



MINUTES

Pursuant to A.R.S. § 38-431.02, notice is hereby given to the members of the Mayor and Council Tucson Transit Advisory Committee and to the general public that the Committee will hold the following meeting which will be open to the public on:

Monday, May 4th, 2026 at 2:30 PM
Park Tucson Conference Room, 110 E. Pennington St., Ste. 150

1. Call to Order/Roll Call – 5 minutes

Those present were:

Members

-Ray Jordan, Ward 2
-Suzanne Schafer, Ward 3
-Malia Flores, Ward 5
-Margot Garcia, Ward 6
-Gene Caywood, CM
- D.C. Price, CM

Those absent were:

Members

-Mike Sanchez, Ward 4
-Mike Milczarek, CM

Others

Preston McLaughlin, Non-Voting
PAG/RTA Staff Member
Steve Hoffman, PAG/RTA

Karl Garcia, Public
Allen Benz, Public
Trish Muir, Public

Miranda Schubert, Ward 6
Councilmember
Shamara Smith, Sun Tran
John Zukas, Sun Tran
Davita Mueller, Sun Tran
Isaac Marcor, COT
Susan Spiess, COT
Ian Sansom, COT
Andy Bemis, COT
Gabriel Holguin, COT
Elaina Richards, COT

2. Approval of Minutes – (Vote) – 5 minutes

Chair Suzanne Schafer

The approval of minutes was moved, duly seconded, and, hearing no objections, Chair Suzanne Schafer approved the motion.

3. Call to the Audience on Agenda Items (First) – 5 minutes

Chair Suzanne Schafer

Committee member D.C. Price mentioned concerns she has about fare policy and violence associated with Transit. Trish Muir mentioned that the previous minutes (April) omitted conversation and information regarding the specific issues drivers are facing. She would like more specifics to be included and this is echoed by TTAC chair Suzanne Schafer. General call to include more detailed notes in the minutes.

4. Updates/Announcements from TTAC Members and Staff (Informational Only) – 10 minutes
TTAC members, Sun Tran, City of Tucson, and/or PAG/RTA Staff

No updates from staff.

5. Electric Trolley Bus, Part 4 Presentation – 20 minutes
Gene Caywood

Gene presented Part 4 of the PPT presentation on ETBs (see PPT slides below). The presentation included a recap of previous presentations and recommendations for city staff to consider ETBs.

A conversation included key assumptions such as: 1) keep initial ETB simple with pilot, all sections with turns would be off-wire, would be off-wire over I-10, off-wire through Armory Park to keep around

30% of route off-wire. Questions included: “would there be possibility for TEP rebates on cost?”, “are there options for non-overhead wires”, and “since city is investing in CIG at north yard does it make sense to do electric trolley now?” Gene responded that potentially something could be coordinated with TEP, that overhead wires are necessity with ETBs, and that since projects take at least 5 years it’s worth developing idea now.

A motion was approved to “recommend that staff seriously consider the concept of ETB’s for Tucson

- That staff obtain studies done in Seattle (c. 2010) and Vancouver (c. 2020) demonstrating the benefits of ETB’s in their cities
- That based on these studies, staff conduct an in-house lifecycle cost analysis given Tucson’s unique conditions
- And that based on the results of the analysis, staff determine whether to pursue a pilot project along one of our busiest bus routes”

Electric Trolleybuses (ETB’s) - Presentation 4

Presented by
W. Eugene Caywood

ETB Facts & Idea for Tucson

Key facts from my first presentation:

1. The ETB is not a new concept. It is a proven technology used around the world today – and at one time in around 800 cities, including 65 in the U.S.
2. “...trolleybuses stand out in comparative analysis with other bus technologies, particularly on high-demand urban corridors. Their continuous power supply from overhead wires means they can handle steep hills and sustained high-frequency operations better than battery-electric buses, which face range limitations and downtime for recharging. Furthermore, trolleybuses typically demonstrate higher overall energy efficiency, not burdened by the battery packs as heavy as those in stand-alone battery-electric buses. Lifecycle cost analyses in cities such as Seattle and Tallinn, Estonia have consistently shown trolleybuses to offer competitive total ownership costs, particularly when considering their longer vehicle lifespans and lower energy consumption per kilometer.”
From the article: Why Modern Cities Are Embracing Trolleybuses Again, May 2025
3. In the past 12-15 years, five European cities have brought back former trolley bus lines or introduced new lines.

