



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

Mayor and Council Transit Task Force

A G E N D A

Tuesday, June 23, 2015 at 3:00 p.m.

Location: 149 N. Stone, Second Floor
Tucson, AZ 85701

| TOPICS | SUGGESTED TIME ALLOTTED |
|--|------------------------------------|
| 1. Call to Order | |
| 2. Introductions / Roll Call | 5 Minutes |
| 3. Approval of June 8, 2015 Minutes | 5 Minutes |
| 4. Call to the Audience | 10 Minutes |
| 5. Discussion of FY16 Minor Service Changes | 55 Minutes |
| 6. Call to the Audience | 10 Minutes |
| 7. Next meeting date and time/Meeting schedule | 5 Minutes |
| 8. Adjourn | |

Action may be taken on any item.

(Material, if available, can be provided by contacting Karen Rahn at 520-837-6584)



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

Mayor and Council Transit Task Force MINUTES

Monday, June 8, 2015, 4:00 p.m.

Location 201 N. Stone, 6th Floor, Public Works Building
Tucson, AZ 85701

1. Call to Order

Meeting was called to order at 4:01 p.m. with seven (7) of the eleven (11) members present which established a quorum.

2. Introductions / Roll Call

*Members Present: Eugene Caywood, Chair (Ward 5)
Suzanne Schafer, Vice Chair (Ward 3)
Margot Garcia, (Ward 6)
Linda Dobbyn (CTAC)
Sami Hamed (CTAC)
Brian Flagg (Ward 2)
Michael Wall (Mayor)
David Heineking, U of A Advisory Member*

*Members Absent: Peggy Hutchison (Ward 1)
Vacant (Ward 4)
Vacant (CTAC)
Vacant (CTAC)*

*Staff Present: Jeremy Papuga, Transit Administrator
Kate Riley, General Manager of Sun Tran/Sun Van
Jared Forte, Assistant General Manager of Sun Tran/Sun Van
Rhonda Lugo, Sun Tran Finance Director
Davita Mueller, Sun Tran Planning Analyst
Bob McGee, Scheduling Manager*

3. Approval of May 4, 2015 Minutes

Motion: *A motion was made to approve the minutes as submitted.*

Seconded

Motion Passed: *Unanimously*

4. Call to the Audience

Camille Kershner – Ms. Kershner wanted to address some of the proposed changes to bus service. Reducing costs by attrition is not efficiency and neither is 12 hours to work an 8^{1/2} hour day. Ms. Kirshner also addressed the proposal to extend the 3 split to Udall but noted that there is still not a Park and Ride. There is nowhere to park. She also commented on adjusting early morning frequencies and how that affects her ride to work. If she has to wait longer, she will miss the connection. She expressed her frustration with getting to work on time and noted that at night, she can stop on the way home, but in the morning, she needs to get to work on time. No one should wait longer for the bus than actually traveling in it.

Richard Mayers – Mr. Mayers noted that the Task Force consists of four CTAC positions; two of which are not filled. He suggested that this was the reason it is so difficult to have a quorum.

Maria Cadaxa – Ms. Cadaxa had a comment to people who run the buses. Her comment was regarding in-facing seats. There has been a recent trend to have forward facing seats in place of these seats, and on a recent ride there were two wheel chairs, two strollers, and a folding cart, making it very difficult with the new configuration. Ms. Cadaxa requested that the in-ward seats not be replaced with forward facing seats. She noted that they are also good for conversation and therefore good for community.

5. Update on Transit/Announcements

Kate Riley gave the following updates:

If you ride the bus, you've probably noticed the "Safe Place" stickers. These are primarily for teenagers who need to find a safe place. Over the last few years it's been slow going. Recently, Our Family Services has taken over and partnered with Quick Trip for funding. If a teenager gets on the bus and indicates that they need a safe place, the operator will contact dispatch and get them connected with the right people.

Wednesday, June 18 is National Dump the Pump Day so you will be seeing a news release and some additional information coming out on the website.

On May 30, 2015, the Marketing Group had a Go Team Service Dog training session on service dogs and how to get them on and off buses and where to sit.

Jeremy Papuga announced that Jarrett Walker is doing his elected official workshop at PAG on June 19, 2015.

