protection

With additional visitors downtown, there is also a need for ambassadors to welcome, greet, and assist visitors with directions to destinations, such as parking, restrooms, lodging, restaurants, and attractions.

MAINTENANCE

BID expansion will necessitate additional staffing, the acquisition of additional equipment, and the procurement of a storage area and base of operations on the West Side. A pickup truck will be necessary to transport personnel and haul equipment between the two sides of the freeway.

Since power-washing is done primarily at night and in the dark early morning hours when parked cars and traffic do not hinder the work, an expanded BID would necessitate that a second work crew with its own equipment would need to be utilized. Two crews will have to work simultaneously in the early morning hours at different locations.

It is anticipated that extending the BID to the west side of Menlo District at Menlo Park will require the staffing of six additional full-time-equivalent personnel.

EXPANDING EXISTING SERVICES

TDA does not currently service the planters that were installed in 2005 on East Congress Street. The addition of dozens of planters and landscaped areas, and possibly, plants hung high on light poles, will require a significant commitment of qualified staff and equipment to maintain them and keep them attractive and green.

Servicing hanging planters will require either a ladder or use of a mechanized aerial work platform. Safety considerations would seem to argue against the use of ladders, and in favor of a mechanized aerial work platform, which could serve multiple purposes. Among these are the installation and change-out of street banners on a regular basis, servicing festive lighting, tree pruning, and removing debris from high places without having to rely on expensive equipment rentals.

It is anticipated that servicing the existing BID, with its improved streetscape, more planters, trees, and flower beds, will require that at least three full-time-equivalent positions be staffed.

COST & FUNDING

The City participates financially in the BID, according to the same formula used to assess private commercial properties. The formula is based on square footage of land (10.6 cents/sq. ft.) plus 5.3 cents/sq. ft. of built or improved space. Properties owned by non-profit organizations are given a 50% discount.

The BID anticipates that the cost of acquiring the needed equipment to service the expanded BID area will be approximately \$110,800, and the annual operating cost to service that area will be approximately \$398,560. Much of this funding is expected to come from the new commercial businesses currently under development on the west side.

More intensive service coverage of the existing BID area will require \$26,500 worth of new equipment. Total annual operating expenses are projected at \$315,420.

PUBLIC SERVICES

TUCSON FIRE

OVERVIEW

The Tucson Fire Department (TFD) is responsible for protecting life, safety, and property in the community. Fire Station #1, currently located at Stone Avenue and Cushing Street serves the downtown area. This station is being relocated a few blocks west to the south side of the Tucson Convention Center into a new state-of-the-art facility.

ASSESSMENT OF CAPACITY

The department reports no problems with the infrastructure in the downtown area or concerns about the impact of the Modern Streetcar on its normal operations.

PUBLIC SERVICES

TUCSON POLICE

OVERVIEW

The Tucson Police Department (TPD) has primary responsibility for public safety in the downtown area. Several years ago, the Department designated the downtown area as a separate “beat,” acknowledging the unique needs of the area. This designation assisted the department in assigning the resources necessary to properly serve the area.

ASSESSMENT OF CAPACITY

As progress continues in Tucson’s downtown redevelopment, TPD believes that the City must invest in the Police Department and the visibility of officers in the downtown area. With the growth occurring downtown it is critical that the Downtown Division is staffed 24 hours a day. Boundary changes scheduled for this summer will allow for significant increase in downtown staffing, removing some of the scheduling issues that created staffing shortages at certain times of the day. Future growth of the residential population in the Downtown Division is a major driving force of the new boundaries in that division, as midnight shift officers must now deal with the issues facing residential populations in addition to the general security concerns found in any central business district. It is recommended that there be an increase in the number of Walking Beat Officers, Bike Officers and Community Response Team Officers for the downtown area. Their presence and visibility in the downtown community is essential to the safety and piece of mind of residents. Increasing the number of officers by 18 (16 Officers and 2 Sergeants) would cost an estimated \$1.8 million annually.

POLICE KIOSK AT RONSTADT TRANSIT CENTER

In an effort to further enhance police visibility downtown, the police department recommends building a Police Department Kiosk located at the Ronstadt Transit Center. Having officers highly visible and available at the Ronstadt Center would have a dramatic impact on the level of safety at the center, a key downtown location. Establishing a kiosk at this heavily used, highly visible location is an excellent way to continue the efforts already in place to make downtown a safe, inviting, friendly destination for people coming downtown. The cost of a kiosk is estimated to be \$50,000.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

As the city looks at new developments and infrastructure it is important that analysis is done which incorporates crime into site analysis. This may include numerous design principles, for instance demographic analysis, crime analysis, site analysis, use analysis, neighborhood/user consultation, pathway and lighting analysis. There cost for this is included in the cost for new officers.

DOWNTOWN SECURITY CAMERAS

A comprehensive package of communication tools can help detect and prevent crimes in the downtown area. These tools include merchant-to-merchant email alerts, radio links, enhanced security ambassadors (Downtown Alliance Officers) and closed circuit television cameras throughout downtown Tucson.

This “Safe City” concept has a long record of successes in both the United States and the United Kingdom. The concept was established in the United Kingdom where partnerships between businesses, retailers, police and local government have worked together for years to reduce crime and violence while increasing health and vibrancy in metropolitan business districts. These tools in addition to increase police presence and visibility will broaden the safety net for downtown workers, visitors and residents. These enhanced tools provide valuable assistance to police officers charged with protecting public safety. With diminishing public resources, a closed circuit camera program would provide downtown Tucson with an innovative opportunity to detect and prevent crime from occurring.

The concept of a Safe City program centers on the creation of a wireless network, which would blanket a portion of the Downtown Division policed by the Tucson Police Department. Camera locations will utilize fiber backbone or wireless transmission. The wireless network (Wi-Fi Signal) would enable the use of wireless high-definition digital video cameras, mounted at designated public areas through downtown Tucson. The cameras would be linked via wireless signal to a video network with monitors housed at the Tucson Police Department Headquarters located at 270 S. Stone. The use of wireless technology and computer monitoring will allow new camera locations to be added to the system relatively easily and inexpensively.

The cameras would be mounted on businesses and intersections in designated public areas throughout the downtown area. They have the ability to rotate 360 degrees and would have night vision capability and the ability to read a license plate up to 200 yards. Dummy cameras could be located throughout the downtown area as a visible deterrent to criminal activity. Potential suspects will never know if the camera positioned in the area is real or a decoy. Due to the minimal cost, visible deterrence to crime can be achieved by fielding a large amount of decoy cameras. The wireless system of cameras will allow for simple and cost effective expansion, redeployment and reconfiguration of the surveillance system as the downtown redevelopment continues. Officer safety and risk management issues would be improved and criminal cases would be strengthened with video evidence. A media campaign would be initiated to increase the public knowledge and awareness of the program, which would also serve as a crime deterrent. The downtown police officers would have the ability to remotely monitor and control the pan, tilt and zoom controls.

Strategic planning with City of Tucson Officials, the Tucson Police Department personnel, business owners, residents, and technology experts should take place to determine safety needs and guidelines for implementation. Police Department officials would encourage community support through open discussion at town hall meetings, making the plan a welcomed community based effort. Guidelines would need to be established with the County Attorney, City Prosecutors Office and Courts for acceptable use and successful prosecution. In order to minimize privacy concerns and uphold public trust, video would be strictly limited to publicly viewable areas. It is important to realize that a “Safe City” concept utilizes a combination of technology and information-sharing tools to empower citizens and achieve results. This program will assist Tucson residents in feeling safer and less vulnerable. Tucson Police believes the program will have a strong impact in reducing shoplifting, auto theft, panhandling and assaults in our downtown areas.

The City needs to continue looking forward to utilize technological innovations as part of the Police Departments commitment to employ the latest and most efficient law enforcement tools to protect all of our Tucson residents.

TRASH/RECYCLING PICKUP

OVERVIEW

Solid waste and recycling pickup in the downtown area are provided by the City of Tucson Department of Environmental Services (ES). Residential collections are provided exclusively by the department while commercial customers have a choice and may contract with the solid waste department or with private haulers.

Solid waste management services for the downtown area pose challenges due to the density of projected development and the desirability of mitigating solid waste collection and disposal systems.

ASSUMPTIONS

In assessing the methods available for solid waste management in a dense downtown environment, the following assumptions have been made:

- In conjunction with new construction, the Cultural Plaza will plan and set aside appropriate collection space that accommodates large capacity collection dumpster/rolloffs (approximately a 10'x30' space per rolloff).
- In conjunction with new construction, the Civic Plaza will expand the current systems in place at the Tucson Convention Center. This includes planning space allocations for large capacity dumpster/rolloffs. Rolloff capacity ranges from 20 cubic yards to 40 cubic yards and require the dimensions specified above.
- Unlike the new construction assumptions for the two plazas, the areas that comprise the Warehouse Arts District and Congress Street Entertainment District will be predominantly infill development. Solid Waste Management has established guidelines for the Fox block, and assumes that this level of service would be provided for future infill development. The level of service prohibits commercial curbside containers and requires hand-loading. While labor intensive, hand-loading does minimize the need for large equipment.

ASSESSMENT

Per the assumptions stated above, it is estimated that an additional front load truck would be needed in the first 36 months as retail and residential demand increases. At full build-out, a second front load truck would be required. Between the first 36-month development and completed build-out, ES would absorb the increased demand with existing inventory. Average cost over the next five years for new front loading trucks is estimated to be \$225,000. The vehicles should be on a 10-year replacement schedule.

There are 20 cubic yard roll-offs with compactors in the City's existing inventory. Depending on exact placement, it is highly probable there will be a need at the Civic Plaza for a large capacity (40 cubic yard) roll-off within the first 36 months. Self-contained rolloffs with compactor, which are the most desirable for food waste, are estimated to cost \$175,000. Compactors not integrated into a roll-off unit are \$25,000.

ARCHAEOLOGY

ARCHAEOLOGICAL SERVICES (CITY OF TUCSON)

OVERVIEW

Archaeological services are under the City of Tucson Urban Planning and Design (UPD) Department. This service is provided under the 1999 Administrative Directive requiring assessment and appropriate treatment of archaeological and historic resources impacted by publicly funded capital improvement projects. This directive covers all COT, Rio Nuevo, Pima County and State of Arizona projects occurring within the study area. Federally funded projects also carry this requirement and are often more complicated as the federal agency oversees the process of assessing and addressing cultural resources.

Archaeological assessment is carried out by one of four on-call contractors. Desert Archaeology, Inc. had the sole on-call for 17 years, so they have provided the following status and cost estimates for the remaining City of Tucson held parcels.

ASSESSMENT

UPD reviewed all City-owned parcels in the downtown study area to determine the status of archaeological assessments. Costs for remaining work were identified.

COSTS & FUNDING

The cost for assessing the remaining publicly-owned properties within the study area is estimated to be \$3.3 million. A detailed parcel-by-parcel explanation of these estimates is attached.

City of Tucson Urban Planning & Design
Downtown Infrastructure - Archaeology

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
O-3	City/County Courts I		City of Tucson/Pima Co.						
		117160140			Archaeology underway	Pima County		\$0	
		117160150							
		117160160							
		117160180							
		117160230							
		117160200							
		117160260							
O-4	Cultural Plaza/Mission complex		City of Tucson						
		11623090A			Archaeology completed and underway	Mission project Rio Nuevo	\$0.00	\$0	
		11620031B							
O-5	Diamond Rock Plaza		HSL/Roger Karber City of Tucson			TIF	\$25,000.00	\$25,000	Cost is for both COT lots.
		117200310							
		11720019A	Pueblo Center Partners	181 W. Broadway					
		11720019B	HSL Circle Properties	175, 177, & 179 W. Broadway					
		11720016C	City of Tucson						
O-6	Downtown Fire Station		City of Tucson						
		11713069E			Archaeology underway, Testing complete	Capital project		\$0	
O-10	MLK Block		WDD/City of Tucson						
		11706089A			Archaeology done, MOA signed	HUD Project		\$0	
		117060950							
		117060940							
		11706183A							
O-11	Presidio Terrace		Reliance/Peggy Noonan						
		116192310			Archaeology almost complete	Community Services		\$0	Reviewing impact on Paseo Redondo
G-2	Arena		City of Tucson						
		116201390				Arena project	\$90,000.00	\$90,000.00	Part done. Included in project budget??
		116201360							
		11620041B							
		11620042B							
		11620043B							
		11620044B							
G-4	El Mirador		City of Tucson (Town West)						
		11705068D			Assessment complete	Rio Nuevo	\$86,000.00	\$ 86,000.00	
		11705068C							
G-5	La Placita		Bourn Partners						

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
		11720016F	BP La Placita Village Investors						Park is City-owned, any modification would be handled through normal cultural resource review process
		117200180	City of Tucson						
		11720017B	City of Tucson						
		11720016H	Metro, Tucson TC & Visitors Bureau	100 S. Church					
		11720016G	BP La Placita Village Investors	120 W. Broadway, 110 & 222 S. Church					
G-6	Menlo Park 12-acres		City of Tucson						
		11620137A			Cleared		\$0.00	\$0	Cleared for development
		11620137A							
		116201250							
		11620124B							
		116201260							
		116201280							
		116201270							
		11620129A							
		116201320							
		116201330							
		116201340							
G-7	Museum complex		City of Tucson						
		11620031D			Completed and underway	Rio Nuevo	\$0.00	\$0	
		116200320							
G-8	Plaza Centro		Oasis/Jim Campbell						
		11706175A	City of Tucson	Former Greyhound, 2 S. 4th Av	Preliminary assessment	Rio Nuevo	\$228,000.00	\$ 228,000.00	Not determined if developer or COT will fund. Development agreement will determine.
		11706162C	Union Pacific	330 N. Toole Ave					
		11706562C	Union Pacific						
		11706081D	City of Tucson	396, 400, 410, 414 & 418 N. Toole					
G-9	Police Department TENTATIVE		City of Tucson						
		117200250	City of Tucson/Fuel Island	260 S. Stone		COT Capital budget			Depends on final placement of new structures.
G-11	Ronstadt Transit Ctr		City of Tucson						
		11706097A			Cleared		\$0.00	\$0	Cleared in current footprint
		11706185A							If center is moved, assessment will be needed.
G-12	Sixth Avenue & Toole		City of Tucson						
		11706081D		*Parcel is NW Train Depot	Cleared NE of	TDOT	\$164,000.00	\$0	Cleared NE of Toole Ave - Desert Arch.
		117060820		Parking Lot	Toole Ave.				working on balance. Testing recommended in previous report.
		117060830		Parking Lot					
		117060850		Parking Lot					
		117060840		Parking Lot					