ETB Facts & Idea for Tucson

Key points regarding Tucson from my first presentation:

1. We should not be spending large sums of money on Battery Electric Buses, which are not capable of staying in service for 16 to 18 or more hours a day;
2. Instead, we should be spending that money on a tried and true electric transit technology which has been in use for some 90 years in the U.S. – the Electric Trolley Bus (ETB). “A 2009 county performance audit confirmed that, compared to their diesel-hybrid counterparts, electric trolley buses are quieter, use less energy, are better on hills and are more cost effective to operate.” from a 2013 article on Seattle’s next generation ETB’s:
3. Tucson’s heaviest traveled bus routes should be converted to ETB’s. This will require installation of poles, wires and power substations.
4. Currently lacking support for this idea, I proposed we start with a pilot route where some infrastructure is in place, which is the case along about half of S. 6th Ave. between Downtown and Laos Transit Center. There poles were installed years ago to hold overhead conduit wire for future Light Rail.

ETB Facts & Idea for Tucson

Key points from my second presentation:

1. Some history using photos.
 - a. First experimental trolley bus was in Berlin Germany in 1882
 - b. First trolley bus in U.S. was seasonal near Nantasket Beach in Hull, MA in 1904
 - c. First year-round, daily, service in the U.S. was in L.A. in 1910
 - d. Initially ETB’s were seen as extensions of streetcar lines where the cost of laying track was prohibitive. By 1918 they began to be seen as replacements for streetcar lines.
 - e. By the 1920’s and ‘30’s trolleybuses became more common. At the peak of their usage there were around 800 systems world wide, 65 in the U. S. and 17 in Canada



ETB Facts & Idea for Tucson

Key points from my second presentation:

2. Answer some questions on how ETB's work
 - a. Poles on roof collect power from overhead wires, feeding it to electric motors – same concept as the Sun Link streetcar.
 - b. But ETB's require two poles since the electrical return circuit is via overhead wire, rather than through the track in the street with streetcars.
 - c. Poles can extend far to the side allowing buses to pass traffic blocking the right hand lane.
 - d. They can be used in tunnels where exhaust or fumes are a concern.
 - e. They climb steep hills quickly and easily, unlike diesel, CNG or even battery electric buses.



ETB Facts & Idea for Tucson

Key points from my second presentation:

3. Today trolleybuses still operate in 4 U. S. cities:

Dayton
Philadelphia
San Francisco
Seattle



and 1 Canadian city
Vancouver



and 2 Mexican cities
Guadalajara
Mexico City



ETB Facts & Idea for Tucson

Key points from my third presentation:

POINT 1

- S. 6th Ave. as a pilot project:
 - What infrastructure is in place?
 - POLES ONLY
 - Pole Placement Schemes (drawing next slide)
 - Poles in place that can be used without question:
 - Poles in place that can very likely be used with structural strength check
 - New supplemental poles where existing poles are staggered or spacing is too far apart

POLE PLACEMENT SCHEMES

OPPOSITE

Span wires can be used when poles are placed across from each other



STAGGERED

Typical for street lights

Bracket arms need to be used when poles are not placed across from each other



ETB's – For Tucson?

POINT 1 (continued)

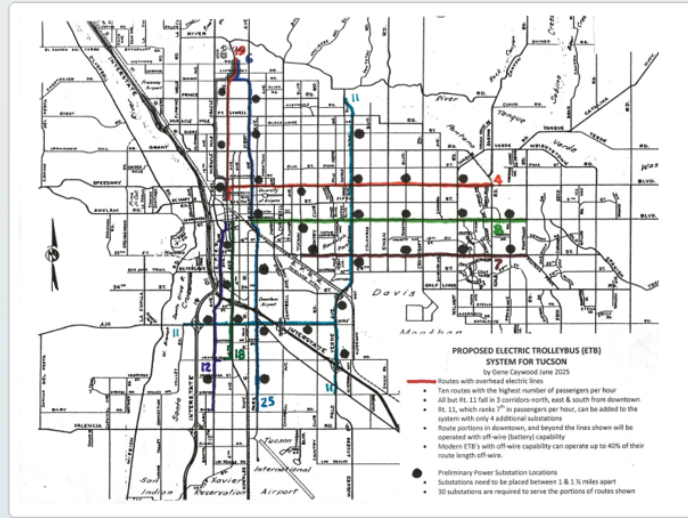
S. 6th Ave. as a pilot project:

- What additional infrastructure is needed and where?
 - OCS (overhead conductor system) with:
 - Span wires or bracket arms.
 - 4 conductor wires, 2 on each side of the street.
 - Insulators and other connecting hardware.
 - Power substations (rectifiers) to convert 480 volts AC to 600 volts DC to power the ETB motors.
 - Spaced 1 to 1½ miles apart.