Mr. Papuga stated that Sun Tran has put together a "Why Commute by Transit?" Campaign which is an example of how they are working with the "PAG Get Onboard" Program.

Mr. Papuga also mentioned that at the last meeting, during the Call to the Audience, there was a question concerning bicycle parking at Sun Link stops. Mr. Papuga passed

out a memo written by Carlos de Leon, Deputy Director of Transportation, to Council Member Kozachik concerning this problem and what steps are being taken to resolve it.

Margot Garcia shared the equivalent of the SunGo card from Istanbul, Turkey. She explained that it worked very well on the trolley, buses, subway, and ferries. She also said that if you were traveling with another person, you just tapped the card twice.

The Annual Pass and Day Passes will be available on August 2, 2015. The 30 day pass being changed to 31 days will take a little longer because it changes the value of the pass and needs to go through the Title VI process.

Kate Riley announced that a soft launch of the Mobile Ticket App will occur on Sunday.

The Bus Riders Union urged everyone to attend the Mayor and Council meeting on Tuesday, June 9, 2015.

6. Update: Mass Transit Tentatively Adopted Budget

Jeremy Papuga gave a presentation on the Mass Transit Tentatively Adopted Budget. He gave an overview of the Mass Transit forecast which included the IAPC recommendations and a \$2.4M increase in Sun Tran General Fund expenditures over the FY 2015 budget. The City Manager recommended the same General Fund expenditure limit for 2016 as 2015. Mr. Papuga continued to explain that the assumptions in the Tentatively Adopted Budget to reduce the expenditures by \$24 million includes internal cost savings, minor service changes, major service changes and a delay in Capital Projects.

Discussion took place.

7. Proposed Minor Service Changes

Jeremy Papuga gave a presentation on the proposed minor service changes. The three primary goals were to meet the City Manager's recommended budget amounts, identify reoccurring cost savings and to maintain system health, minimize negative impact and improve service where possible.

Motion: *A motion was made to tell the Mayor and Council that the Transit Task Force does not think that bus service is the place to make this budget cut and they should leave the Operating Budget as it is, and we should continue to look at these changes as potential ways that we can reallocate our resources to make our service better.*

Seconded

Passed: *Unanimously*

Each of the service changes was presented and discussed.

Jeremy Papuga stated that there will be a public comment period during June in order for constituents to voice their opinion on the planned changes. Jarrett Walker will also be looking at both the minor and major service changes and will provide input of how those change relate to the information collected during the visioning exercise.

8. Bus Stop Signage Presentation

Kate Riley stated that at the last meeting the Task Force discussed words that could be eliminated from the new bud stop sign design such as Rider Tools. People were asked to send in their suggestions. The consensus of the Task Force was that the route number and connecting routes were the most important information and all other text should be kept to a minimum.

9. Call to the Audience

Allen Benz - Mr. Benz commented on the Route 4 and 8 extensions out to Houghton Road. He stated that the signs on the bus all say Houghton but in the verbal announcement they say Harrison.

Jim Thomas – Mr. Thomas suggested putting communications in more places inside the buses. He also stated that on a recent visit to the Transit Services Center there were no schedules or other communications displayed whatsoever.

Camille Kershner – Ms. Kershner stated that on the streetcar they have information about how to ride the streetcar but there is no information about the bus. She recently saw an ad on how to use the SunGo card and it was presented as a system, mentioning Sun Tran, Sun Van and Sun Link.

Barbie Urias – Ms. Urias commented on Route 27, 29 and 10 and stated that she disagreed with extending the wait time because those areas are out where there is nothing else around and it is uncomfortable to wait in the sun with no shade. If you are waiting at the Transit Center, there are water and facilities available.

10. Next meeting date and time/Meeting schedule

The next meeting is scheduled for July 13, 2015 at 4:00 p.m.

11. Agenda items upcoming meeting

Some items suggested for future Agendas were an update on the SunGo Summer Pass and an update on the Sun Link Streetcar.

12. Adjourn

The meeting adjourned at 5:54 p.m.



TRANSIT TASK FORCE MEMORANDUM

Item 5: Discussion of FY2016 Minor Service Changes

Page: 1 of 1

Issue – This item is intended to be a follow-up review of the planned minor service changes included in the tentatively adopted FY 2016 budget.