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
G-13	TCC Expansion		City of Tucson						
	(TCC AREA)	11720029A	City of Tucson		Probably OK	TIF	\$25,000 for	\$25,000	
							assessment and testing		
Y-3	Block 175		DDC						
		11710089A				TIF or Developer	\$1,200,000.00	\$1,200,000	Significant resources on this parcel
Y-5	I-10 frontage @ Cushing - 22nd		Private development						
		116200460	Private	418 S SENTINEL AV	Data recovery plan		1,350,000	\$1,350,000	
		116200470	Private	608 W MESA ST	prepared for a portion -				
		116200540	Private	609 W MESA ST	will develop estimate.				
		116200550	Private						
		116200560	Private	406 S SENTINEL AV					
		116200570	Private	440 S SENTINEL AV					
		116200580	Private	none					
		116200650	Private	617 W PEAK ST					
		116200660	Private	500 S SENTINEL AV					
		116200670	Private	320 S SENTINEL AV					
		116200680	Private	615 W SIMPSON ST					
		116200690	Private	618 W SIMPSON ST					
		116200780	Private	337 S SENTINEL AV					
		116200790	Private	387 S SENTINEL AV					
		116200800	Private	421 S SENTINEL AV					
		116200810	Private						
		116200820	Private	425 S SENTINEL AV					
		116200830	Private	435 S SENTINEL AV					
		116200840	Private						
		116200850	Private	none					
		116200860	Private	443 S SENTINEL AV					
		116200870	Private	none					
		116200880	Private	none					
		116200890	Private	406 S SENTINEL AV					
		116200900	Private	473 S SENTINEL AV					
		116200910	CITY	none					
		116201400	Private	331 S SENTINEL AV					
		116230190	Private	712 W 18TH ST					Many of these lots are not private but state.
		116230200	Private	714 W 18TH ST					\$1.35 million represents an approximation
		116230210	Private	708 W 18TH ST					of public property that will be included in this
		116230220	Private	704 W 18TH ST					project.
		116230230	Private	718 W 18TH ST					
		116230240	Private	713 W 18TH ST					
		116230250	Private	725 W 18TH ST					
		116230260	Private	720 W GREEN ST					
		116230270	Private	701 W 18TH ST					
		116230290	Private	704 W GREEN ST					
		116230560	Private	717 W GREEN ST					

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
		116230590	Private	949 S FREEWAY					
		116230750	Private	747 S FREEWAY					
		117190600	CITY	No address available					
		11714356A	CITY						
		11620045B	Private						
		11623058A	Private	705 W GREEN ST					
		11623058B	Private						
		11623144A	Private	1007 S FREEWAY					
		11623154C	Private						
		11623154D	Private						
		11623155B	Private	1125 S I10 WB FRONTAGE RD					
		11623555B	Private						
		11623155E	Private?	601 W SIMPSON ST					
		11623555C	Private						
		11623555D	Private						
		117143570	CITY	510 W 18TH ST					
		11708164B	CITY	501 W 18TH ST					
		11708165B	CITY						
		11708166B	CITY						
		11708169A	CITY	910 S OSBORNE AV					
		11708170A	CITY						
		11708171A	CITY						
		11708172A	CITY						
		11708173A	CITY						
		11708174A	CITY	934 S OSBORNE AV					
		11708175A	CITY	540 W 20TH ST					
		11708176A	CITY	937 S OSBORNE AV					
		11709082B	CITY	500 W 20TH ST					
		11709083A	CITY	555 W 20TH ST					
		11709092A	CITY						
		11719059A	Private						
		11623155D	CITY						
Y-6 Norville Exhibition Ctr Alan Norville/Eric Hutchens									
		11620023J			Assessment	N/A	\$0.00	\$0	
		11620023H			done				
		11713061D							
		11713061P							
		11713061N							
		117200300							
		11713069D							

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
Y-7 Plaza San Agustin Private development									
		117131620	De La Warr Investment Corp	141 S. Stone	Likely historic	Private developer	\$545,000.00	\$0	
		117131610	De La Warr Investment Corp	23 E. Ochoa	period resources				
		117131630	De La Warr Investment Corp						
		117131640	De La Warr Investment Corp						
		117131650	De La Warr Investment Corp						
		117131660	De La Warr Investment Corp						
		117131680	De La Warr Investment Corp						
		117131660	De La Warr Investment Corp						
		117131670	De La Warr Investment Corp						
		117131760	De La Warr Investment Corp						
		117131750	De La Warr Investment Corp						
		117131740	De La Warr Investment Corp						
		117131770	De La Warr Investment Corp						
		117131730	De La Warr Investment Corp						
		117131780	De La Warr Investment Corp						
		117131790	Bring Funeral Home						
		117131800	Bring Funeral Home						
		117131720	Bring Funeral Home	236 S. Scott					
Y-9 Steinfeld West Triangle Private development									
		117100590	Madsen James E. and Deborah			Private	\$80,000 for private parcels		Private developer build out.
		117100550	Madsen James E. and Deborah						
		117100540	State of Arizona			TIF	\$80,000 for all state parcels)		If City purchases lot.
		117100390	State of Arizona						
		117100570							
		117100560							
		117100520	State of Arizona	302, 402 & 406 N. Church Ave.					
		11710049B							
		11710041A							
Y-10 Warehouse District South of RR City of Tucson/private development									
		117160050							Estimate being prepared
		117160060							
		117160070							
B-1 I-10 frontage @ Congress, se Private development									
		116201350			Most cleared	COT	\$135,000.00	\$0	
B-4 DDC Council lot DDC									
		11710072A			Likely archaeology	COT	\$218,000.00	\$218,000	
		11710069A							
		11710069B							
		117100670							
		117100680							

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
B-5	Library Plaza South		City of Tucson						
		117110720							Some work done at time of construction.
		117110710							
		11711069C							
B-6	Library Plaza West		Private development						
		11711064C		*Section for library only					Some work done at time of construction
B-7	Mercado extension		Private development						
		11618254B			Private			\$ -	
		11618254C							
		116182530							
		116182520							
		116182510							
		11618250A		1002 W. Congress				\$0	
		11618250B		1002 W. Congress					
		116182270							
		116182260							
		11618224A							
		116182230							
		116182220							
		116182210							
		116181940							
		116181960							
		116183200							
		116213020							
		116213030							
		11620010B							
		11620010C							
		116191290							
		116191300							
		11619131A							
		116210270							
		116210260							
		116210250							
		116210240							
		116210230							
		116210220							
		116210020							
		116210010							
		116213040							
B-8	Millstone Site		Joe Millstone						
		11619153A	First Family Co. Ltd.	460 N. Freeway	Private				Have information as a result of I-10 work.
		11619154C	First Family Co. Ltd.	450 N. Freeway					Some resources found.
		116193780	City of Tucson			COT			Some work done

ID#	Project	Parcel #	Owner - COT/Private	Address	Status	Funding source	Cost for remaining work	Cost to Infrastructure Effort	Comments
B-11	TCC 1,2,3		City of Tucson/Private development						
	(TCC AREA)	117200260	City of Tucson						Parking lots on fill, will need assessment.
B-12	Theresa Lee site		Pima County						
		11620027A			Building Assesment done.	Rio Nuevo	\$117,000.00	\$0	Archaeology remains to be done.
B-13	Warehouse District North of RR		Private development						
		117050650			Private			\$0	
		117050640							
		117051340							
		117160020							Some of area assessed as part of streetcar project. Historic architectural resources present.
		11716001A							
		11705069B							
		11705069A							
		11705074A							
		11705080B							
		11705080C							
TOTALS									

ENVIRONMENT

ENVIRONMENTAL TECHNICAL SERVICES

OVERVIEW

Environmental Technical Services (ETS) is a division of the City's Environmental Services Department that has responsibility for environmental impacts at inactive landfills and Brownfields sites. ETS has responsibility for identifying, assessing, and remediating environmental issues at City-owned sites.

GUIDELINES

Phase I Environmental Site Assessments (ESAs) are completed for all City property acquisitions and/or conveyance of City-owned property to a new owner. Phase II ESAs will be completed for "recognized environmental conditions" (RECs) as recommended in the Phase I ESA report.

Phase I Environmental Site Assessments (ESA)

- Phase I ESAs shall be conducted for City-property purchases.
- Phase I ESAs shall be conducted in accordance with ASTM E1527-05 and continuing obligations must be met in order to ensure CERCLA liability protection.
- Phase I ESAs shall be completed within one year prior to the date of property acquisition with the exception that the following components must be completed/updated within 180 days of purchase date:
 1. Interviews
 2. Searches for environmental cleanup liens
 3. Government records review
 4. Visual inspection of property/adjoining property(s)
 5. Declaration regarding qualifications of the Environmental Professional
- Phase I ESAs conducted on private property will require a written access agreement with existing property owner to conduct a site inspection of the subject property as per "all appropriate inquiry" rule, ASTM E1527-05.

Phase II Environmental Site Assessments (ESA)

- The end use of the property must be known in order to adequately scope Phase II activities and define appropriate cleanup levels.
- Existing environmental conditions in the project area could potentially impact proposed subsurface structures.
 1. Investigation, remediation, and design costs may increase substantially due to existing environmental conditions.
 2. Engineering/institutional controls may need to be implemented.
 3. Project constructability may be influenced by environmental conditions.
- Existing agreements with previous property owners along the Union Pacific Railroad corridor must be carefully assessed prior to design and construction activities due to contractual obligations associated with environmental liabilities.
- Complexity and costs of Phase II ESAs vary significantly from property to property.

ASSESSMENT

For this study, ETS completed the tasks listed below. Costs were assigned based on assessment and remediation work yet to be completed.

- Reviewed existing environmental reports pertaining to parcels underlying identified development area(s) indicated in the Downtown Development and Infrastructure Projections Map dated, March 5, 2007.
- Identified known status of environmental conditions at each project area based upon existing reports as of March 30, 2007.
- Projected recommended additional environmental work to be performed.
- Projected costs for additional environmental work to be performed based on existing environmental data.
- Defined limitations and assumptions
- Prepared an appendix of existing environmental reports on file

COSTS & FUNDING

The following assumptions were made when completing the Downtown Development and Infrastructure Projections:

- Costs in 2007 dollars.
- Costs have been estimated to the next level of environmental assessment needed. Final total costs can only be determined once all investigation is complete.
- Costs have not been developed for private properties due to lack of environmental information.
- Costs of asbestos pre-demolition work will be dependent on square footage of existing structures.
- Cost projection does not include operations and maintenance costs if remediation is necessary.
- Soil borings costs:
 1. Assume 50 foot depth along Union Pacific railroad corridor (adjoining properties) and 80 foot depth elsewhere
 2. Samples collected at 10-foot intervals
- Public and private monitoring wells can be found throughout the underlying identified development area. Their locations must be considered during site design and pre-construction. Right of entry and access agreements for future monitoring activities may be needed.
- Some sites in the project area may have land use/title restrictions and/or environmental remediation systems due to historical environmental conditions.
- Soils in the project area may have been impacted by environmental conditions in the perched aquifer (depth may vary in the shallow groundwater zone).
- Unknown Recognized Environmental Conditions may be encountered and should be addressed during site construction activities.

The total estimated environmental costs for Phase I and II assessments and known remediation for identified parcels is \$22.2 million. It is anticipated that much of this funding may come from

TIF. Other sources of funds typically used for assessment and remediation include EPA Brownsfields grants and City-department capital budgets where applicable.

LIMITATIONS

Environmental Services shall not be responsible for conditions or consequences arising from relevant facts that were not readily available or fully disclosed. Environmental Services has assumed the information used to generate environmental costs/activities is true, correct, accurate, and complete, and has not conducted an independent examination of the materials and statements.

City of Tucson Environmental Service
 Estimated Environmental Assessment/Remediation Costs for Rio Nuevo Downtown Redevelopment Target Areas (for City of Tucson Properties)

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
O-1	44 Broadway I		Ron Schwabe						\$0	Private property
		11713038F	44 Broadway Block LLC	34 E. Broadway & 44 E. Broadway	No		No			
		11713037A	Williams Gary Intl. Bonding Corp.	50,56,60 E. Broadway & 57 E. Jackson St.	No		No			
O-2	Carlos Arruza Block (TCC AREA)	*same as B-11 parcel	City of Tucson		Yes	06/20/06	No		\$5,000	Phase I update
O-3	City/County Courts I		City of Tucson/Pima Co.						\$0	Funded by Pima County
		117160140			No		No			
		117160150			No		No			
		117160160			No		No			
		117160180			No		No			
		117160230		Former UST Site	No		No			
		117160200			No		No			
		117160260			No		No			
O-4	Cultural Plaza/Mission complex		City of Tucson						\$10,559,400	Phase II and remediation
		11623090A			Yes	05/01/05	No			Does not include waste disposal fees
		11620031B			Yes	05/01/05	No			\$8.9 million approved by Mayor and Council on 6/27/06
O-5	Diamond Rock Plaza		HSL/Roger Karber						\$5,000	Phase I on City properties
		117200310	City of Tucson		No		No			
		11720019A	Pueblo Center Partners	181 W. Broadway	No		No			
		11720019B	HSL Circle Properties	175, 177, & 179 W. Broadway	No		No			
		11720016C	City of Tucson		No		No			
O-6	Downtown Fire Station		City of Tucson						\$0	Under development
		11713069E			Yes	05/05/06	Yes	02/09/07		
O-7	Julian Drew Block		Ross Rulney							Private property
		117170020	Lewis Hotel LLC	177 E. Broadway	No		No			
		117170010	Lewis Hotel LLC	178, 179, 180, 188 E. Broadway	No		No			
		117170090	Lewis Hotel LLC	118 S. 5th Av	No		No			
		117170100	Tiberon Apts.	128 S. 5th Av	No		No			
O-8	Lofts on 5th Avenue		VantagePoint/Geo. Pilloton						\$0	Private property
					No		No			
O-9	Mercado District		Rio Development						\$0	Property currently under development
		116206240			Yes	05/01/05	Yes	09/01/05		
		116206280			Yes	05/01/05	Yes	09/01/05		
		116206290			Yes	05/01/05	Yes	09/01/05		
		116205330			Yes	05/01/05	Yes	09/01/05		
		116206260			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116205240			Yes	05/01/05	Yes	09/01/05		