ETB's – For Tucson?

POINT 2

- What could an ETB system for Tucson look like?
 - Which routes should be considered and why?
 - The heaviest traveled bus routes – top 10 in passengers per hour (as of March 2025) - which together carry half the bus system ridership.
 - Which sections of the routes would require overhead wires?
 - Up to 40% of the route can be off-wire.
 - However, given Tucson's extreme summer heat, plan for only 25 to 30% of a route off-wire
- MAP (next slide) showing routes & approximate sub-station locations



ETB's – TODAY: 4th Presentation

S. 6TH AVE. PILOT PROJECT FOR ETB's

- Assumptions
- Quantities
- Preliminary Cost Estimate
- Funding Possibilities
- Recommendation

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

ASSUMPTIONS - General

1. Keep the pilot project simple. This is not BRT – no changes or improvements to the street or the bus stops – only the power system of the buses is changing
2. Assume the project will be on S. 6th Ave. REASONS:
 - a. Half of the route has poles known to be adequate for OCS.
 - b. If a future extension of Sun Link is built on S. 6th, over 2/3 of the needed OSC will be in place.
3. Assume existing street light poles in the City of South Tucson will be found adequate to support OCS.
4. Assume TEP can provide the required power needed close to desired substation locations.

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

ASSUMPTIONS Continued – Off-wire locations:

5. Assume between 25 and 30% of the route length will be off-wire.
6. Assume only tangent wire will be installed – all route segments with turns (including in/through the two transit centers) will be off-wire
7. Assume the route segment crossing I-10 will be off-wire to avoid issues with heavy turning traffic, potential over-height trucks hitting OCS, and future potential rebuilding of the interchange.
8. Since this is a pilot project, assume used, recently retired, ETB's will be acquired to avoid the high cost and lengthy delivery times of new buses.

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

QUANTITIES – route segment lengths and identification of OFF-WIRE SEGMENTS

1. Round trip route length (LTC TO RTC) = 9.05 miles
2. Segment round trip lengths:
 - a. Irvington to Broadway = 8.00 miles
 - b. 6th & Irvington to LTC and return = 0.55 miles
 - c. 44th St. across I-10 to 39th St = 0.42 miles
 - d. Broadway to RTC and return = 0.50 miles
 - e. Segments b, c, and d will be off-wire = 1.47 miles
3. Additional off-wire segment (to avoid possible concerns with Armory Park historic neighborhood)
 - a. 18th St. to Broadway = 1.26 miles

LENGTH OFF-WIRE: 2.73 miles = 30.2% OF THE ROUTE

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

QUANTITIES – Poles and OCS suspension types

1. Adequate poles – opposite each other (use span wires)
 - Irvington to 44th St. and 26th to 18th St. – 120 locations so 120 span wires with associated hardware
2. Poles assumed to be adequate (in South Tucson)
 - Locations where poles are opposite – 15 locations where span wires can be used.
 - Locations where poles are staggered – 32. New supplemental poles will be needed opposite (as pole spacing is too great to just use bracket arms) resulting in 32 locations where span wires can be used
 - Locations where bracket arms can be used – 3

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

QUANTITIES – Poles, OCS, Substations, Buses

PROJECT TOTALS (including replacements in case of damage):

- Supplemental poles = 32 (+ 4 spares) = 36
- Span wires with associated hardware = 167 (+ spare parts) = 200
- Bracket arms = 3 (+ 2 spares) = 5
- Conductor wire = 133,478 feet (6.32 miles under wire x 4 = 25.3 mi. x 5280)
- Substations = 3
- Electric Trolley Buses = 9 (assuming 10 min. headways and round trip time including layovers of 70 min., requires 7 buses + 2 spares = 9)