Staff Recommendation – None. This is an information item.

Background – Staff’s planned strategy for reducing the FY2016 Sun Tran operating expenses by \$2.4 million to equal the amount allocated in FY2015 includes four subcomponents:

- Internal Cost Savings
- Minor Service Changes (August 2, 2015)
- Major Service Changes (February 2016)
- Deferred Capital

This information was presented to the Transit Task Force at their meeting on June 8. This agenda item is intended to be a follow-up on the planned minor service change discussion at the previous meeting, but will be supplemented by the public comment information that has been collected to date and a review of the information conducted by Jarrett Walker and Associates.

Present Consideration – Staff would like feedback from the Transit Task Force on the minor service changes.

Financial Considerations – The FY 2016 estimated savings for the minor service changes is \$1.1 million.

Attachments:

Attachment A – Service Change Information

Attachment B - Public Comment Summary

Attachment C – Jarrett Walker and Associates Review of Minor Service Changes



Minor Proposed Service Changes FY16



Transit Task Force
June 23, 2015



Presentation Overview

- Goals and Objectives
- Review Planned Service Changes
- Next Steps



Transit Task Force
June 8, 2015



Goals and Objectives

- Meet the City Manager’s Recommended Budget amounts
- Identify reoccurring cost savings
- Maintain system health, minimize negative impact and improve service where possible



Transit Task Force
June 8, 2015



Route 1- Glenn/Swan

Planned Change:

Turn buses around at Swan/29th Street using Venice, 30th St, Erin, and 29th St, to Swan.



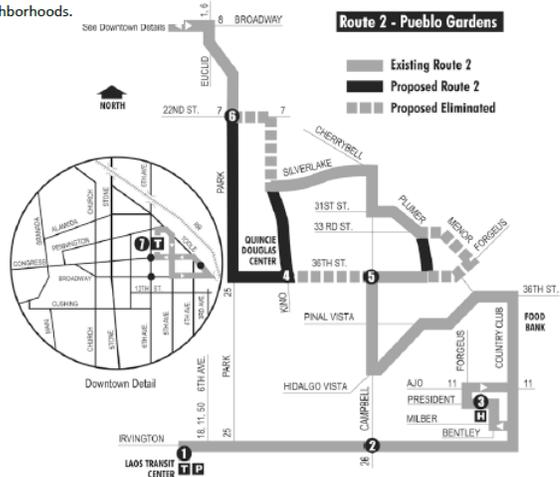
Transit Task Force
June 8, 2015



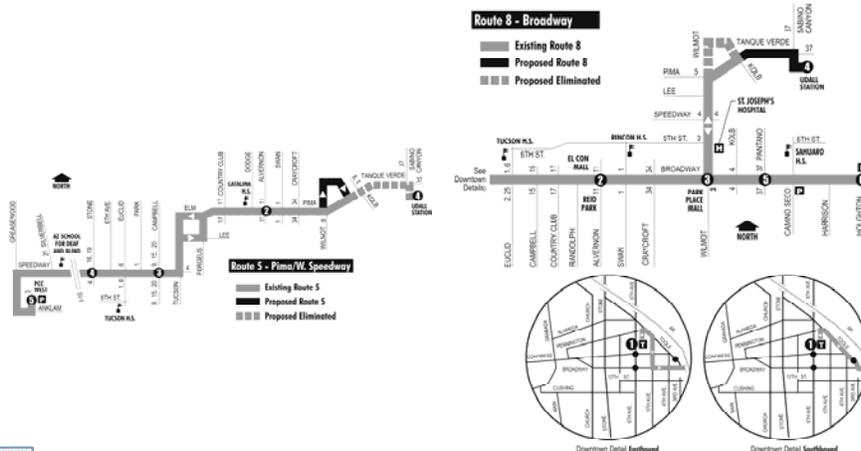
Route 2 – Pueblo Gardens

Planned Change:

Simplified routing through Pueblo Gardens, traveling to Downtown via S. Park Avenue. The alternate routing speeds up travel time by reducing redundant routing and shorting service through low speed neighborhoods.