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		116205270			Yes	05/01/05	Yes	09/01/05		
		116205250			Yes	05/01/05	Yes	09/01/05		
		116205300			Yes	05/01/05	Yes	09/01/05		
		116205280			Yes	05/01/05	Yes	09/01/05		
		116205260			Yes	05/11/05	Yes	09/01/05		
		116205230			Yes	05/01/05	Yes	09/01/05		
		116205340			Yes	05/01/05	Yes	09/01/05		
		116205310			Yes	05/01/05	Yes	09/01/05		
		116205290			Yes	05/01/05	Yes	09/01/05		
		116206240			Yes	05/01/05	Yes	09/01/05		
		116205320			Yes	05/01/05	Yes	09/01/05		
		116206270			Yes	05/01/05	Yes	09/01/05		
		116205350			Yes	05/01/05	Yes	09/01/05		
		116205360			Yes	05/01/05	Yes	09/01/05		
		116205370			Yes	05/01/05	Yes	09/01/05		
		116205380			Yes	05/01/05	Yes	09/01/05		
		116205390			Yes	05/01/05	Yes	09/01/05		
		116205400			Yes	05/01/05	Yes	09/01/05		
		116205420			Yes	05/01/05	Yes	09/01/05		
		116205430			Yes	05/01/05	Yes	09/01/05		
		116205450			Yes	05/01/05	Yes	09/01/05		
		116205460			Yes	05/01/05	Yes	09/01/05		
		116205410			Yes	05/01/05	Yes	09/01/05		
		116205440			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116206270			Yes	05/01/05	Yes	09/01/05		
		116205500			Yes	05/01/05	Yes	09/01/05		
		116205480			Yes	05/01/05	Yes	09/01/05		
		116205470			Yes	05/01/05	Yes	09/01/05		
		116205490			Yes	05/01/05	Yes	09/01/05		
		116205530			Yes	05/01/05	Yes	09/01/05		
		116205510			Yes	05/01/05	Yes	09/01/05		
		116205520			Yes	05/01/05	Yes	09/01/05		
		116206260			Yes	05/01/05	Yes	09/01/05		
		116206300			Yes	05/01/05	Yes	09/01/05		
		116206240			Yes	05/01/05	Yes	09/01/05		
		116205590			Yes	05/01/05	Yes	09/01/05		
		116205600			Yes	05/01/05	Yes	09/01/05		
		116205580			Yes	05/01/05	Yes	09/01/05		
		116205570			Yes	05/01/05	Yes	09/01/05		
		116205560			Yes	05/01/05	Yes	09/01/05		
		116205550			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116205540			Yes	05/01/05	Yes	09/01/05		
		116205610			Yes	05/01/05	Yes	09/01/05		
		116205660			Yes	05/01/05	Yes	09/01/05		
		116205670			Yes	05/01/05	Yes	09/01/05		
		116205680			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		116205700			Yes	05/01/05	Yes	09/01/05		
		116205690			Yes	05/01/05	Yes	09/01/05		
		116205710			Yes	05/01/05	Yes	09/01/05		
		116206270			Yes	05/01/05	Yes	09/01/05		
		116205620			Yes	05/01/05	Yes	09/01/05		
		116205630			Yes	05/01/05	Yes	09/01/05		
		116205640			Yes	05/01/05	Yes	09/01/05		
		116205790			Yes	05/01/05	Yes	09/01/05		
		116205780			Yes	05/01/05	Yes	09/01/05		
		116205770			Yes	05/01/05	Yes	09/01/05		
		116205760			Yes	05/01/05	Yes	09/01/05		
		116205750			Yes	05/01/05	Yes	09/01/05		
		116205740			Yes	05/01/05	Yes	09/01/05		
		116205720			Yes	05/01/05	Yes	09/01/05		
		116205730			Yes	05/01/05	Yes	09/01/05		
		116205820			Yes	05/01/05	Yes	09/01/05		
		116205830			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116205740			Yes	05/01/05	Yes	09/01/05		
		116205850			Yes	05/01/05	Yes	09/01/05		
		116206240			Yes	05/01/05	Yes	09/01/05		
		116205900			Yes	05/01/05	Yes	09/01/05		
		116205890			Yes	05/01/05	Yes	09/01/05		
		116205910			Yes	05/01/05	Yes	09/01/05		
		116205880			Yes	05/01/05	Yes	09/01/05		
		116205920			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116205940			Yes	05/01/05	Yes	09/01/05		
		116205950			Yes	05/01/05	Yes	09/01/05		
		116205960			Yes	05/01/05	Yes	09/01/05		
		116205970			Yes	05/01/05	Yes	09/01/05		
		116205980			Yes	05/01/05	Yes	09/01/05		
		116205990			Yes	05/01/05	Yes	09/01/05		
		116206160			Yes	05/01/05	Yes	09/01/05		
		116206170			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116206180			Yes	05/01/05	Yes	09/01/05		
		116206080			Yes	05/01/05	Yes	09/01/05		
		116206090			Yes	05/01/05	Yes	09/01/05		
		116206190			Yes	05/01/05	Yes	09/01/05		
		116206200			Yes	05/01/05	Yes	09/01/05		
		116206210			Yes	05/01/05	Yes	09/01/05		
		116206100			Yes	05/01/05	Yes	09/01/05		
		116206030			Yes	05/01/05	Yes	09/01/05		
		116206110			Yes	05/01/05	Yes	09/01/05		
		116206020			Yes	05/01/05	Yes	09/01/05		
		116206010			Yes	05/01/05	Yes	09/01/05		
		116206000			Yes	05/01/05	Yes	09/01/05		
		116206120			Yes	05/01/05	Yes	09/01/05		

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		116206130			Yes	05/01/05	Yes	09/01/05		
		116206310			Yes	05/01/05	Yes	09/01/05		
		116206230			Yes	05/01/05	Yes	09/01/05		
		116206140			Yes	05/01/05	Yes	09/01/05		
		116206150			Yes	05/01/05	Yes	09/01/05		
		116206040			Yes	05/01/05	Yes	09/01/05		
		116206050			Yes	05/01/05	Yes	09/01/05		
		116206060			Yes	05/01/05	Yes	09/01/05		
		116206070			Yes	05/01/05	Yes	09/01/05		
		116206250			Yes	05/01/05	Yes	09/01/05		
		116206220			Yes	05/01/05	Yes	09/01/05		
		11620130A			Yes	05/01/05	Yes	09/01/05		
		11620131A			Yes	05/01/05	Yes	09/01/05		
O-10	MLK Block		WDD/City of Tucson						\$264,550	Remediation of contaminated soil
		11706089A		345 E. Toole, Phase I 3-02-06	Yes	10/15/2003	Pre Demo ACM			
		117060950			Yes	10/15/2003	Yes	03/02/06		
		117060940			Yes	10/15/2003	Yes	03/02/06		
		11706183A			Yes	10/15/2003	Pre Demo ACM			
O-11	Presidio Terrace		Reliance/Peggy Noonan						\$0	Property currently under development
		116192310		Recommend Updated Phase I	Yes	11/5/2004	No			
O-12	Rialto Block/Congress		Rialto/Biggers						\$0	Private property
		11706168B			No		No			
		11706168C			Yes	12/23/97	No			
		11706168A			No		No			
		117061740			No		No			
		11706177B			Yes	12/23/97	No			
O-13	Santa Rita Resort/Condo		Pathway Developments						\$0	Private property
		11717022B			No		No			
		11717023C			No		No			
		11717026A			No		No			
		11717029A			No		No			
		11717030A	Hotel Corp. Downtown Tucson	142 S. 6th	No		No			
O-14	The Post		Bourn Partners						\$0	Private property
		117120850		Pre-Phase I : May 2002	Yes	11/15/2006	No			
		11712084A		Pre-Phase I : May 2002	Yes	11/15/2006	No			
		11712083A		Pre-Phase I : May 2002	Yes	11/15/2006	No			
		11712083B		Pre-Phase I : May 2002	Yes	11/15/2006	No			
G-1	200 Block		W&D						\$0	Private property
		11706187D			No		No			
		11706193A			No		No			
		117062000		Former UST Site	No		No			
G-2	Arena		City of Tucson						\$5,000	Phase I
		116201390			No		No			Phase II may be needed depending on findings. Cost to be determined.
		116201360			No		No			
		11620041B			No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		11620042B			No		No			
		11620043B			No		No			
		11620044B			No		No			
G-3	City/County Courts II		City of Tucson/Pima Co.						\$0	Funded by Pima County
		117160170			No		No			
		117160280			No		No			
		117160300			No		No			
		117160310			No		No			
		117160380			No		No			
		117160320			No		No			
		11716029A			No		No			
		117160360			No		No			
		117160370			No		No			
		117160330			No		No			
G-4	El Mirador (Franklin Lot)		City of Tucson (Town West/Jim Horvath)						\$23,950	Additional Phase II work
		11705068D			Yes	12/15/2005	Yes	12/04/06		
		11705068C			Yes	12/15/2005	Yes	12/04/06		
G-5	La Placita		Boum Partners						\$25,000	Potential Waste Water Permits required on City-owned properties
		11720016F	BP La Placita Village Investors		No		No			
		117200180	City of Tucson		No		No			
		11720017B	City of Tucson		No		No			
		11720016H	Metro, Tucson TC & Visitors Bureau	100 S. Church	No		No			
		11720016G	BP La Placita Village Investors	120 W. Broadway, 110 & 222 S. Church	No		No			
G-6	Menlo Park 12-acres		City of Tucson						\$93,900	Phase II and remediation
		11620137A			Yes	05/01/05	Yes	05/01/06		Phase II findings indicate possible UST in sidewalk area.
		11620137A			Yes	05/01/05	Yes	05/01/06		
		116201250			Yes	05/01/05	Yes	05/01/06		
		11620124B			Yes	05/01/05	Yes	05/01/06		
		116201260			Yes	05/01/05	Yes	05/01/06		
		116201280			Yes	05/01/05	Yes	05/01/06		
		116201270			Yes	05/01/05	Yes	05/01/06		
		11620129A			Yes	05/01/05	Yes	05/01/06		
		116201320			Yes	05/01/05	Yes	05/01/06		
		116201330			Yes	05/01/05	Yes	05/01/06		
		116201340			Yes	05/01/05	Yes	05/01/06		
G-7	Museum complex		City of Tucson						\$9,900,000	Remediation
		11620031D			Yes	05/01/05	Yes	multiple reports		Does not include waste disposal fees
		116200320			Yes	05/01/05	Yes	multiple reports		
G-8	Plaza Centro		City of Tucson (Oasis/Jim Campbell)						\$0	Phase II may be needed. Cost to be determined.
		11706175A	City of Tucson	Former Greyhound, 2 S. 4th Av	Yes	04/09/04	No			
		11706162C	Union Pacific	330 N. Toole Ave	No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		11706562C	Union Pacific		Yes	11/10/06	No			
		11706081D	City of Tucson	396, 400, 410, 414 & 418 N. Toole	Yes	11/11/06	No			
G-9	Police Department TENTATIVE		City of Tucson						\$49,160	Additional Phase II work
		117200250	City of Tucson/Fuel Island	260 S. Stone	No		No			
G-10	Rialto Block/Broadway		Rialto/Biggers						\$0	Private property
		11706179A		Former Trailways LUST Site	No		No			
		117061780			No		No			
		11706177A			No		No			
		11706177B		Rialto Theater	Yes	12/23/1997	No			
G-11	Ronstadt Transit Ctr		City of Tucson						\$60,120	Phase II and remediation
		11706097A			Yes	01/29/07	No			
		11706185A			Yes	1/29/2007	No			
G-12	Sixth Avenue & Toole		City of Tucson						\$39,800	Phase II
		11706081D		*Parcel is NW Train Depot			Yes	09/01/98		
		117060820		Parking Lot	Yes	3/14/2005	Yes			Pre-phase I completed in 2005
		117060830		Parking Lot	Yes	3/14/2005	Yes	05/05/97		Geophysical completed in 1997
		117060850		Parking Lot	Yes	3/14/2005	Yes	05/05/97		
		117060840		Parking Lot	Yes	3/14/2005	Yes	05/05/97		
G-13	TCC Expansion (TCC AREA)		City of Tucson						\$470,640	Phase II and remediation
		11720029A	City of Tucson		Yes	06/20/06	No			
Y-1	44 E Broadway II		Ron Schwabe						\$0	Private property
		117130410		44 Broadway Block LLC 18 & 20 E. Ochoa	No		No			
Y-2	Baccus Lot		Buck Baccus						\$0	Private property
		117130290		Lerdal LTD Partnership	No		No			
		117130250		Lerdal LTD Partnership 62, 64, 66, 68, 70, 72, 74, & 76 S. Stone	No		No			
		117130300		Lerdal LTD Partnership	No		No			
		117130310		Lerdal LTD Partnership	No		No			
Y-3	Block 175		DDC						\$0	Private property
		11710089A			No		No			
Y-4	Fourth Ave./Brdwy		Powell/Heller						\$0	Private property
		117062010		Dorothy Powell 245 & 246 E. Broadway	No		No			
		117062050		Dorothy Powell	No		No			
		117062080		Dorothy Powell	No		No			
		117062090		Dorothy Powell	No		No			
		117062110		Dorothy Powell 231 E. 12th	No		No			
		117062120		Dorothy Powell 146, 148 & 150 S. 4th Ave	No		No			
Y-5	I-10 frontage @ Cushing - 22nd		Private development						\$265,800	Phase II and remediation on City-owned properties
		116200460	Private	418 S SENTINEL AV	No		No			
		116200470	Private	608 W MESA ST	No		No			
		116200540	Private	609 W MESA ST	No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		116200550	Private		No		No			
		116200560	Private	406 S SENTINEL AV	No		No			
		116200570	Private	440 S SENTINEL AV	No		No			
		116200580	Private	none	No		No			
		116200650	Private	617 W PEAK ST	No		No			
		116200660	Private	500 S SENTINEL AV	No		No			
		116200670	Private	320 S SENTINEL AV	No		No			
		116200680	Private	615 W SIMPSON ST	No		No			
		116200690	Private	618 W SIMPSON ST	No		No			
		116200780	Private	337 S SENTINEL AV	No		No			
		116200790	Private	387 S SENTINEL AV	No		No			
		116200800	Private	421 S SENTINEL AV	No		No			
		116200810	Private		No		No			
		116200820	Private	425 S SENTINEL AV	No		No			
		116200830	Private	435 S SENTINEL AV	No		No			
		116200840	Private		No		No			
		116200850	Private	none	No		No			
		116200860	Private	443 S SENTINEL AV	No		No			
		116200870	Private	none	No		No			
		116200880	Private	none	No		No			
		116200890	Private	406 S SENTINEL AV	No		No			
		116200900	Private	473 S SENTINEL AV	No		No			
		116200910	CITY	none	No		No			
		116201400	Private	331 S SENTINEL AV	No		No			
		116230190	Private	712 W 18TH ST	No		No			
		116230200	Private	714 W 18TH ST	No		No			
		116230210	Private	708 W 18TH ST	No		No			
		116230220	Private	704 W 18TH ST	No		No			
		116230230	Private	718 W 18TH ST	No		No			
		116230240	Private	713 W 18TH ST	No		No			
		116230250	Private	725 W 18TH ST	No		No			
		116230260	Private	720 W GREEN ST	No		No			
		116230270	Private	701 W 18TH ST	No		No			
		116230290	Private	704 W GREEN ST	No		No			
		116230560	Private	717 W GREEN ST	No		No			
		116230590	Private	949 S FREEWAY	No		No			
		116230750	Private	747 S FREEWAY	No		No			
		117190600	CITY	No address available	Yes	10/17/06	No			Former Flint Oil - EPA Grant funds
		11714356A	CITY	No address available	Yes	10/17/06	No			Former Flint Oil - EPA Grant funds
		11620045B	Private		No		No			
		11623058A	Private	705 W GREEN ST	No		No			
		11623058B	Private		No		No			
		11623144A	Private	1007 S FREEWAY	No		No			
		11623154C	Private							