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

S. 6th Ave ETB Line - 18th to Irvington - Preliminary Cost Estimate DRAFT 4-2025				2025 Dollars per year for 10 years from 2025
OCS, Substations, Vehicles	Type	Quantity	Unit Price	Estimated Cost per Line (2025 \$)
OCS work Poles & Wires				
Poles (wood or foundation) - 36' Strength Identified		32	each	\$156,000
Conductor (Bracket) Arms		5	each	\$1,000
Wire - 47 - grommet - bonded - only		133,478	per wire	\$1,013,100
Wire Insulation & Change Spans, Insulators, OCS, etc.		6.32	mi. wire	\$7,000,000
Substations & Foundation				
Substations		3	total	\$1,000,000
Foundation		3	total	\$90,000
Vehicle (assume existing used, recently retired electric trolley buses)				
Acquisition		9	Each	\$36,000
Transport to Tucson		9	Each	\$54,000
Detail, Repair and Painting		9	Each	\$36,000
Project Costs				
Engineering (over 10%)			10% of project total	\$1,520,000
Project management oversight (2%)			2% of project total	\$200,000
Contingency (12%)			Project total +12%	\$1,987,600
Total Cost				2025 Dollars
Total Project Cost (in Millions)				\$22,095,600
Total Project Cost per mile (in Millions)				\$3.5

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

FUNDING POSSIBILITIES

- FTA zero emissions grant
- Private funding from ETB industry
 - Substation vendors
 - OCS hardware vendors
 - ETB manufacturers
 - ETB electric propulsion providers
 - Local contractors, engineering/planning firms, suppliers (poles, wire), etc.
 - Power utility (TEP)
- Tribal Revenue Sharing grant
- Other????

ETB's – For Tucson?

S. 6TH AVE. PILOT PROJECT FOR ETB's

RECOMMENDATION

- That staff seriously consider the concept of ETB's for Tucson
- That staff obtain studies done in Seattle (c. 2010) and Vancouver (c. 2020) demonstrating the benefits of ETB's in their cities
- That based on these studies, staff conduct an in-house lifecycle cost analysis given Tucson's unique conditions
- And that based on the results of the analysis, staff determine whether to pursue a pilot project along one of our busiest bus routes

6. Transit Safety and Security Action Plan Update – 20 minutes Andy Bemis and/or John Zukas

Suzanne opened the discussion and passed around materials relating to Safety and Security research and mentioned that the City of Tucson should be looking into what other cities are doing around transit safety as there's a lot happening and a lot of ongoing discussion around the U.S. pertaining to this topic. Suzanne requested that she or others from the committee participate in transit safety discussions/safe city discussions. Suzanne also requested that other committee members submit questions around this topic by the end of the item so that we can discuss at the next meeting. Those questions are listed below.

Andy Bemis provided an overview of progress related to safety and security. DTM is having conversations with the Community Health Safety Wellness team and Brandi Champion to develop an Ambassador program, and details were shared on how that might be coordinated, such as two teams of two that would be deployed at any given moment.

John Zukas gave an overview of TPD deployments with updated numbers on deflections, referrals and arrests. He also gave an update on CPTED improvements and field visits to identify issues and solutions, and that Sun Tran is drafting metrics for success. John also mentioned that Sun Tran is

working with Transit Royale as app for reporting issues and that while elerts is pricey there may be a more affordable alternative.

There was a discussion about budget and Andy provided an overview of the RTA Next funding which provides 51M over next 20 years for transit safety and security. However not all of that funding would go to Tucson and there are discussions about developing a funding plan for next 5 years of TSSAP.

Preston McLaughlin from PAG mentioned he'd like to coordinate City of Tucson's TSSAP efforts with PAG efforts outside the city limits. Andy Bemis agreed and said they could get operator teams together to discuss.

Trish would like to see more physical separation for drivers and was curious if new CNG buses would come with protection as standard. Preston mentioned that Sun Shuttle vans now come equipped with physical separation to improve driver safety.

QUESTIONS for TSSAP item at June meeting:

Margot – can ambassadors focus on bus stops and issues/cleanliness at bus stops?

Ray – with the proposed rider ban policy, how many people will we be potentially keeping off of buses? Or are the issues due to a small number of repeat offenders?

Gene – can we get full info on how to do an ambassador program and is it possible to use volunteers?

Malia – how can we improve the state of bus shelters to create welcoming environment for nearby local businesses?

Preston – what role would the city like PAG to have in the implementation of the TSSAP effort?

7. RTA Next: Discussion on Transit Elements– 15 minutes
Preston McLaughlin and Steve Hoffman

Preston and Steve gave a PPT presentation on RTA Next funding and the transit items in particular. The PPT is below.