Route 5 – Pima/W. Speedway Route 8 - Broadway



Transit Task Force
June 8, 2015



Route 5 – Pima/W. Speedway Route 8 - Broadway

Opportunities:

- Allow the Route 8 to connect to the Route 5 on both legs .
- Route would be better aligned for future RTA expansion
- Eliminates duplication created by planned extension of Route 8

Challenges:

Service expansion to Tanque Verde/Catalina Hwy would be delayed at this time

Reasoning:

Changes allow for route improvements while maintaining service to Wilmot & Pima area. Combined routing change would be an overall financial savings for the Route 5 and Route 8 without disruption of transit service to the affected areas. Change was placed on hold during COA process.



Transit Task Force
June 8, 2015



Route 10 – Flowing Wells

Opportunities:

- Cost effective
- Quicker arrivals to TTC will help passengers needing to transfer to other routes.

Challenges:

- Passengers boarding on La Canada would need to walk to either Wetmore or River for transit service. No passenger though, should have to walk more than approximately ¼ mile.
- River Rd service would not be offered on Sunday.

Reasoning:

Shortening the route allows passengers to arrive quicker at Tohono T'adai Transit Center while still providing alternatives to those who board where Route 10 will no longer provide service.



Transit Task Force
June 8, 2015



Route 3 – 6th Ave./Wilmot Route 28 – St. Mary’s

Reasoning:

Route needs are different on these two segments of the current Route 3. Separating the route enables different service levels to meet passenger needs in a more productive manner.

Opportunities:

- Treats each segment needs independently
- Cost effective

Challenges:

Passengers currently traveling through Ronstadt Transit Center on Route 3 would need to transfer



Transit Task Force
June 8, 2015



Route 11/50 – Alvernon/Ajo

Opportunities:

- Passengers needing to travel past 6th Avenue on Ajo will no longer need to travel through LTC. This will shorten passenger trip time.
- Passengers needing to transfer to go to LTC can transfer to several connecting routes that cross Ajo and travel to LTC.

Challenges:

Neither Route 11 or Route 50 go to Laos Transit Center

Reasoning:

Based on ridership numbers for the Route 50 it is recommended that the route be merged with the Route 11 creating an Ajo Way crosstown route that does not go to the Roy Laos Transit Center. (Approved by TTF November 2014)



Transit Task Force
June 8, 2015

sun tran Route 8 – Broadway

Opportunities:

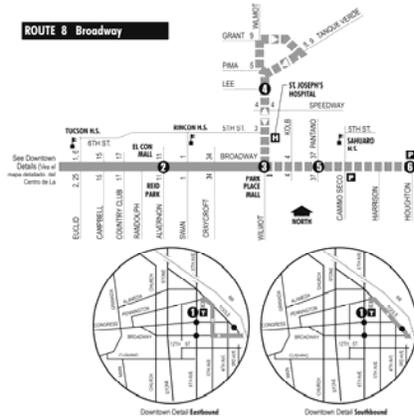
- Cost Effective
- Additional service on Wilmot until 8 pm
- Maintains frequent network

Challenges:

- Reduces service during early morning hours when least needed
- Some passengers may need to wait an extra 5 minutes to board a Route 8 bus

Reasoning:

Market demand on Broadway would be served at 15-minute frequency prior to 11:30 am.



 Transit Task Force
June 8, 2015

sun tran Route 25 – S. Park Ave.

Opportunities:

- Route frequency set at market demand
- All weekday trips travel to TIA
- Improved connections

Challenges:

- Reduction of frequency will require some passengers to wait up to 10 minutes during rush hour to board Route 25.

Reasoning:

The recommendation will improve route productivity resulting in lower subsidy per passenger boarding



 Transit Task Force
June 8, 2015



Route 10 – Flowing Wells

Opportunities:

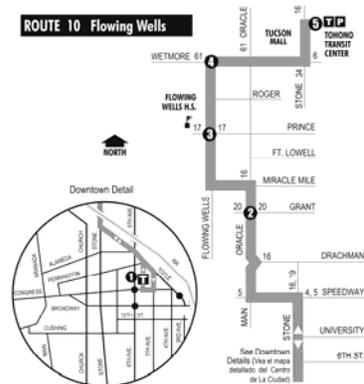
- Improved connections, creates better transfer opportunities
- Cost effective

Challenges:

- Passengers may need to wait 20 extra minutes for a Route 10 bus

Reasoning:

Consistency in night time service



Transit Task Force
June 8, 2015



Route 27 – Midvale Park

Opportunities:

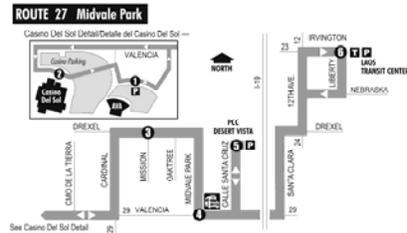
- Improved connections, creates better transfer opportunities
- Cost effective

Challenges:

- Passengers may need to wait 20 extra minutes for a Route 27 bus

Reasoning:

Consistency in night time service



Transit Task Force
June 8, 2015



THANK YOU!



Transit Task Force
June 8, 2015

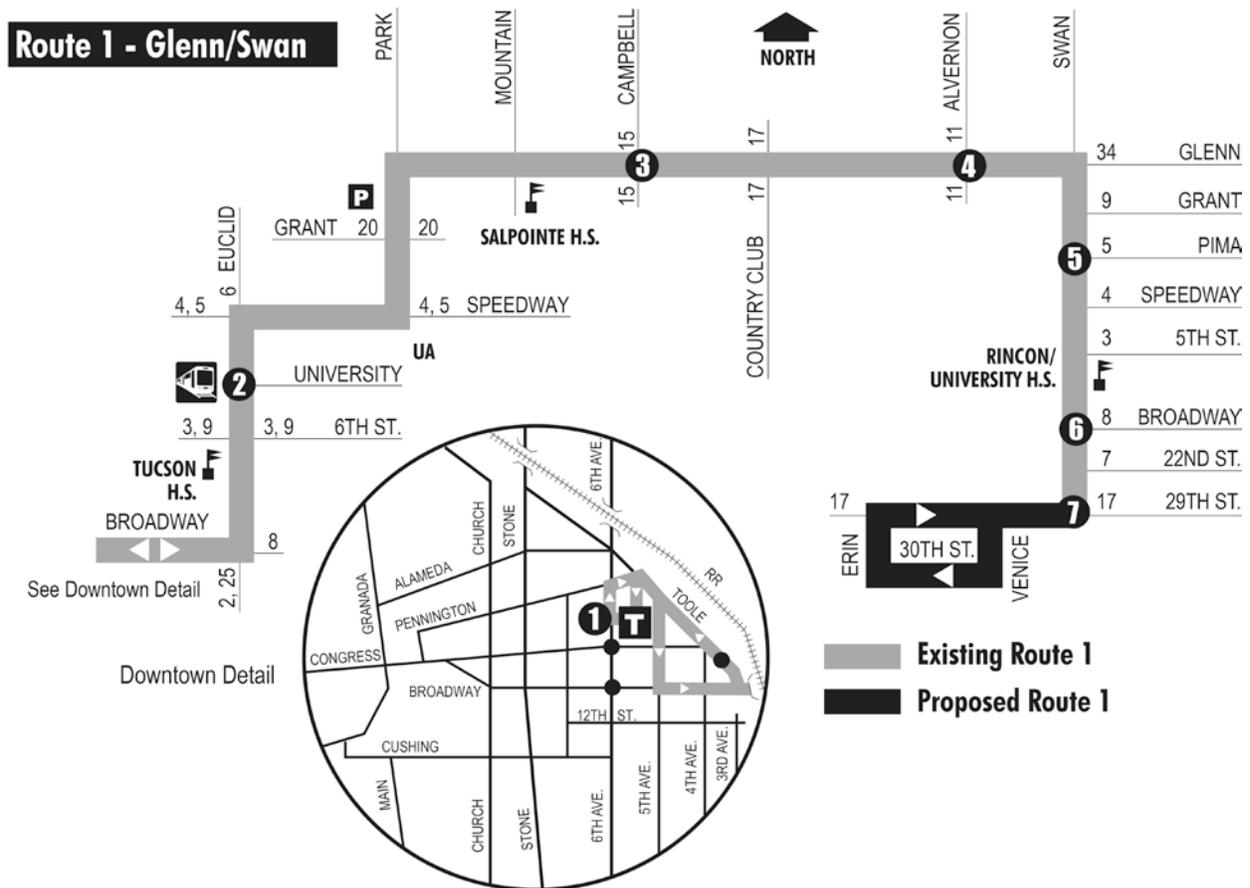
Planned Service Changes, August 2015 – Sun Tran

Route 1 - Glenn Street/ Swan Road

Planned Change:

Turn buses around at Swan/29th Street using Venice, 30th St, Erin, and 29th St, to Swan.