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
					Yes	06/01/00	Yes	10/25/02		
		11623154D	Private							
		11623155B	Private	1125 S I10 WB FRONTAGE RD						
		11623555B	Private							
		11623155E	Private	601 W SIMPSON ST	Yes	12/01/97	Yes	06/05/98		
		11623555C	Private		No		No			
		11623555D	Private		No		No			
		117143570	CITY	510 W 18TH ST	Yes	04/15/04	No			Tucson Water Plant 1
		11708164B	CITY	501 W 18TH ST						
		11708165B	CITY							
		11708166B	CITY							
		11708169A	CITY	910 S OSBORNE AV	Yes	04/15/04	No			
		11708170A	CITY							
		11708171A	CITY							
		11708172A	CITY							
		11709082B	CITY	500 W 20TH ST	Yes	12/01/97	Yes	06/05/98		Vacant
		11709083A	CITY	555 W 20TH ST	Yes	12/01/97	Yes	06/05/98		Vacant
		11709092A	CITY		Yes	12/01/97	Yes	06/05/98		Vacant
		11719059A	Private							
		11623155D	CITY		Yes	12/01/97	Yes	06/05/98		Vacant
Y-6	Norville Exhibition Ctr		Alan Norville/Eric Hutchens						\$0	Private property
		11620023J			No		No			
		11620023H			No		No			
		11713061D			No		No			
		11713061P			No		No			
		11713061N			No		No			
		117200300			No		No			
		11713069D			No		No			
Y-7	Plaza San Agustin		Private development						\$0	Private property
		117131620	De La Warr Investment Corp	141 S. Stone	No		No			
		117131610	De La Warr Investment Corp	23 E. Ochoa	No		No			
		117131630	De La Warr Investment Corp		No		No			
		117131640	De La Warr Investment Corp		No		No			
		117131650	De La Warr Investment Corp		No		No			
		117131660	De La Warr Investment Corp		No		No			
		117131680	De La Warr Investment Corp		No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		117131660	De La Warr Investment Corp		No		No			
		117131670	De La Warr Investment Corp		No		No			
		117131760	De La Warr Investment Corp		No		No			
		117131750	De La Warr Investment Corp		No		No			
		117131740	De La Warr Investment Corp		No		No			
		117131770	De La Warr Investment Corp		No		No			
		117131730	De La Warr Investment Corp		No		No			
		117131780	De La Warr Investment Corp		No		No			
		117131790	Bring Funeral Home		No		No			
		117131800	Bring Funeral Home		No		No			
		117131720	Bring Funeral Home	236 S. Scott	No		No			
Y-8	Pueblo Garage		Buck Baccus						\$0	Private property
		117120080			No		No			
		11712007A			No		No			
Y-9	Steinfeld West Triangle		Private development						\$10,000	Phase I's for ADOT properties the City may potentially purchase
		117100590	Madsen James E. and Deborah D. JR/RS		No		No			
		117100550	Madsen James E. and Deborah D. JR/RS		No		No			
		117100540	State of Arizona		No		No			
		117100390	State of Arizona		No		No			
		117100570	State of Arizona	302, 402 & 406 N. Church Ave.	No	09/26/99	No			
		117100560	State of Arizona	302, 402 & 406 N. Church Ave.	Yes	09/26/99	No			
		117100520	State of Arizona	302, 402 & 406 N. Church Ave.	Yes	09/27/99	No			
		11710049B	State of Arizona	302, 402 & 406 N. Church Ave.	Yes	09/28/99	No			
		11710041A	State of Arizona	302, 402 & 406 N. Church Ave.	Yes	09/29/99	No			
Y-10	Warehouse District South of RR		City of Tucson/private development						\$0	
		117160050			No		No			
		117160060			Yes	11/10/2006	Yes	01/01/00		
		117160070			Yes	11/10/2006	Yes	01/01/00		
B-1	I-10 frontage @ Congress, se				Yes	multiple reports	Yes	multiple reports	\$379,600	Phase II and remediation on City-owned parcels
		116201350			Yes	multiple reports	Yes	multiple reports		
B-2	Inn Suites		Tucson St. Mary's Suite						\$0	Private property
		11619175B	Tucson St. Mary's Suite	475 N. Granada Ave.	No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
B-3	Chase Bank lot		Private development						\$0	Private property
		11712091D			No		No			
		11712089A			No		No			
		117120950			No		No			
B-4	DDC Council lot		Private development						\$0	Private property
		11710072A			Yes	6/5/2000	No			
		11710069A			Yes	6/5/2000	No			
		11710069B			Yes	6/5/2000	No			
		117100670			Yes	6/5/2000	No			
		117100680			Yes	6/5/2000	No			
B-5	Library Plaza South		City of Tucson						\$5,000	Phase I
		117110720			No		No			
		117110710			No		No			
		11711069C			No		No			
B-6	Library Plaza West		Private development						\$5,000	Phase I
		11711064C		*Section for library only	No		No			
B-7	Mercado extension		Private development						\$0	Private property
		11618254B			No		No			
		11618254C			No		No			
		116182530			No		No			
		116182520			No		No			
		116182510			No		No			
		11618250A		1002 W. Congress	No		No			
		11618250B		1002 W. Congress	No		No			
		116182270			No		No			
		116182260			No		No			
		11618224A			No		No			
		116182230			No		No			
		116182220			No		No			
		116182210			No		No			
		116181940			No		No			
		116181960			No		No			
		116183200			No		No			
		116213020			No		No			
		116213030			No		No			
		11620010B			No		No			
		11620010C			No		No			
		116191290			No		No			
		116191300			No		No			
		11619131A			No		No			
		116210270			No		No			
		116210260			No		No			
		116210250			No		No			
		116210240			No		No			
		116210230			No		No			

ID#	Project	Parcel #	Owner - COT/Private	Address	Phase I completed Yes/No	Phase I - Date	Phase II completed Yes/No	Phase II Date	Estimated Environmental Costs	Cost Assumptions/ Notes
		116210220			No		No			
		116210020			No		No			
		116210010			No		No			
		116213040			No		No			
B-8	Millstone Site		Joe Millstone						\$0	Private property
		11619153A	First Family Co. Ltd.	460 N. Freeway	No		No			
		11619154C	First Family Co. Ltd.	450 N. Freeway	No		No			
		116193780	City of Tucson		No		No			
B-9	Pima Co pkg lot @ B'way		Pima County						\$0	Private property
		117150060			No		No			
		117150080			No		No			
B-10	Reliance Tower II pad		HUB Properties						\$0	Private property
		11712099A			No		No			
B-11	TCC 1,2,3		City of Tucson/Private development						\$0	See O-2 for cost
	(TCC AREA)	117200260	City of Tucson		Yes	06/20/06	No			
B-12	Theresa Lee site		City of Tucson						\$20,000	Phase I and II
		11620027A			No		No			
B-13	Warehouse District North of RR		Private development						\$0	Private property
		117050650			No		Yes	03/15/00		ADOT
		117050640			No		No			Rest of parcels are privately owned
		117051340			No		No			
		117160020			No		No			
		11716001A			No		No			
		11705069B			No		No			
		11705069A			No		No			
		11705074A			No		No			
		11705080B			No		No			
		11705080C			No		No			
TOTALS									\$22,186,920	

GREEN SPACE / PARKS

OVERVIEW

The City of Tucson Parks and Recreation Department has responsibility for developing and maintaining all public parks and plazas in the downtown area. Green space is an essential element of urban revitalization and is critical to the success of Rio Nuevo. Green space in the form of parks, plazas, and pedestrian-oriented promenades plays a vital role in creating a quality place and an environment people want to experience.

The inventory listed below is keyed to the accompanying map and provides an overview of existing green spaces, green spaces currently planned, and opportunities for new green space within the greater downtown area. The focus of these projects is on furthering the goals established for Rio Nuevo including:

- Creating life beyond the weekday hours of 8 a.m. to 5 p.m. for new residents craving an exciting urban lifestyle.
- Creating places for both visitors and residents to enjoy a variety of cultural, artistic, retail, and entertainment venues.
- Creating linkages within the downtown built environment for people to use as they experience the rich history and traditions of Tucson.

The Parks and Recreation Department has a long-range plan for downtown and its surrounding context that reflects a system of destinations and trail connects for bike and pedestrian use. The plan encompasses more than just the Rio Nuevo district. The enclosed cost estimate for the Department's Downtown Green Infrastructure Plan provides subtotaled project costs for those projects within the study area (or "district"), as well as a subtotal of those in the areas surrounding it. Asterisks (*) denote those projects that are located within the study area.

INVENTORY OF CURRENT FACILITIES

- E1** Iron Horse Park – Located at the mouth and golden eyes end of Rattlesnake Bridge, this small park has a ramada, picnic tables, art work and a playground. The trail that passes through the Rattlesnake Bridge will be connected to the south with the construction of the Basket Bridge. When the Downtown Links Project and 4th Avenue Underpass are completed, the access to and awareness of this small park will increase.
- E2** Broadway Boulevard Greenway
- E3** Aviation Bikeway
- E4** Barrio San Antonio – This is a new natural resource "pocket park", located at Santa Rita and 14th Avenue It will be accessible to the Cherry Fields project and Arroyo Chico Trail. It has a group barbecue, shade cloth ramada, small neighborhood meeting and performance area, with rocks for seats. It also has a sand playground, and a special neighbor who supplies sand toys.
- E5** Tucson High School – The Tucson High School Feasibility Plan, which features exploration of activity space and renovation and parking needs at this 100-year old site, includes a suggestion for creating/scheduling spaces that can be used by the general public. The plan

is supported by a community/school design team and the area neighborhood associations. How the students travel through spaces downtown and use transportation sites is important in planning public spaces and linkages, as is the partnership with the school and district for usable spaces.

- E6** Miles Elementary School – A new partnership with the school opens the school grounds to the public when school is not in session. The playground includes a backstop, a walking path, playground features, picnic tables, and turf.
- E7** Highland Bike Route – A bike route that connects the University of Arizona and the Arroyo Chico detention basin project in Barrio San Antonio.
- E8** Santa Rita Park – Located at 22nd Street and 4th Ave, this park has two newly lighted softball fields, a concession stand, lit baseball field, basketball court, a playground, and a “flat water” pool (originally constructed in 1936, renovated in the 1980s). A much-anticipated skatepark is planned. It also has a continuing homeless population. The pool may be “lost” when 22nd Street is widened, which may provide an opportunity for a new style pool. The area along the east side of the park has been suggested for some community housing.
- E9** Mirasol Park – Located south of 22nd Street, 1100 E. Silverlake. The park has a lit softball field and playground, and a basketball court.
- E10** Silverlake Park – Although relatively new, Silverlake Park (at Kino and 36th Street) has developed into a much used and loved park. It houses the four lit “Challenger Little League” fields, used for children with disabilities, as well as other leagues, two unlit soccer fields, a playground, picnic areas, a path around the park, a community garden, the American Israel Friendship path, and a Recreation Center with class spaces, weight room, child care and senior space. The park has a new, zero depth entry pool, spray toys, competition lanes and a slide. The park hosts a public library, and will soon have additional turf, with the addition of space from Hollinger School. This park will link with downtown when the El Paso Greenway is developed.
- E11** Herrera Quiroz Park – Located at St. Mary’s Rd. and I-10. Oury Center is a small, historic center (1919), housing recreation programming for children and seniors. The park has two softball fields, a playground, and a pool. The recent Master Plan of the site calls for a future center and improved grounds. A covered basketball court will be built within the year.
- E12** Carrillo Pool – Located at Carrillo Elementary School and owned and operated by the City of Tucson Parks and Recreation Department.
- E13** El Tiradito and La Pilita Neighborhood Center – The “wishing shrine” site and historic building next door. La Pilita is leased and run by a non-profit that provides good programming for elementary students regarding Tucson’s history and the environment.
- E14** Ormsby Park – This small park located one block south of 22nd Street near the Santa Cruz River, currently houses a small center and softball field. This area is a critical opportunity area, with plans to be expanded to include equestrian accommodations, and accessibility to the river and to the Heritage Park downstream.
- E15** Cesar Chavez Park – A small space located at the “Five Points” area, along 6th Avenue, containing small seating area.

- E16** Santa Rosa Park – Santa Rosa Park and Santa Rosa Center, childcare, and Library complex. Located on 10th Avenue near 22nd Street, the facilities include a medium-size recreation center, gym, weight room, classroom and meeting space. It also houses/hosts non-profits agencies on-site or across the street. The park is diagonal from the center, and has a ramada, playground, ball field, and basketball court (soon to be lighted).
- E17** Children’s Museum Green Space – Located across the street from Armory Park & Center. The Museum, an active non-profit, offers children’s science, learning, and recreational programs. (If the Children’s Museum re-locates to Origins Heritage Park, a teen site at this location would provide much needed active space.)
- * **E18** Armory Park – One of the oldest parks in Tucson, Armory is the home of an increasing number of festivals and events, and “ending festival site” for holiday and St. Patrick’s Day Parades. The Center houses a comprehensive senior program, and is home of the teen program, “AIR.” It is on historic tour; it is the former site of Camp Lowell and the old Armory, Tucson’s first “convention center” of activity after Arizona became a state in 1912.
- E19** Performing Arts Center – This is the old All Saints Church, and is now a City-owned property. It is on the historical register, and was used as an emerging artist’s performance space until a crack in one of the interior arches was discovered. Currently closed, the Center will be repaired using funds approved from the most recent Pima County bond program. Work can begin after an intergovernmental agreement between the City and the County is completed. An estimate for repairs is currently being performed. It is a good cornerstone for the Scott Avenue Art District area plan.
- E20** Jacome Plaza – Located in front of Joel Valdez Main Library. The plaza space is a site for many special festivals, displays, and press announcements. It needs a playground for children, and re-design of hill and performance space. Construction of a high-rise building on the site, which has been publicly discussed, would eliminate downtown green space and an active festival area.
- E21** El Presidio Plaza at City Hall – Between City Hall and the historic County Courthouse, the Plaza is home to many large-scale special events, such as the annual Tucson Meet Yourself Festival, and a portion of the Family Arts Festival. Repairs are needed, as well as a re-design of the space. The Plaza is within the historic grounds of the old Presidio. An opportunity exists here to organize spaces leading from the TCC, over the bridge at Broadway, through Presidio Plaza, the County Courthouse, and to Jacome Plaza, for very large festivals. There also exists an opportunity to link the Plaza to the East Civic Plaza.
- E22** Sunset Park – The small area surrounding City Hall is a good meditative/meeting place. Low water use native vegetation is used throughout the Park. A portion of a re-created Presidio wall will be installed late summer 2007 to mark the Old Presidio boundaries. Future plans to commemorate the Tucson Meteorite/Blacksmith shop in this area should be considered.
- E23** El Presidio San Agustin del Tucson – This re-creation of the northeast tower of the Spanish Presidio is currently under construction, and due to open in May 2007. Included on the grounds are a Torreón (tower), a munitions building, soldiers quarters, and a commissary. A pit house, one of several on location, will be part of the interpretation of the site. A typical Mexican era plaza and row houses and zaguan is also part of the property. The row

houses will include a meeting space, interpretation of the artifacts found on site, and a small gift shop.

E24 Veinte de Agosto (Pancho Villa) Park – This Park is located between Broadway Boulevard and Congress Street, west of Church Avenue. Identified as the “gateway” between Congress Street, and the TCC/ Arena area, the site has a fountain feature, the infamous statue of Pancho Villa (a gift from Mexico), and the foundation stones for the original St. Agustin cathedral. This park was identified as an opportunity to link Congress Street with the East Civic Plaza, and to include expansion onto Church Avenue, where kiosks could be built to oversee the area, provide information (visitors bureau), and concessions for the area (see unadopted Congress Street Master Plan). It is one of two suggested sites for a carousel that would feature desert animals, and an interactive water feature. This is also a good location for a skate park. Teens and younger children should be included in planning downtown development and identifying a variety of gathering and play spaces.

To the north of the park along Congress Street are the Pima County government buildings. The south landscaped space could be re-designed to feature tables and umbrellas for meeting or lunch time use, bringing more people to the outside spaces to build a better “sense of place.”

E25 La Placita, The Gazebo – A small remnant of former site of Mesilla Plaza, this includes a historic gazebo, located near the Hotel Arizona and La Placita buildings. The gazebo is a popular site for weddings. This can be reconnected to Veinte de Agosto.

E26 Adele Smith Sculptural Park – On Main Avenue, between Congress Street and St. Mary’s Road, this is a small contemplative space with sculptures.

E27 University of Arizona – An important node in the City of Tucson Parks and Recreation Department’s strategy for connecting areas of interest and destinations with linkages like trails, greenways, bikeways and pedestrian corridors.

E28 Estevan Park – Originally a “tent city”, this old park contains the signature mesquite tree for the City Parks and Recreation Department logo. The park is at the end point for the Greenway, and a connection to it should be developed. The park contains a center, currently on loan to Tucson Urban League, who contracts it out for daycare use. Also at this site is the “home” for the Rugby League. A large field is the main feature. The park had a pool at one time, which has since been demolished. The park also has a basketball court. It is located across the street from Dunbar Spring.

E29 Mel, Tucson’s heritage tree

E30 Menlo Park – Located on Granada, across from the Ward 1 Office. It has playgrounds, fields, basketball court, and pool with slide. It is due an upgrade.

E31 Santa Cruz River and DeAnza Trail – The river path, developed on one or both sides of the river with accessibility for pedestrians and bicycles. There is a standard for trail development along the river, and riverside owners are encouraged to design features to make the pathway more appealing. In the downtown area, two identified Army Corps of Engineer projects are planned (not funded), including the Paseo de las Iglesias portion, and the Rio Medio portion. Also identified along the river is the Anza Trail, which includes historic commemorative plaques at points along the river. The river portion south of 22nd Street to Congress Street will be along the Sonoran Desert Natural Resource Park, the

Heritage Park, including Mission Gardens, the Convento, Chapel, Carrillo House, and festival area. Museums, the Mercado district, and 14 acres of land to be developed along Congress Street are included in this river area. It is critical to the “view shed” of the downtown area.