Preston mentioned that PAG is initiating a short-term transit plan with a budget of 200k and Gene Caywood requested that TTAC be included and updated on that planning process.

Ray Jordan asked a question about whether arterial improvements would include sidewalks and other improvements outside the curb and Steve replied that yes many do though they may have a different funding source.

RTA Next PPT

Props 418 & 419

Delivering a new \$2.67 billion regional transportation plan

RTA Election Results & Next Steps



Preston McLaughlin | Transportation Mobility Manager
Steve Huffman | Community Affairs Administrator



RTA Next Election Summary

- Props 418 & 419 received >50% "Yes" votes in all jurisdictions
- 31.73% voter turnout
- Prop 418 – 60.4% (Yes)
- Prop 419 – 58.3% (Yes)

THANK YOU VOTERS!

Summary Results Report
Regional Transportation Authority Special Election
March 10, 2026
OFFICIAL RESULTS
County of Pima, State of Arizona

Statistics	TOTAL	All Mail/Provisional
Registered Voters - Total	660,275	
Ballots Cast - Total	209,033	209,033
Ballots Cast - Mail/Provisional	127	137
Voter Turnout - Total	31.73%	

Proposition 418	TOTAL	All Mail/Provisional
View For 1	125,362	125,362
YES / SI	82,128	82,128
NO	43,234	43,234
Total Votes Cast	207,490	207,490
Overvotes	35	35
Undervotes	2,006	2,006

Proposition 419	TOTAL	All Mail/Provisional
View For 1	122,381	122,381
YES / SI	86,236	86,236
NO	36,145	36,145
Total Votes Cast	206,617	206,617
Overvotes	24	24
Undervotes	2,862	2,862

RTA Delivers: What To Expect


- New RTA revenue collections started April 1, 2026
- Plan includes seven rescoped projects from 2006 RTA plan
- Remaining 2006 RTA projects to be completed using RTA reserves and regional funds programmed through 2029
- First period projects to be funded with new RTA funds and regional funds through 2031
- Transit services continue; planning for high-capacity transit



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Continued Accountability

- Quarterly analysis of RTA project delivery and finances for ongoing accountability and openness to the public, committees and RTA Board
- Audits
 - Annual independent financial audits
 - State-mandated performance audits every 5 years
- RTA meetings open to the public; materials and information on the RTA website
- Published RTA Annual Report

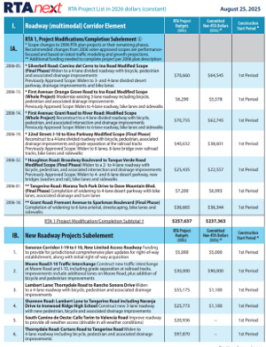



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Initial Program Focus

Period 1 Projects (FY 2027-FY 2031)

- 17 roadway projects
- Safety, ADA and Active Transportation
 - Completion of 2006 RTA bikeway commitment
- Arterial & Collector Road Pavement Rehabilitation
- Environmental
- Transit



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RTA Program Delivery

- Elevated Support and Coordination
 - RTA Advance Delivery Team to help plan for project delivery acceleration
- Property and Right-of-Way Support
 - RTA to assist with property acquisition earlier in the project
- Tracking and Reporting
 - RTA to share regular updates to public on schedules, budgets and progress
- Policy and Funding Environment
 - RTA to monitor federal and state actions that affect regional transportation funding



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V. Transit Element	RTA Project Budgets (000s)	Committed Non-RTA Dollars (000s) *	Construction Start Period *
46. High-Capacity Transit Improvements (Tucson) *Non-RTA funding is contingent upon federal grant award	\$70,000	\$70,000	1st and 2nd Periods
47. Streetcar Operations	\$40,000	–	1st through 4th Periods
48. Expanded Weekday/Evening/Weekend Bus Service Hours and Expanded Paratransit Service	\$227,000	\$92,000	1st through 4th Periods
49. Bus Frequency/Route and Service Area Expansion	\$121,000	–	1st through 4th Periods
50. Express and Shuttle Fixed/Dial-a-Ride/Paratransit Services	\$192,000	\$66,000	1st through 4th Periods
51. Safety and Security of Regional Transit System	\$51,000	–	1st through 4th Periods
52. General Expansion of Transit Services Regionwide (Special South Tucson Allocation)	\$25,000	–	1st through 4th Periods
Transit Element Subtotal	\$726,000	\$228,000	
53. Transit Element, Potential Additional Revenue	\$50,000	–	
Transit Element Total	\$776,000	\$228,000	