Route 1 Map - Glenn Street/ Swan Road



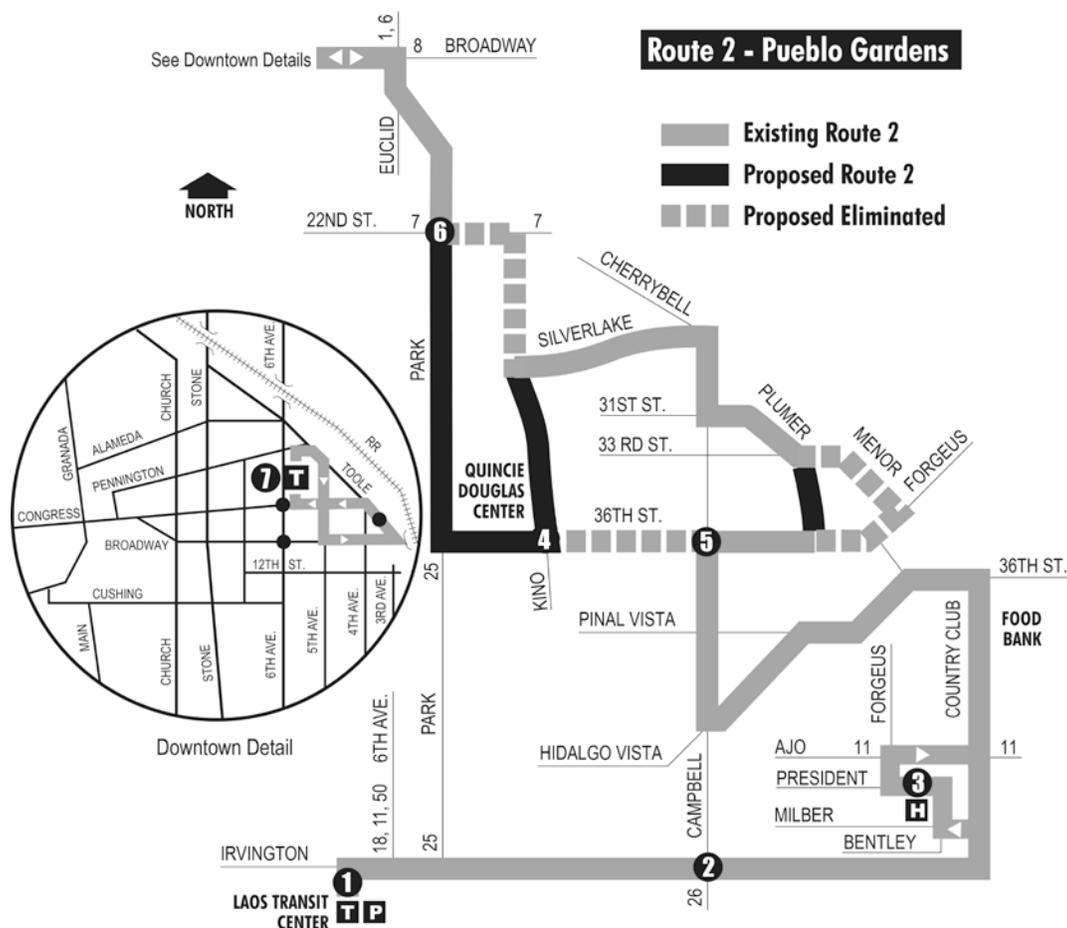
Planned Service Changes, August 2015 – Sun Tran

Route 2 - Pueblo Gardens

Planned Change:

Simplified routing through Pueblo Gardens, traveling to Downtown via S. Park Avenue. The alternate routing speeds up travel time by reducing redundant routing and shorting service through low speed neighborhoods.