- E32** “A” Mountain – Originally named “Sentinel” because it was used by the Spanish and other early settlers as a “lookout. The peak includes a white boulder “A”, built in 1916, and is now commonly referred to as “A” Mountain. For many years students burned the “A” the night before University of Arizona Homecoming and then whitewashed the “A” the next morning. The peak is archaeologically and historically significant, and it remains a citywide lookout point. Warner’s old mill site, located on the northeast corner of the mountain at Mission Road and Mission Lane, should be purchased and developed as part of the area’s history.
- E33** Leon Property – Located behind the Manning House, this historic site, unexcavated, is on the direct path of the Greenway, and will be important to interpret. There is an opportunity to acquire land to the north of the Manning House, which would be used to re-establish the once-planned Archaeology Park.
- E34** Garden of Gethsemane – This garden, located at Congress Street and Bonita Avenue, includes sculptural works of Felix Lucero in an enclosed park setting. It is the setting for many weddings and “quinceañeras.”
- E35** Bonita Park – This park is located north of the Garden of Gethsemane, along the riverwalk. It has a playground and restroom, picnic tables and small turf areas. A small tot playground will be built north of the park within the year.
- E36** DeAnza Park – Located at Speedway Boulevard. and Stone Avenue, it is a “gateway” to downtown from the north. DeAnza has a playground, lit sand volleyball courts, restrooms, a playground, and open space. Some renovation is needed. It has an historic “A” Mountain basalt wall on its west side.
- E37** Catalina Park – Located on 4th Avenue, south of Speedway Boulevard. It has a playground, a historic registered ramada, and a wading pool. A splash park has been proposed, but is unfunded.

PLANNED IMPROVEMENTS

- P1** Arroyo Chico – The Arroyo Chico Wash provides a planned urban greenway connecting downtown with Reid Park and many other destinations. The greenway portion between the Rattlesnake Bridge and Campbell Avenue has been designed and is in the process of being funded by the Army Corps of Engineers. One million dollars from Pima County 2004 bonds is available toward development of the greenway between Campbell Avenue and Tucson Boulevard. The City of Tucson Parks Department is pursuing other funding sources to close the funding gap for the greenway between Campbell Avenue and Reid Park.
- P2** Oury/Davis Connection – Herrera Quiroz Park and the neighborhood center located there (Oury Center) will have a pedestrian connection between the park and the nearby Davis Bilingual Magnet School. The pedestrian connection will pass through the El Paso

Greenway and the Community Services Department's SMART housing project east of the park.

- * **P3** El Paso Greenway – A major connection and structural element in the downtown green infrastructure plan, the El Paso Greenway is in the planning process, which will identify funding sources. The Greenway is ultimately planned to span from the Kino Boulevard/36th Street area, through South Tucson along Barrios' Santa Rosa, Viejo, Historico, by Fire Station One (under design), through the new arena area and El Presidio neighborhood, along the east side of I-10, across St. Mary's Rd., through Barrio Anita and ending near Estevan Park. It will be a connector path with some amenities along the way. It is being planned to emphasize walking and cycling. The old railroad roundhouse and the adjacent detention basin are located along the greenway and the area is a possibility for a park node.
- P4** Mendoza Park – A small neighborhood park in memory of two Barrio Viejo children killed in a traffic accident, it contains a shrine to the victims and a winding path with plants and shade. It will be located at Convent Avenue and 18th Street
- * **P5** Depot Plaza – A planned urban plaza between the Train Depot and Club Congress.
- * **P6** DeAnza Trail – A recreation of the historic Juan Batista DeAnza trail, on which the Spanish conquistadors rode between Mexico City and San Francisco, California. Pima County is implementing the trail in segments.
- * **P7** Heritage Park – A large Rio Nuevo project that celebrates the origins of Tucson as an organized settlement. Heritage Park, west of the Santa Cruz, includes a reconstructed Convento, chapel and Mission Gardens. Other planned amenities include an archaeological area, Origins Center, museums and festival space. The project is in the design phase.
- * **P8** Sonoran Desert Park – A planned natural resource park at the base of "A" Mountain. The site is a former landfill. This Brownfield project will include trails, a connection to the DeAnza Trail and the Heritage Park, native plants, water harvesting and interpretation of the Sonoran Desert along the Santa Cruz River.

NEW PARK CONSIDERATIONS

- * **O1** Gateway Park – This park would be located at the confluence of Iron Horse Park, the 4th Avenue underpass and the Arroyo Chico/Aviation urban greenway network. This would provide a green gateway into downtown.
- O2** Railroad Wash Greenway – A trail connection to complement the planned Arroyo Chico Urban Greenway and the existing Aviation bikeway.
- O3** High School Wash Greenway – A pedestrian/bike connection between Tucson High School, the University of Arizona and the Arroyo Chico Urban Greenway. This is an important link to complete a network of urban trails.

- * **O4** New park: El Paso Greenway meets the Arroyo Chico Greenway – A parcel along the El Paso Greenway just south of St. Mary’s provides an opportunity for a green space node or park to complement the intersection of the greenway with the northern section of the Arroyo Chico Urban Greenway. The Arts District Walk connects to this proposed park via the Arroyo Chico Urban Greenway near St. Mary’s Road/6th Street.

- O5** Partnership with Davis Elementary – The City of Tucson Parks and Recreation Department enters into partnerships with schools when possible to create public parks on school grounds for use after school hours. Davis Elementary School is a potential partner.

- * **O6** Arts District Walk – A pedestrian corridor from the proposed gateway park at the 4th Avenue Underpass to the northern end of the Arts District provides an opportunity to link the Arts District with a larger network of pedestrian/bike trails. A complete network of trails brings together downtown amenities, the University of Arizona, Reid Park, 4th Avenue, the Arroyo Chico Urban Greenway, the Aviation bikeway and many neighborhoods.

- O7** Arroyo Chico North Trail – A northern segment of the Arroyo Chico Urban Greenway that runs between the Arts District and the El Paso Greenway at St. Mary’s Road.

- O8** New park: Round House and adjacent detention basin – The historic railroad round house and an adjacent detention basin sit along the El Paso Greenway two blocks south of 22nd Street. These parcels are an opportunity for a park that could provide historic interpretation as well as active recreation in downtown.

- O9** New Pedestrian/Bike Connection Between Santa Rosa Park and New Park at Osborne and 18th Street - A pedestrian/bike connection to join Santa Rosa Park with a network of community spaces and parks along Osborne Avenue

- O10** Partnership with Carrillo School – Carrillo School is a potential partner for the City of Tucson Parks and Recreation Department to create a joint use park on the school campus.

- O11** New Park: Tucson Water Property – A parcel on 18th Street and Osborne along the El Paso Greenway is an opportunity for a new park. It would complement Santa Rosa Park, Carrillo Pool, El Tiradito, La Pilita Neighborhood Center. These destinations would be joined by a pedestrian/bike trail along Osborne Avenue

- O12** Osborne Avenue Pedestrian/Bike Connection - A pedestrian/bike connection along Osborne Avenue would create a well connected network of destinations including Santa Rosa Park, Carrillo Pool, El Tiradito, La Pilita Neighborhood Center and the proposed new park at Osborne and 18th Street This local network of community spaces would be connected to the larger network along the El Paso Greenway.

- * **O13** New Park: adjacent to Fire Station 1 – Fire Station No. 1 is projected to fill the northern part of the parcel leaving room for a new park at the southern end.

- O14** Pedestrian/Bike Underpass – A pedestrian/bike underpass that will connect the El Paso Greenway to the Santa Cruz River Park trail system.

- O15** Ormsby Greenway to the Santa Cruz River - A greenway to connect Ormsby Park to the Santa Cruz River so that the park may be used for equestrian staging to support festivals

at the Heritage Park. The connection also complements a larger network of trails and green spaces west of I-10.

- O16** Ormsby Park Expansion – An expanded Ormsby Park would provide an opportunity to provide an equestrian amenity to complement the Heritage Park. Horses could be staged at Ormsby Park and transferred to the Heritage Park via the Santa Cruz River. The park expansion would also create a significant greenspace in the downtown region. A pedestrian/bike connection between the park, the Santa Cruz River, the Heritage Park and the El Paso Greenway would support an expanded network between the west and east side of I-10.
- * **O17** Cushing Street Pedestrian/Bike Connection – A connection between the Osborne Avenue amenities and the Children’s Museum and Armory Park.
- * **O18** Armory Park/M.L.K. Housing Pedestrian Connection – A landscaped pedestrian connection between Armory Park and its senior center to the Martin Luther King housing.
- O19** Recreation on Rooftop of Pennington Street Garage – Finding green space and active recreation opportunities in downtown is a challenge and requires taking advantage of opportunities not normally pursued. The roof of the Pennington Street Garage is an opportunity for tennis courts, basketball courts or other active recreation.
- * **O20** Armory Park/Arizona Avenue Arcade – A pedestrian arcade along Arizona Avenue
- O21** New Park: at Surface Parking across from El Charro – A surface parking lot at the northeast corner of Church and Council provides an opportunity for a large greenspace in downtown. It is one of the only opportunities for a park to support downtown activities, musical performances and festivals.
- * **O22** Viente de Agosto Park Expansion – An expansion of Viente de Agosto Park that connects the park to La Placita would create a seamless connection from the Tucson Convention Center to El Presidio Plaza. The area could become a significant pedestrian connection and festival space.
- * **O23** El Presidio San Agustin Historic Walk with Trailhead – The historic location of the El Presidio wall provides an opportunity for a trailhead and commemorative walk.
- * **O24** Warren Mill Interpretation - The historic Warren Mill site is privately held and provides an opportunity for a publicly interpreted site.
- * **O25** Wildlife Connection Between A Mountain/Tucson Mountain Park and the Santa Cruz River – The Sonoran Desert Park is one of the last places to connect wildlife areas like Tucson Mountain Park and “A” Mountain to the Santa Cruz River.
- O26** Ormsby Park/Sonoran Desert Park Trail Loop – A loop trail to connect the Sonoran Desert Park and Ormsby Park.
- O27** Pedestrian/Bike Crossing at I-10 – A pedestrian/bike crossing to connect the community spaces on the west and east sides of I-10.

- * **O28** Pedestrian/bike crossing at 18th Street and I-10 – A pedestrian/bike crossing at 18th Street to connect the community spaces on the west and east sides of I-10.
- O29** New Park: Commerce Loop – A proposed new park to support active recreation.
- O30** Pedestrian/Bike Connection Between New Park at Commerce Loop and the Santa Cruz River - A connection between the proposed park at Commerce Loop and the Santa Cruz River Park.
- O31** Dunbar Spring Pedestrian/Bike Connection – A pedestrian and bike link between the Dunbar Spring Neighborhood and the Arts District Walk. The intersection of 9th Avenue and 6th Street is a popular spot for bicycles to access downtown.
- O32** Railroad Greenway – An urban greenway along the existing railroad line to connect the Arts District with Dunbar Spring neighborhood and the El Paso Greenway.

COST & FUNDING

Costs for projects within the study area are expected to total \$73,900,000. The majority of the funding will come from bonds, HURF, RTA, City of Tucson Parks and Recreation and private development. An additional \$7,800,000 will be requested from TIF funding.

**Cost Estimate
Downtown Green Infrastructure Plan
City of Tucson Parks and Recreation Department**
April 24, 2007

Inside Rio Nuevo District?	Label (see map)	Project	Total Cost of Project	Amount of Current Funding	Source of Current Funding	Unfunded	TIF Request	Potential Funding Sources	Project Start (0-18 mo.s), (19-36 mo.s), (3-5 years), (5+ years)
y	P3	El Paso Greenway	\$5,000,000	\$600,000	R.T.A.	\$4,400,000	\$1,000,000	R.T.A.	0-18 mo.s
y	P5	Depot Plaza	\$500,000	\$500,000	development, Rio Nuevo	\$0	\$0		19-36 mo.s
y	P6	deAnza Trail	\$3,000,000	\$0		\$3,000,000	\$0	Pima County bonds 2008	19-36 mo.s
y	P7	Heritage Park	to be determined	to cover cost	Rio Nuevo	\$0	\$0		0-18 mo.s
y	P8	Sonoran Desert Park	\$20,000,000	0	none	\$20,000,000	\$0	Pima County bonds	0-18 mo.s
y	O1	Gateway Park	\$1,300,000	\$0	none	\$1,300,000	\$0	developer funded	19-36 mo.s
y	O4	New Park at El Paso/Arroyo Chico Greenway	\$1,500,000	\$0	none	\$1,500,000	\$0	developer funded	19-36 mo.s
y	O6	Art District Walk	\$5,000,000	\$0	none	\$5,000,000	\$0	developer funded; included in another TIF request	3-5 years
y	O13	new park at Fire Station 1	tbd	to cover cost	Fire Station 1 project	\$0	\$0		0-18 mo.s
y	O17	Cushing St. pedestrian/bike connection	\$3,000,000	0	none	\$3,000,000	\$0	included in another TIF request	3-5 years
y	O20	Armory Park/Scott Ave. pedestrian/bike connection	\$800,000	\$0	none	\$800,000		Rio Nuevo, bonds, developer funded	19-36 mo.s
y	O18	Arizona Avenue Arcade	\$2,000,000	\$0	none	\$2,000,000	\$2,000,000	covered in another TIF request; HURF	3-5 years
y	O22	Viente de Agosto Park expansion	\$20,000,000	\$0	none	\$20,000,000	\$1,000,000	covered in ParkWise TIF request; bonds, HURF	19-36 mo.s
y	O23	El Presidio walk	\$800,000	\$0	none	\$800,000	\$800,000	Presidio Trust, HURF	3-5 years
y	O24	Warren Mill site	\$3,000,000	\$0	none	\$3,000,000	\$0	2008 County bonds, R.T.A.	3-5 years
y	O25	wildlife/pedestrian connection at A Mt.	\$5,000,000	\$0	none	\$5,000,000	\$0	2008 Pima County bonds, R.T.A.	3-5 years
y	O28	pedestrian/bike crossing at Clark St.	tbd	to cover cost	Rio Nuevo	\$0	\$0		0-18 mo.s
y	E18	Armory Park Expansion	\$3,000,000	\$0	none	\$3,000,000	\$3,000,000	Rio Nuevo	19-36 mo.s
		subtotal for sites inside district	\$73,900,000			\$72,800,000	\$7,800,000		
n	P1	Arroyo Chico Urban Greenway	\$6,000,000	\$1,450,000	2004 County bonds (\$1 million), impact fees (\$450,000)	\$4,450,000			0-18 mo.s
n	O7	Arroyo Chico West Greenway	\$750,000	\$0	none	\$750,000		Rio Nuevo, bonds, developer funded, HURF	19-36 mo.s
n	P2	Oury Center/Davis Elementary Connection	\$300,000	\$0	none	\$300,000		developer funded through SMART Housing project	19-36 mo.s
n	P4	Mendoza Park	\$220,000	\$220,000	\$205,000 Tucson B2B \$15,000 County Neighborhood Reinvestment	\$0			0-18 mo.s
n	O2	Railroad Wash Greenway	\$1,500,000	\$0	none	\$1,500,000		bonds, HURF	3-5 years
n	O3	High School Wash Greenway	\$2,000,000	\$0	none	\$2,000,000		bonds, HURF	3-5 years
n	O5	Partnership with Davis Elementary	\$1,000,000	\$0	none	\$1,000,000		bonds, Pima County Neighborhood Reinvestment, Community Services CDBG	19-36 mo.s
n	O8	New Park at Round House and detention basin	\$1,500,000	\$0	none	\$1,500,000		bonds, Pima County Neighborhood Reinvestment, impact fees, Community Services CDBG, Back to Basics	3-5 years

n	O9	Pedestrian/bike connection along 20th St.	\$500,000	\$0	none	\$500,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O10	Carrillo School Partnership	\$1,000,000	\$0	none	\$1,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	19-36 mo.s
n	O11	new park at 18th St. and Osborne Ave.	\$1,300,000	\$0	none	\$1,300,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O12	Osborne Avenue pedestrian/bike connection	\$2,000,000	\$0	none	\$2,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O14	Pedestrian/bike underpass	\$5,000,000	\$0	none	\$5,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O15	Ormsby Greenway	\$1,000,000	\$0	none	\$1,000,000	bonds, impact fees, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	19-36 mo.s
n	O16	Ormsby Park Expansion	\$5,000,000	\$0	none	\$5,000,000	bonds, impact fees, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	19-36 mo.s
n	O21	new park at surface parking lot on Church/Council	\$5,000,000	\$0	none	\$5,000,000	bonds, impact fees, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O26	Ormsby/Sonoran Desert Park trail loop	\$1,700,000	\$0	none	\$1,700,000	bonds, impact fees, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	19-36 mo.s
n	O27	pedestrian/bike crossing at 18th St.	\$1,000,000	\$0	none	\$1,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O29	new park at Commerce Loop	\$2,000,000	\$0	none	\$2,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O30	Commerce Loop Park/Santa Cruz River connection	\$1,000,000	\$0	none	\$1,000,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O31	Dunbar Springs pedestrian/bike connection	\$700,000	\$0	none	\$700,000	Aviation project, bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics	3-5 years
n	O32	Railroad Greenway	\$1,600,000	\$0	none	\$1,600,000	bonds, Pima County Neighborhood Reinvestment, Community Services CDBG, Back to Basics, R.T.A.	3-5 years
		subtotal for sites outside district	\$42,070,000			\$40,300,000		
		GRAND TOTAL	\$115,970,000			\$113,100,000		