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Next Steps for Transit in new RTA plan

- Continued conversations with the City of Tucson on transit funding allocations
- Finalize transit funding allocations for Sun Tran and Sun Shuttle services
- Conduct a regional Short-Range Transit Plan (SRTTP)
- Adjust service based on community input and new budgets



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How To Stay Informed

- Community presentations available for ongoing public education
- Stakeholders can continue to share RTA news and updates via their respective newsletters to others
- You can stay informed
 - Visit RTAmobility.com
 - Sign up for news and notices online or via email at info@RTAmobility.com
 - Meetings open to the public and streamed on YouTube
 - Quarterly tracking reports and project information available online
 - Tune in to RTA Delivers podcast
 - Follow us on Facebook, Instagram, LinkedIn and YouTube



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8. Transit Budget Update – 20 minutes *Isaac Marcor*

Isaac Marcor from the City of Tucson provided a high-level overview of the transit budget, see below. There was discussion on clarifying what the line items mean within the “Revenue”, “Expenditures” and “Transfers” sections. Committee members would like to see simplified terminology and a clear breakdown of each item, in advance of the meetings so that the committee can evaluate and develop questions.

Department of Transportation & Mobility - Mass Transit Division

FY 2024 Actuals, FY 2025 Actuals, FY 2025 Revised, FY 2026 Actual, FY 2027 Proposed - ALL

	FY 2024 Actuals	FY 2025 Actuals	FY 2026 Revised Budget	FY 2026 Actuals	FY 2027 Proposed Budget
Revenues					
Advertising Revenue	2,784,753	2,506,612	2,776,100	1,200,000	2,779,350
*Fares	15,903	-	-	-	-
Grants	12,304,098	13,062,609	52,187,800	6,652,070	51,821,454
IGAs	16,014,254	15,804,647	17,849,300	12,788,288	22,135,700
Miscellaneous	2,535,237	936,360	1,470,800	320,403	470,800
Rent/Leases	363,763	253,840	374,000	414,806	374,000
Sponsorship	10,147,044	10,174,660	6,551,100	8,512,997	9,793,800
Total Revenues	44,165,051	42,738,728	81,209,100	29,888,564	87,375,104
Expenditures					
Personnel	941,572	1,066,510	1,259,519	913,562	1,329,847
Services	82,838,728	88,980,596	90,021,981	74,545,059	92,859,870
Commodities	11,416,537	11,537,699	12,044,070	8,977,887	12,271,070
Capital Outlay	118,802	1,586,137	20,000	7,209,283	20,000
CIP	11,325,115	444,838	44,533,500	4,662,120	40,892,807
Debt	1,509,960	1,508,635	1,509,500	252,247	1,512,230
Total Expenditures	108,150,714	105,124,414	149,388,570	96,560,158	148,885,824
Transfers					
Transfer-In	66,476,400	62,385,686	70,479,470	58,732,892	63,810,720
Transfer-Out	-	-	(2,300,000)	(1,916,667)	(2,300,000)
Total Transfers	66,476,400	62,385,686	68,179,470	56,816,225	61,510,720
Net Revenue Deficit/(Surplus)	(2,490,737)	-	-	9,855,369	-
Fund Balance					
Beginning Balance	-	-	2,490,737	-	2,490,737
Ending Balance	2,490,737	-	2,490,737	(9,855,369)	2,490,737

9. Call to the Audience (Second) – 5 minutes
Chair Suzanne Schafer

Allen Benz would like acknowledgment for the attendance of Councilmember Miranda Schubert (Ward 6).

10. Items and Date for Next Meeting(s) – 5 minutes

Items for next meeting:

- Sun Tran COA changes – overview of proposed changes and feedback received
- TSSAP update
- Ronstadt plan update
- Use of “communications space” on transit vehicles such as above seating on Sun Tran and Sun Link – many seem underutilized or out of date, would like to discuss

11. Adjournment

For further information, contact: Monica Landgrave-Serrano, (520)-780-0635, monica.landgrave@tucsonaz.gov. Persons with a disability may request reasonable accommodation, such as a sign language interpreter, by contacting Transit Services at 520 791-5409. Requests should be made as early as possible to allow time to arrange the accommodation.