Downtown Infrastructure Greenspace Infrastructure Plan

Legend

--- Street Car Route

Opportunities for Greenspace

 Existing Amenities

- E1 Iron Horse Park
- E3 Aviation Bikeway
- E5 Tucson High School
- E8 Santa Rita Park
- E11 Herrera Quiroz Park
- E12 Cantillo Pool
- E13 El Tiradito and La Plaza Neighborhood Center
- E15 Cesar Chavez Park
- E16 Santa Rosa Park
- E17 Children's Museum
- E18 Armory Park
- E19 Performing Arts Center
- E20 Jacome Park
- E21 Presidio Plaza at City Hall
- E22 Sunset Park
- E23 El Presidio San Agustín del Tucson
- E24 Viente de Agosto Park
- E25 La Placita
- E26 Adela Smith Sculptural Park
- E29 Mei, Tucson's heritage tree
- E30 Mento Park
- E31 Santa Cruz River and DeAnza Trail
- E32 A Mountain
- E33 Leon Property
- E34 Garden of Gethsemane
- E35 Bonita Park

 Opportunities

- O1 Gateway Park
- O4 New park: El Paso Greenway meets the Arroyo Chico Greenway
- O5 Partnership with Davis Elementary
- O6 Art District Walk
- O7 Arroyo Chico North Trail
- O9 New pedestrian/bike connection between Santa Rosa Park and new park at Osborne and 18th St.
- O10 Partnership with Carrillo School
- O11 New park: Tucson Water Property
- O12 Osborne Av. pedestrian/bike connection
- O13 New park, adjacent to Fire Station #1
- O17 Cushing Street pedestrian/bike connection
- O18 Armory Park/Arizona Av.
- O19 Unnamed
- O20 Armory Park/Scott Av. pedestrian connection
- O21 New park, at surface parking across from El Chamo
- O22 Viente de Agosto Park Expansion
- O23 El Presidio San Agustín Historic Walk with trailhead
- O24 Warren Mill Interpretation
- O25 Wildlife connection between A Mountain/Tucson Mountain Park and the Santa Cruz River
- O26 Ormsby Park/Sonoran Desert Park trail loop
- O27 Pedestrian/bike crossing at I-10
- O28 Pedestrian/bike connection
- O29 New park: Commerce Loop
- O30 Pedestrian/bike connection between new park at Commerce Loop and the Santa Cruz River
- O31 Dunbar Springs pedestrian/bike connection
- O32 Railroad Greenway

 Planned

- P2 Curry/Davis Connection
- P3 El Paso Greenway
- P4 Mendocino Park
- P5 Depot Plaza
- P6 DeAnza Trail
- P7 Heritage Park
- P8 Sonoran Desert park



1:10,000



**Tucson
Downtown
Partnership**



GREEN SPACE / PARKS

DOWNTOWN GREEN INFRASTRUCTURE PLAN: NODES AND CONNECTIONS

Downtown needs green space to be livable and sustainable. The City of Tucson Parks and Recreation Department proposes the Downtown Green Infrastructure Plan: Nodes and Connections as our long range planning document for creating lively, useable green space in the downtown area. The concept is one of creating nodes of green space for active and passive recreation, outdoor performances or festivals and connecting these nodes to the urban fabric through a network of urban greenways, pedestrian and bicycle paths and trails. The connections and nodes are describes below (Cs represents connections and Ns represent nodes).

C1 Arroyo Chico Urban Greenway

The Arroyo Chico Wash provides a planned urban greenway connecting downtown with Reid Park and many other destinations along the way. The greenway between the rattle snake bridge and Campbell Avenue is designed and is in the process of being funded for construction by the Army Corps of Engineers. \$1 million from Pima County 2004 bonds is available toward development of the greenway between Campbell Avenue and Tucson Boulevard. The City of Tucson Parks Department is pursuing other funding sources to close the funding gap for the greenway between Campbell Avenue and Reid Park.

C2 Railroad Wash Urban Greenway

The Railroad Wash is the route of a proposed urban greenway to connect the existing Aviation bikeway to the Arroyo Chico Urban Greenway.

C3 Aviation Bikeway

The existing bike route along Aviation will connect to the rattle snake bridge and the Arroyo Chico Urban Green Way with the completion of the basket bridge.

C4 Highland Avenue Bicycle and Pedestrian Route

The City of Tucson Department of Transportation is constructing a bicycle path along Highland between the University of Arizona and the Arroyo Chico detention basins. This trail links the University of Arizona with the Arroyo Chico Urban Greenway and beyond to the Aviation Bikeway.

C5 High School Wash Linear Park (Highland Avenue to Tucson High School)

A proposed urban pathway along High School Wash connects the University of Arizona, Tucson High School, and the Arroyo Chico Urban Greenway to Reid Park and the Aviation Bike Way to southeast Tucson.

C6 High School Wash Linear Park (Tucson High School to Fourth Avenue)

A proposed linear park along High School Wash to connect Tucson High School and downtown via the Fourth Avenue Underpass and the Arts District Pedestrian Corridor.

C7 Arts District Pedestrian Corridor

A landscaped, shaded pedestrian oriented streetscape that connects Gateway Park to the El Paso Greenway.

C8 El Paso Greenway

A major greenway link to provide a strong alternate mode connection between the Kino Blvd./36th Street area (Silverlake Park) through South Tucson and along Barrios Santa Rosa, Viejo and Historico. The greenway passes through the planned Fire Station One (under design) through the potential Arena area, El Presidio neighborhood, along the east side of I-10, across St. Mary's, through Barrio Anita, and ending near Estevan Park. The greenway includes activity nodes. The project is partially funded and converts the abandoned El Paso Railroad into an urban trail system.

C9 Ormsby Urban Green Way

A proposed urban greenway to connect the El Paso Greenway to an expanded Ormsby Park and the Santa Cruz River. The connection between Ormsby Park and the Santa Cruz River is used for transferring horses from Ormsby Park north along the Santa Cruz River and into Origins for equestrian related special events.

C10 Santa Cruz River Park

A planned urban greenway along the Santa Cruz River. The Santa Cruz River Park is a significant north/south connection for amenities on the west side of I-10. These amenities (the Sonoran Desert Park, Origins, A Mountain, Ormsby Park, mixed use development south of Congress Street, Warren Mill) form a circuit of destinations held together by the Santa Cruz River Park.

C11 18th Street Connector

A proposed trail to connect the proposed 18th Street/Osborn Avenue park with the Santa Cruz River Park via an existing pedestrian underpass at I-10.

C12 Pedestrian/ Bicycle Connector Path at the proposed Rio Nuevo Overpass

A link between the El Paso Greenway and the Santa Cruz River Park to facilitate pedestrian and bicycle travel between downtown and the Rio Nuevo projects on the west side of I-10.

C13 Osborne Avenue Pedestrian/Bicycle Route

A proposed route to connect The El Paso Greenway with the Carillo School School/Park Partnership facilities and the southern downtown area.

N1 Arroyo Chico Detention Basin

The Arroyo Chico Detention Basin project brings the Barrio San Antonio out of the floodplain, but also provides greenspace and trails. Pima County Flood Control and City of Tucson Department of Transportation have been working with the Army Corps of Engineers to design and construct this major infrastructure improvement. The project design is complete and the Army Corps is securing additional funding to complete construction.

N2 Tucson High School

Tucson High School's master planning includes community space and meeting rooms.

N3 Gateway Park

The proposed park is a gateway into the eastern end of downtown and its green infrastructure. The park incorporates the existing Iron Horse Park and proposes the acquisition of new parcels at Toole Avenue and Congress. Gateway Park serves as a collector for urban pathways and greenways from the southeast (i.e. the Arroyo Chico Urban Greenway, Aviation Bikeway), the north (i.e. pedestrian walkway along the Arts District) and the east (i.e. the 4th Avenue underpass, modern street car). Gateway Park provides a connection between 4th Avenue, the Train Depot, Depot Plaza and the Greyhound Depot. Suggested park amenities include a play area, including tot and youth playground structure, rock climbing wall, splash pad for interactive water play, sand volleyball, stage area for small outdoor concerts and kiosks for concessions. It has the potential to showcase great public art.

N4 Proposed Park at the El Paso Greenway South of Saint Mary's

Arroyo Chico Wash Urban Greenway meets the El Paso Greenway at a proposed new park. The park would create a node for outdoor performances, children's play equipment and other urban park amenities to complement the El Paso Greenway.

N5 Proposed Park at 18th Street and Osborne Avenue

A proposed new park on the southwest corner of 18th Street and Osborne Avenue. The park is connected to the surrounding urban trail system and nearby existing amenities via a pedestrian oriented streetscape along Osborne Avenue and an underpass to the west side of I-10. The streetscape along Osborne Avenue connects the new park with the existing Carrillo School. The Parks Department currently runs the Carrillo Pool at the school site. Other amenities along the Osborne Avenue streetscape include the El Tiradito Wishing Shrine and La Pilita neighborhood center. Osborne ends at the TCC. An existing pedestrian underpass connects the new park and Osborne Avenue amenities with the Santa Cruz River Park and a large circuit of planned and existing amenities at the base of A Mountain.

N6 Carrillo School Partnership

A proposed partnership between Carrillo School and the City of Tucson Parks and Recreation Department for shared active recreation opportunities on the school campus. The Parks Department currently operates the Carrillo Pool.

N7 Roundhouse and Detention Basin

A proposed new park for active recreation at the historic railroad yard and adjacent detention basin at the I-10 Frontage Road, 29th Street and Osborne Avenue. A wash to the east of the roundhouse is a proposed urban green way to connect a nearby school to the El Paso Greenway.

N8 Ormsby Park

A proposed expansion to an existing park to accommodate equestrian staging and active recreation. An equestrian staging area is needed to compliment festivals and special events at Origins.

N9 Sonoran Desert Park and Origins

The Sonoran Desert Park is a natural resource park planned at the base of A Mountain on the site of a landfill. It compliments Origins and provides a wildlife and pedestrian connection between the Santa Cruz River and A Mountain/Tucson Mountain Park. This

wildlife connection is one of the last possible opportunities to bring a natural area to the basin's most significant riparian habitat.

N10 Downtown

A node containing multiple pocket to neighborhood sized parks as well as an abundance of other cultural and historical resources. Open space downtown ranges from a small sculpture garden to the new Presidio San Agustin del Tucson to such established parks as El Presidio Plaza and Armory Park. Many new greenspace-development opportunities exist in this node and each should be explored to the fullest in order to provide the population of this inner urban core with opportunities for open space and recreational activities.

N11 University of Arizona

A major population node with its own extensive green infrastructure.

N12 Menlo Park

Located on Granada, across from the Ward 1 office. It has playgrounds, fields, basketball court, and pool with slide. It is due an upgrade.

N13 David Herrera/Ramon Quiroz Park and Oury Center and pool

Located at St. Mary's road and I-10. Oury Center is a small, historic center (1919), housing recreation programming for children and seniors. The park has two softball fields, a playground, and a pool. The recent Master Plan of the site calls for a future center, and improved grounds. A covered basketball court will be built within the year.

N14 Estevan Park

Originally a "tent city", this old park contains the signature mesquite tree for the City Parks and Recreation Department logo. The park is at the end point for the El Paso Greenway, and a connection to it should be developed. The park contains a center, currently on loan to Tucson Urban League, who contracts it out for Day Care use. Also at this site is the "home" for the Rugby league. A large field is the main feature. The park also has a basketball court. It is located across the street from Dunbar Spring.

N15 Gateway to The Arroyo Chico Urban Greenway

A proposed new park development to act as a welcoming node to the Arroyo Chico network of urban trails leading south and east to Reid Park.

N16 Proposed Park/Ball Fields - Menlo Park Neighborhood

Possible new sports field location.

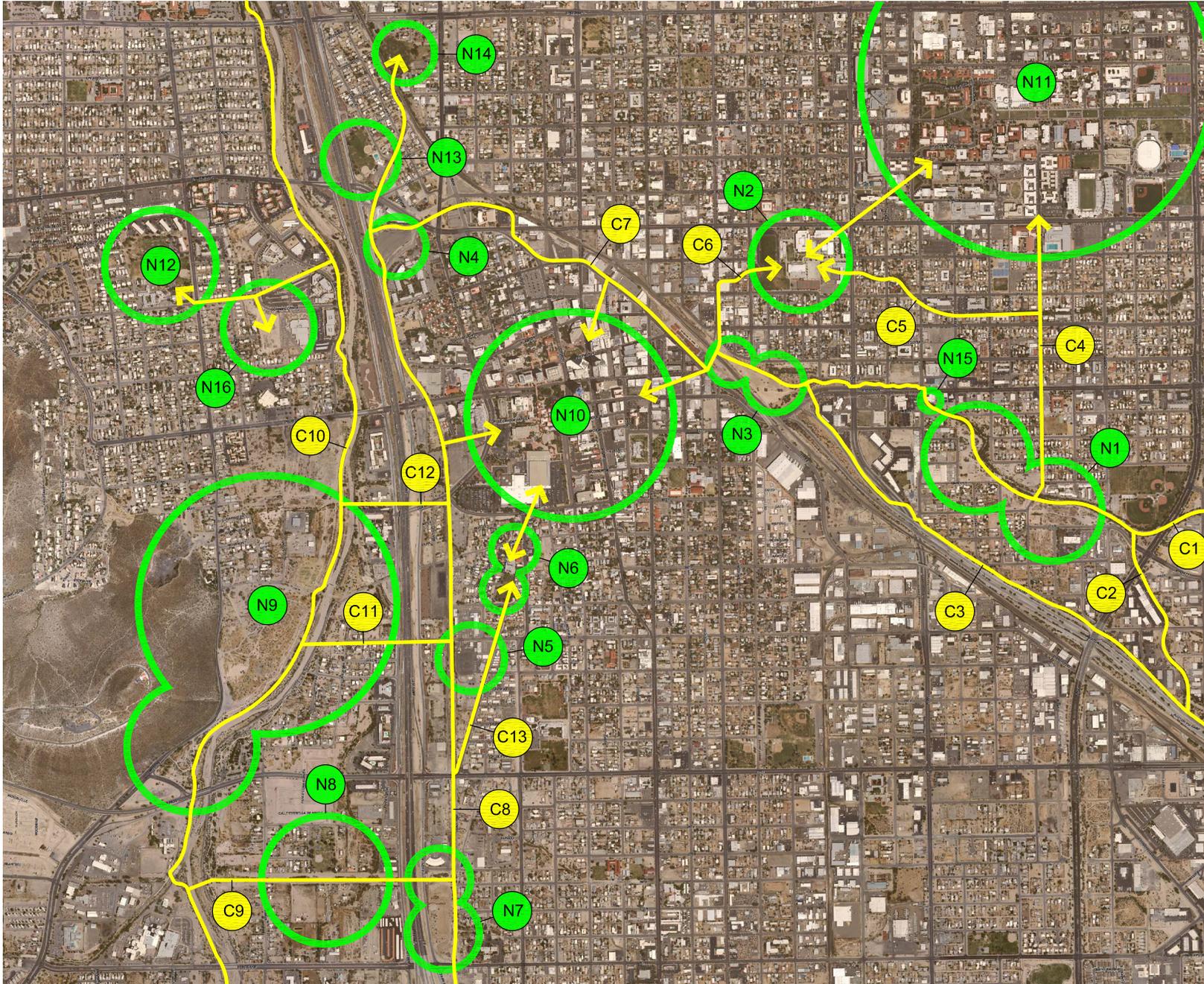
Downtown Green Infrastructure Nodes and Connections Master Plan

Nodes:

- N1 Arroyo Chico Detention Basin
- N2 Tucson High School
- N3 Gateway Park
- N4 Proposed Park at El Paso Greenway & Saint Mary's
- N5 Proposed Park at 18th Street & Osborne Avenue
- N6 Carillo School Partnership
- N7 Roundhouse & Detention Basin
- N8 Ormsby Park
- N9 Sonoran Desert and Origins Parks
- N10 Downtown Parks
- N11 U of A Greenspace
- N12 Menlo Park
- N13 Herrera / Quiroz Park
- N14 Estevan Park
- N15 Gateway to Arroyo Chico Urban Greenway
- N16 Proposed Park / Ball Field Site

Connections:

- C1 Arroyo Chico Urban Greenway
- C2 Railroad Wash Urban Greenway
- C3 Aviation Bikeway
- C4 Highland Avenue Bicycle and Pedestrian Route
- C5 Highschool Wash (Highland to Tucson High)
- C6 Highschool Wash (Tucson High to 4th Avenue)
- C7 Arts District Pedestrian Corridor
- C8 El Paso Greenway
- C9 Ormsby Urban Greenway
- C10 Santa Cruz River Park
- C11 18th Street Connector
- C12 Pedestrian & Bicycle Connection to Rio Nuevo
- C13 Osborn Avenue Bicycle and Pedestrian Route



PUBLIC PROGRAMS

DOWNTOWN AREA INFILL INCENTIVE DISTRICT

OVERVIEW

On October 24, 2006, the City of Tucson established a Downtown Area Infill Incentive District (Resolution No. 20487). The goals of the Infill District are to: address barriers to downtown development such as inadequate infrastructure, lengthy permit processes, obsolete development standards, difficult parcel assembly, environmental clean-up issues, and associated development barrier issues. It is anticipated that the incentives included in this legislation will help enliven and revitalize the downtown area by promoting public-private partnerships, a pedestrian environment, and a mix of well-designed land use contributing to Tucson's rich historic, cultural, and artistic heritage.

DETAILS OF THE INFILL INCENTIVE DISTRICT

Under this legislation, the City of Tucson, through a development agreement, can waive or defer building permit fees, rezoning application fees, and/or fees for plan review. The City may also allow for modification to lot coverage standards, parking standards, or loading standards. Minimum project requirements to receive these benefits are: 1) a minimum physical project cost of at least \$250,000, and 2) meeting at least three of the stated goals of the legislation. A map of the Infill Incentive District is included in this report.

PUBLIC PROGRAMS

FAÇADE PROGRAM

OVERVIEW

A Façade Program for the Congress Street District was drafted in the first quarter of 2007 with input from private property owners and business owners along Congress Street. The program is designed to encourage aesthetic improvements in the Congress Street Entertainment District, and to facilitate Certificates of Occupancy. The geographic area for the program includes Congress Street and Broadway Boulevard from Veinte de Agosto Park at Church Ave to Toole Avenue. The district also covers the portions of 5th Avenue, 6th Avenue, Scott Avenue, Stone Avenue, and Church Avenue between Congress Street and Broadway Boulevard. The primary emphasis will be placed on proposals that front Congress Street between Stone and 4th Avenue. Facades are defined as sides of buildings that face public streets, alleyways, and rights-of-way.

APPLICATION PROCESS

Any property owner or business operator with the property owner's approval within the district may apply for funds. A Program Review Panel will be created, consisting of a representative from the Tucson Downtown Alliance, a representative appointed by the City Manager and a representative from the underwriter. In addition, a registered architect will serve a non-voting, advisory role. The Panel will review applications, consult with the architect on aesthetic issues and make recommendations for forwarding to the underwriter for final analysis and approval.

All projects will be subject to normal development procedures, including review by the Design Review Board, Historical Commission Plans Review Committee, permitting standards and review fees. Projects will be eligible for permit fee waivers and tax rebates as has been approved by the Mayor and Council.

Eligible expenses include physical improvements to façade of building, including but not limited to: painting, sandblasting, mortar repair, window replacement, installation of awnings, Temporary Revocable Easement (TRE) improvements, and signage. Architectural fees and construction management expenses up to 5% of total project funding awarded under this program will be eligible.

Property owners with a history of code enforcement actions, real estate or business tax delinquencies are not eligible to apply.

Proposals will be reviewed and ranked by the Program Review Panel for project's visible impact to streetscape of Congress District and compatibility with the District image as an arts and entertainment hub complemented by unique retail.

COST & FUNDING

There are two funding sources for the program. Each successful proposal will be funded with a combination of loan and grant proceeds. Each proposal must meet underwriting standards for the loan term.

- 1) Approximately \$550,000 from the Downtown Revolving Loan Fund, administered and underwritten by the Business Development Finance Corporation (BDFC) or a downtown-based lender.
- 2) Approximately \$2 million (pending approvals) from Rio Nuevo District, subject to historic facade conservation easements or facade improvement and maintenance easements and long-term District facade leases.

Loans will be zero percent interest with a forgivable clause. Loan terms would be 20-year amortization, five-year balloon. Standard underwriting analysis would be applied to all projects recommended by the Program Review Panel. Eligibility for principle forgiveness will be based on quality and tenure of tenants and a matching formula greater than 1:2 that would allow forgiveness as a function of additional improvements made to the building.

For Rio Nuevo funding, a lease would be negotiated with the owner of each building to be improved, pursuant to which the owner would lease to Rio Nuevo approximately 10 horizontal feet of the building, measured from the public right of way. The term would be 20 years. In consideration, Rio Nuevo would agree to make certain specified improvements to the facade of the building.

Funding will be provided with a 1:1 match from the business or property owner for improving buildings with long-term, existing tenants and a current certificate of occupancy. Funding will be provided at a 1:2 match for buildings without existing tenants and/or current certificate of occupancy.

There will be a cap on funding available per project, and it will be calculated at \$50 per square foot of eligible facade. For historic renovations the cap would be \$65 per square foot of eligible facade.

Changes in the approved and constructed facade projects could subject property owner and/or assignees to repayment penalties.

It is recommended that a similar and separate program for the warehouse district be implemented. Program costs would be \$2.55 million.

PUBLIC PROGRAMS

PROPERTY RESEARCH ONLINE

OVERVIEW

The Property Research Online (PRO) project being developed by the City's Development Services Department, with mapping assistance from the Department of Transportation, intends to provide a web site that offers a rich resource of information to assist developers, property owners, and potential property owners with a contextually related and integrated site that is comprehensive, current, and provides most information needed when developing a property. The web site will provide both a text and map interface and will provide the following information on any property in Tucson and is designed to provide the same to any participating jurisdiction in Pima County:

- Jurisdiction and link to jurisdiction web site
- Parcel number and list of all addresses on the parcel
- All zoning on each parcel and:
 - Context link to Land Use Code for each specific zone
 - Link to the rezoning and annexation conditions impacting the parcel (if any)
- All overlays (including web links to explanatory material) affecting the development of the property including:
 - Impact Fee Benefit Area
 - Ward
 - Downtown Core, Rio Nuevo Downtown, Incentive Zone
 - Infrastructure availability
 - Airport Environs Zone
 - Wash and Floodplain
 - Scenic Corridor
 - Landfill
 - Historic
 - Etc.
- Permits, Inspection and Plan review results
- All documents and plans available over the web:
 - Certificate of Occupancy documents
 - Last CofO
 - Last approved Site Plan
 - Last approved Floor Plan
 - Relevant Ordinances and Codes
 - Building Plans, Site Plans, Grading Plans, etc.

All of the above would be provided both in a text format and a map format with each displayed by parcel or address; there will be no need to travel to multiple sites or visit the record section of various departments. All information is available online by simply typing in an address or parcel, or selecting a parcel from a map.

COST & FUNDING

In order to assemble this information and add the mapping interface for the downtown area within the next 6 months additional funding is needed for hardware, software, consulting, and staffing as follows:

Item Description	Amount
Department of Transportation	
Map Server Hardware	\$27,000
Map Server Software	\$69,000
Mapping Software Consulting Services	\$48,000
<i>Transportation Subtotal</i>	<i>\$144,000</i>
Development Services Department	
Temporary Records Staff to Research and Digitize Film	\$40,000
Web Software Consulting Services	\$40,000
<i>Development Services Subtotal</i>	<i>\$80,000</i>
Total Budget Requested	\$224,000

This assumes that the Development Services Information Technology section will be at full strength and positions vacated will be backfilled either with new hire(s) or consultants with comparable and needed skills. The six-month delivery schedule starts after budget is in place and most if not all support positions are secured. Monies in existing department budgets earmarked to fund required items not included above will be fully available to project needs.

TUCSON CONVENTION CENTER / ARENA

OVERVIEW

The Tucson Convention Center (TCC) was built in 1971. The TCC is the largest event facility in Tucson. It includes exhibit halls, an arena, two performing arts theaters, a ballroom and a limited amount of meeting space. Due to lack of meeting space, and an additional exhibit hall, the TCC is limited in the type of conventions and conferences it can attract. A proposed new arena and renovation of the current TCC should help alleviate the current space limitations. In addition to the new arena and TCC renovation, a Civic Plaza and a new hotel also serve a vital component of Rio Nuevo.

TCC Renovation

TCC Exhibit Hall will be renovated and the existing TCC arena converted into a second exhibit hall. Meeting rooms will be added to the complex at the location of TCC's existing east parking lot. The renovation will also include an additional ballroom. It is estimated that the cost of the renovation will be \$60 million. TIF dollars could account for \$30 million of the funding.

New Arena

A new arena is being proposed for an area of land located east of the Interstate 10 frontage road between West Congress and Cushing Street. The proposed arena would be approximately 300,000 square feet. The facility will contain approximately 12,300 seats. The facility will be developed as a quality, state-of-the-art venue and would accommodate the needs of various user types. It is estimated that the full costs of the new arena maybe approximately \$130 million (to be funded with TIF monies).

Civic Plaza

The proposed Civic Plaza will be located south of Congress Street and east of Interstate 10. It will connect the TCC with the proposed University of Arizona Science Center and the proposed new arena. It will have open space, ramadas, fountains and landscaping. Additionally, a parking garage will be located under the plaza. Estimated costs for the Civic Plaza adjacent to the new arena are \$2.5 million.

Some of the construction and improvement projects are shown in the following list:

- Greenway landscape and pedestrian pathway
- Private Hotel renovation
- Private Exhibition Facility
- Private Office Building.
- Parking (Cost included in Parkwise section)
- Retail/Entertainment
- Symphony Hall
- Utility, Roadway, and Streetscape Improvements
- Expansion of existing Central Energy Plant to meet development demand

New Hotel

Recently, the City issues a Request for Qualifications (RFQ) regarding the design and development of flagship convention center hotel.

ROADWAYS, STREETScape, & PLAZAS

Significant realignment of roadways is not planned based on the current Arena location. It will be necessary to reconstruct the existing Granada Avenue for the installation of utilities, streetcar track, and new streetscape elements. Construction of roadway improvements is included for El Paso Southwestern Avenue (Greenway).

ASSESSMENT OF CAPACITY

The TCC's capacity and distribution system will need to be increased to serve the Arena and possibly the new hotel.

Expansion of TDE Central Plant

Existing capacity of TDE Central Plant is inadequate to meet expansion needs. The chiller and cooling tower capacity will need to be increased along with re-piping of the Central Plant. Cost \$19,025,500.

Chilled Water

Distribution piping within the Civic Plaza area will need to be installed with the streetscape projects.

Heating water

Expansion of the heating water system (other than TCC expansion) is not currently planned.

Potable Water

Expansion and relocation of the potable system is required to serve new development.

Reclaimed Water

Expansion of system to allow future connection and use by buildings.

Sanitary Sewer

New sewer system and connection to existing 60" Pima Count interceptor. Relocation or replacement of the interceptor is not included here.

Storm Sewer

New storm drains are required to correct existing drainage problems.

Natural Gas

Connections to new developments.

Electricity

New underground distribution system to serve development sites. Costs are shared between City and TEP per the existing franchise agreement.

Telephone

Expansion of distribution system to serve development sites. Costs shared with Qwest.

Cable TV

Expansion of distribution system to serve development sites. Costs shared with Cox.

COT/Pima County IT Networks

Expansion of system to include Civic Plaza area.

STREETCAR ALIGNMENT

The streetcar will run between the TCC and the new arena on the existing Granada Avenue alignment.

COST & FUNDING

Costs for the new arena, the TCC expansion, the upgrade of the TDE Central Plant for heating and cooling, and the Civic Plaza will be funded from the bond issue for the new arena and are not included in the master budget spreadsheet for this report.

DOWNTOWN INFRASTRUCTURE STUDY

	COSTS	FUNDING		NOTES
	Total Cost to Upgrade	Anticipated Funding Source		
		Agency	Public, Private & Other Sources	
UNDERGROUND UTILITIES				
Pima County Wastewater:				
<i>Rehab. Existing Sewer</i>	\$ 750,000	\$ 750,000	\$ -	
<i>Streetcar Route Relocation</i>	\$ 3,542,000	\$ 1,740,000	\$ 1,802,000	Relocation cost responsibility under discussion btwn. City & County
<i>Upgrades for Future Development</i>	\$ 3,500,000	\$ 3,500,000	\$ -	
Total	\$ 7,792,000	\$ 5,990,000	\$ 1,802,000	
Southwest Gas:				
<i>Upgrades Associated with Streetcar Route</i>	\$ 2,100,000	\$ -	\$ 2,100,000	\$1M to increase capacity, \$100,000 cathodic protection, and \$1M to replace vintage steel pipes
<i>Other Upgrades for Future Development (within Study Area)</i>	\$ 1,000,000	\$ -	\$ 1,000,000	
<i>Upgrades for Future Development (outside Study Area)</i>	\$ 5,000,000	\$ -	\$ 5,000,000	
Total	\$ 8,100,000		\$ 8,100,000	
Stormwater (City Transportation):				
<i>Streetcar Route Relocation</i>	\$ 252,500	\$ -	\$ 252,500	
<i>Upgrades for Future Development</i>	\$ 13,000,000	\$ -	\$ 13,000,000	Barrio Sin Nombre, Barrio Viejo, Civic Plaza, TCC expansion
Total	\$ 13,252,500		\$ 13,252,500	
Tucson Electric Power:				
<i>Upgrade in Streetcar Route</i>	\$ 3,500,000	\$ -	\$ 3,500,000	Estimated upgrade at \$300 per sq. ft. (11,702 feet from 4th Ave. to Santa Cruz River)
<i>New Substation</i>	\$ 8,000,000	\$ 8,000,000	\$ -	
<i>Undergrounding Power Lines</i>	\$ 1,000,000	\$ 300,000	\$ 700,000	Approximately a split in cost between TEP (30%) and developer (70%)
Total	\$ 12,500,000	\$ 8,300,000	\$ 4,200,000	
Tucson Water:				
<i>Streetcar Route Relocation (potable water)</i>	\$ 4,100,000	\$ -	\$ 4,100,000	
<i>Replacement of Pipe (potable water)</i>	\$ 6,800,000	\$ -	\$ 6,800,000	Pipe older than 40 years needs replacement
<i>Relocation of Maintenance Facility</i>	\$ 40,000,000	\$ 40,000,000	\$ -	
<i>New Reclaimed Water Lines</i>	\$ 1,500,000	\$ -	\$ 1,500,000	
Total	\$ 52,400,000	\$ 40,000,000	\$ 12,400,000	
UNDERGROUND UTILITIES TOTAL	\$ 94,044,500	\$ 54,290,000	\$ 39,754,500	
INFORMATION TECHNOLOGY				
City of Tucson:				
<i>Fiber Network (with Pima County)</i>	\$ 1,000,000	\$ -	\$ 1,000,000	
<i>Downtown Wi-Fi</i>	\$ 6,000,000	\$ -	\$ 6,000,000	Costs could be shared with private operator
Total	\$ 7,000,000		\$ 7,000,000	
Cox Communications:				
<i>Upgrades for Future Development</i>	\$ 2,300,000	\$ 2,300,000	\$ -	Does not include trenching
<i>Streetcar Route Relocation</i>	\$ 200,000	\$ -	\$ 200,000	No service on much of Congress, Broadway
Total	\$ 2,500,000	\$ 2,300,000	\$ 200,000	
Qwest Communications:				
<i>Streetcar Route Relocation</i>	\$ 3,000,000	\$ -	\$ 3,000,000	
<i>Undergrounding Lines</i>	\$ 2,100,000	\$ -	\$ 2,100,000	Would be joint trenched with TEP, which will lower cost
Total	\$ 5,100,000		\$ 5,100,000	
INFORMATION TECHNOLOGY TOTAL	\$ 14,600,000	\$ 2,300,000	\$ 12,300,000	

DOWNTOWN INFRASTRUCTURE STUDY

	COSTS	FUNDING		NOTES
	Total Cost to Upgrade	Anticipated Funding Source		
		Agency	Public, Private & Other Sources	
TRANSPORTATION				
4th Avenue Underpass Utility Relocation:	\$ 2,000,000	\$ -	\$ 2,000,000	
Access and Circulation:				
<i>Extension and Bridge (Cushing across Santa Cruz)</i>	\$ -	\$ -	\$ -	\$9M Rio Nuevo funding through Tucson Origins
<i>New Streets (Heritage Park and Mercado Areas)</i>	\$ -	\$ -	\$ -	\$1M Rio Nuevo funding through Tucson Origins
<i>Pedestrian Bridge Across Congress to connect City/State Garage to Arena</i>	\$ 2,000,000	\$ -	\$ 2,000,000	
<i>Pedestrian Bridge Across 4th Ave. South of RR Tracks)</i>	\$ 1,000,000	\$ -	\$ 1,000,000	
Total	\$ 3,000,000		\$ 3,000,000	
City of Tucson Right-of-Way Improvements/Streetscape:				
<i>Landscape and Hardscape</i>	\$ 12,550,712	\$ -	\$ 12,550,712	Planters, plants, pavers, tree grates
<i>Lighting</i>	\$ 10,876,920	\$ -	\$ 10,876,920	Street lights, landscape lights, upgraded catenary poles, traffic signals, festival lights
<i>Furniture, Features, and Amenities</i>	\$ 12,439,306	\$ -	\$ 12,439,306	Bollards, trash bins, seating, fountains, restrooms, speakers, trans. stops, parking amenities, public art, signage
<i>Infrastructure</i>	\$ 24,360,365	\$ -	\$ 24,360,365	Irrigation lines, water lines, sewer (for restrooms), electrical, fountains
<i>Demolition</i>	\$ 2,888,528	\$ -	\$ 2,888,528	Remove existing concrete, pavers, etc.
<i>Contractor Fees, Overhead, Escalation</i>	\$ 33,761,492	\$ -	\$ 33,761,492	
<i>A/E Fees</i>	\$ 19,145,716	\$ -	\$ 19,145,716	20%
<i>TCC Landscaping</i>	\$ 19,500,000	\$ -	\$ 19,500,000	Not included in TCC/Arena budget
<i>Streetscape for Ped. Bridges, Mercado /Origins, Congress St. (Grande/Silverbell)</i>	\$ 4,617,600		\$ 4,617,600	Civic plaza/arena, south of 4th Avenue
<i>Deduct for Items Budgeted Elsewhere</i>	\$ 23,205,400	\$ -	\$ 23,205,400	
<i>Deduct for Streetscapes Outside Rio Nuevo Boundary</i>	\$ 9,774,895	\$ -	\$ 9,774,895	Extension of streetscape to Silverbell
Total	\$ 107,160,344	\$ -	\$ 107,160,344	
I-10 Widening:				
<i>Clark Street Bridge and Underpass</i>	\$ -	\$ -	\$ -	\$9M in TIF funding already approved
<i>Box Culverts and Drainage for Arena Site</i>	\$ -	\$ -	\$ -	\$4M - City commitment of funds (non-TIF)
Modern Streetcar - Extension to Westside	\$ 10,000,000	\$ -	\$ 10,000,000	Through Mercado and Menlo Park
Parking:				
<i>New Parking Structures (cost plus debt)</i>	\$ 300,100,000	\$ 230,100,000	\$ 70,000,000	Structures to be built throughout the life of the TIF
<i>New Pay-by-Space On-Street Parking System</i>	\$ 3,000,000	\$ 1,500,000	\$ 1,500,000	
Total	\$ 303,100,000	\$ 231,600,000	\$ 71,500,000	
TRANSPORTATION TOTAL	\$ 425,260,344	\$ 231,600,000	\$ 193,660,344	

DOWNTOWN INFRASTRUCTURE STUDY

	COSTS	FUNDING		NOTES
	Total Cost to Upgrade	Anticipated Funding Source		
		Agency	Public, Private & Other Sources	
SERVICES				
Business Improvement District:				
<i>New Capital Equipment (for expanded BID and enhanced services)</i>	\$ 137,300	\$ 137,300	\$ -	
<i>Enhanced Services (expanded BID and existing BID)</i>	\$ 714,000	\$ 714,000	\$ -	Not a capital expenditure.
Total	\$ 851,300	\$ 851,300	\$ -	
Fire	\$ -	\$ -	\$ -	
Police:				
<i>Additional Police Officers</i>	\$ -	\$ -	\$ -	No expenses identified
<i>Police Department Kiosk</i>	\$ 50,000	\$ -	\$ 50,000	To be located at the Ronstadt Transit Center
<i>Downtown Security Cameras</i>	\$ -	\$ -	\$ -	Cost estimate: \$300,000
Total	\$ 50,000	\$ -	\$ 50,000	
Trash/Recycling Pick-up:				
<i>Front Loading Trucks</i>	\$ 450,000	\$ 450,000	\$ -	
<i>Rolloff with Compactor</i>	\$ 17,000	\$ 17,000	\$ -	
Total	\$ 467,000	\$ 467,000	\$ -	
SERVICES TOTAL	\$ 1,368,300	\$ 1,318,300	\$ 50,000	
ARCHAEOLOGICAL SERVICES				
<i>Assessments on Publicly Owned Sites</i>	\$ 3,302,000	\$ 3,302,000	\$ -	Does not include TPD fuel island, Ronstadt, and I-10 frontage
ENVIRONMENTAL TECHNICAL SERVICES				
<i>Assessments on Publicly Owned Sites</i>	\$ 22,191,920	\$ 22,191,920	\$ -	\$8.9 million already programmed in Cultural Plaza/Museum Complex
PARKS				
<i>Green Space/Parks</i>	\$ 73,900,000	\$ 66,100,000	\$ 7,800,000	
PUBLIC PROGRAMS				
<i>Facade Program</i>	\$ 5,000,000	\$ -	\$ 5,000,000	\$2.5 million associated with Congress and \$2.5 million for the remainder of downtown
GRAND TOTALS	\$ 639,667,064	\$ 381,102,220	\$ 258,564,844	

RECOMMENDATIONS AND NEXT STEPS

The following section outlines the recommendations and Next Steps that are necessary to successfully create a "Development Ready" downtown.

1. Overall Recommendations

Actions:

- Convene a working group comprised of City agencies, utility companies, and downtown interests to oversee the implementation of this report's recommendations.
- Hire a "Downtown Czar" to oversee the City's redevelopment efforts downtown, including the coordination of the City's various capital programs and overall direction of the various agencies involved in downtown. This position should have the authority to provide the overall direction for City agencies in order to ensure the consistency of their efforts with the overall vision for downtown Tucson.
- Implement a streamlined permitting process for downtown development.
- Establish a thorough electronic database of infrastructure improvements (existing and proposed) within the downtown area.
- Improve downtown's image as a safe place by increasing the visibility of Tucson Police downtown, including the creation of a visible and welcoming police kiosk near the Rondstadt Transit Center.

Next Steps (Complete within 3 Months):

- Convene a study group to identify approaches to streamlining the development permitting process in the downtown area.
- Hire a "Downtown Czar."

2. Streetscape Improvements/Pedestrian and Bicycle Circulation

Goal: Create a world-class downtown streetscape that is "uniquely Tucson."

Actions:

- Build on past work/studies to create a set of streetscape standards for downtown streets that will ensure the consistency and quality of the public realm.
-
- Identify, fund, and implement a first phase streetscape project ("Pilot Project") at the east end of Congress Street that fully coordinates with the Fourth Avenue Underpass, future streetcar, and private development projects.
-
- Create a phasing plan for streetscape improvements that considers or accommodates other public projects and private development. Provide adequate funding from a variety

of sources (public and private) to implement streetscape improvements consistent with the phasing plan.

- Ensure adequate funding of ongoing maintenance of the downtown streetscape (e.g., irrigation, planter maintenance, street sweeping, painting, etc.) so that a high level of quality is maintained over the life of the streetscape projects.
- Coordinate streetscape improvements with other downtown projects such that the timing of streetscape implementation minimizes the overall disruption to downtown residents, businesses and visitors.
- Design, fund and implement a façade improvement strategy to target and improve dilapidated storefronts in the downtown core.
- Develop a comprehensive plan for downtown bikeways and walkways.
- Create an attractive and inviting pedestrian corridor linking the Tucson Community Center to Congress/Broadway.

Next Steps (Complete within 3 Months):

- Fund the development of streetscape standards for downtown and undertake the production of these standards. (Costs part of Pilot Project)
- Form a working group including city agencies and private interests to oversee the streetscape standards process.
- Identify and fully fund a first phase streetscape Pilot Project.
- Identify and fund a façade rehabilitation program for downtown.

3. Utility Improvements

Goal: Provide adequate utility services in the correct locations to ensure that downtown Tucson is Development Ready.

Actions:

- Coordinate work in the public rights-of-way (e.g., streetcar, Downtown Links, Fourth Avenue Underpass, etc.) with utility companies to ensure that necessary utility upgrades are provided concurrent with public works projects.
- Coordinate private development efforts and timelines with utility companies to ensure that utility services are available to meet current and future development needs in the downtown core.
- Create a free Wi-Fi zone in downtown.
- Enact a street cut moratorium policy that prohibits the installation or upgrade of utilities within a five-year period of a street being brought to full standards (e.g., completion of streetscape standards, completion of streetcar project, completion of repaving, etc.).

- Maximize cost efficiencies in the delivery of utility services to downtown by grouping utility improvements in common trenches where applicable.

Next Steps (Complete within 3 Months):

- Draft an RFP to solicit interest among Wi-Fi providers to create free Wi-Fi zone downtown.
- Utilizing the working group identified under #1. above, identify projects where utility upgrades/coordination will need to occur immediately. Among those projects which will require discussion are the Fourth Avenue Underpass, Modern Streetcar, and Downtown Links.

4. Modern Streetcar

Goals:

- Ensure that the Streetcar project is funded, developed, and in operation by as early a date as possible
- Upgrade utility services along the streetcar alignment in coordination with streetcar construction and ensure that construction impacts are minimized.

Actions:

- Identify what, if any, utility impacts are present along the streetcar alignment. Where relocation is necessary, ensure that utility relocations are consistent with future capacity needs for downtown.
- Identify other improvements (e.g., streetscape improvements, intersection improvements, etc.) that should be coordinated and timed to coincide with the Streetcar project to avoid future construction disruption.

Next Steps (Complete within 3 Months):

- Convene a utility working group immediately to coordinate utility relocation efforts with the Streetcar project.
- Study opportunities to move up construction of the track slab on Congress and Broadway downtown to minimize construction impacts.
- Secure federal funding to complete the streetcar funding package and explore a local funding package for phase 2 of the streetcar project.

5. Parks/Open Space Improvements

Goal: Establish/create exciting and high quality open spaces in the downtown area to engender a sense of place and create social and recreational opportunities for downtown residents, employees, and visitors.

Actions:

- Identify potential open space opportunities in the downtown core and establish a funding plan to acquire and develop these spaces.
- Work with private sector developers to identify opportunities to incorporate public and semi-public open spaces within development projects.

Next Steps (Complete within 3 Months):

- Identify a City Parks representative to work with other infrastructure stakeholders in the downtown core on the planning, development and funding of open space improvements.

6. Funding and Financing

Goals:

- Create a realistic and sustainable funding and financing plan for the implementation of infrastructure improvements within the downtown core.
- Identify and secure a variety of funding sources – public and private – to broaden the base of available funding and potentially accelerate the pace of infrastructure development.

Actions:

- Create a five year sources and uses funding plan for infrastructure development. The plan should include specific recommendations for funding sources by project and a cash flow by year. The plan should be updated annually to cover the next five year period and include new projects as funding allows.
- As part of the five year funding and financing plan, include a look-ahead budget for the next 5-10 years that identifies the infrastructure projects that will likely be pursued and the funding needs for those projects.
- Establish a \$1M - \$2M Strategic Opportunity Fund within the five year plan that provides a flexible fund that the City can utilize to catalyze or respond to development proposals.
- Creatively identify potential financing sources for infrastructure improvements. Utilize the City's ability to issue tax-exempt financing to stretch infrastructure dollars as far as possible.
- Analyze the creation of a Municipal Services District covering all or portions of the downtown area as a mechanism to incorporate private investment in downtown infrastructure.

Next Steps (Complete within 3 Months)

- Establish an initial draft of a five year funding and financing plan for review and comment.
- Identify potential funding sources (public and private) that may be utilized for implementing infrastructure improvements.