Route 2 Map - Pueblo Gardens



Planned Service Changes, August 2015 – Sun Tran

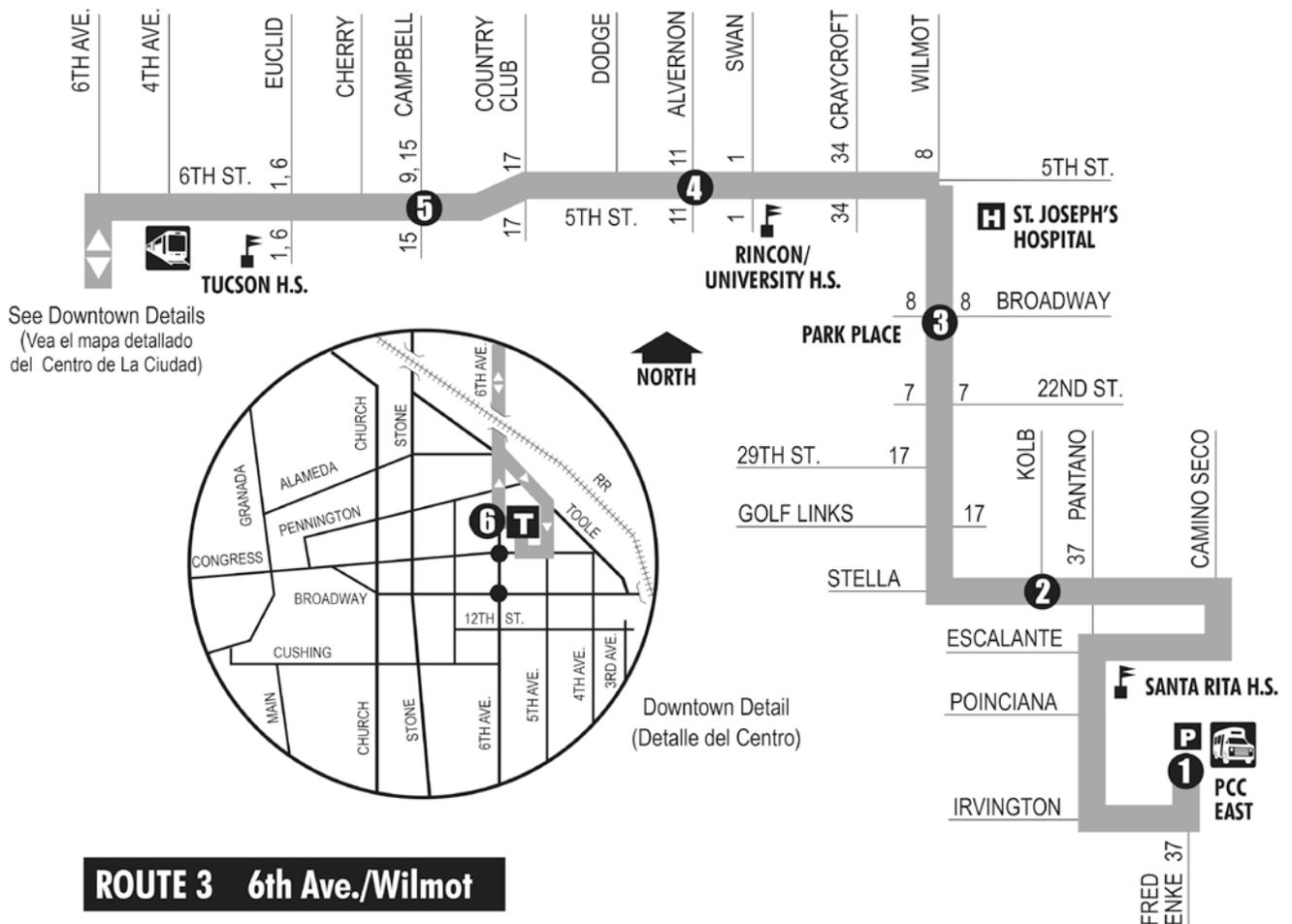
Route 3 - 6th Street/Wilmot Road

Planned Change:

Implement planned split of the Route 3 and adjust frequency to meet demand of two separate routes. The Route 3 from Ronstadt Transit Center to Pima Community College East Campus has no planned changes.

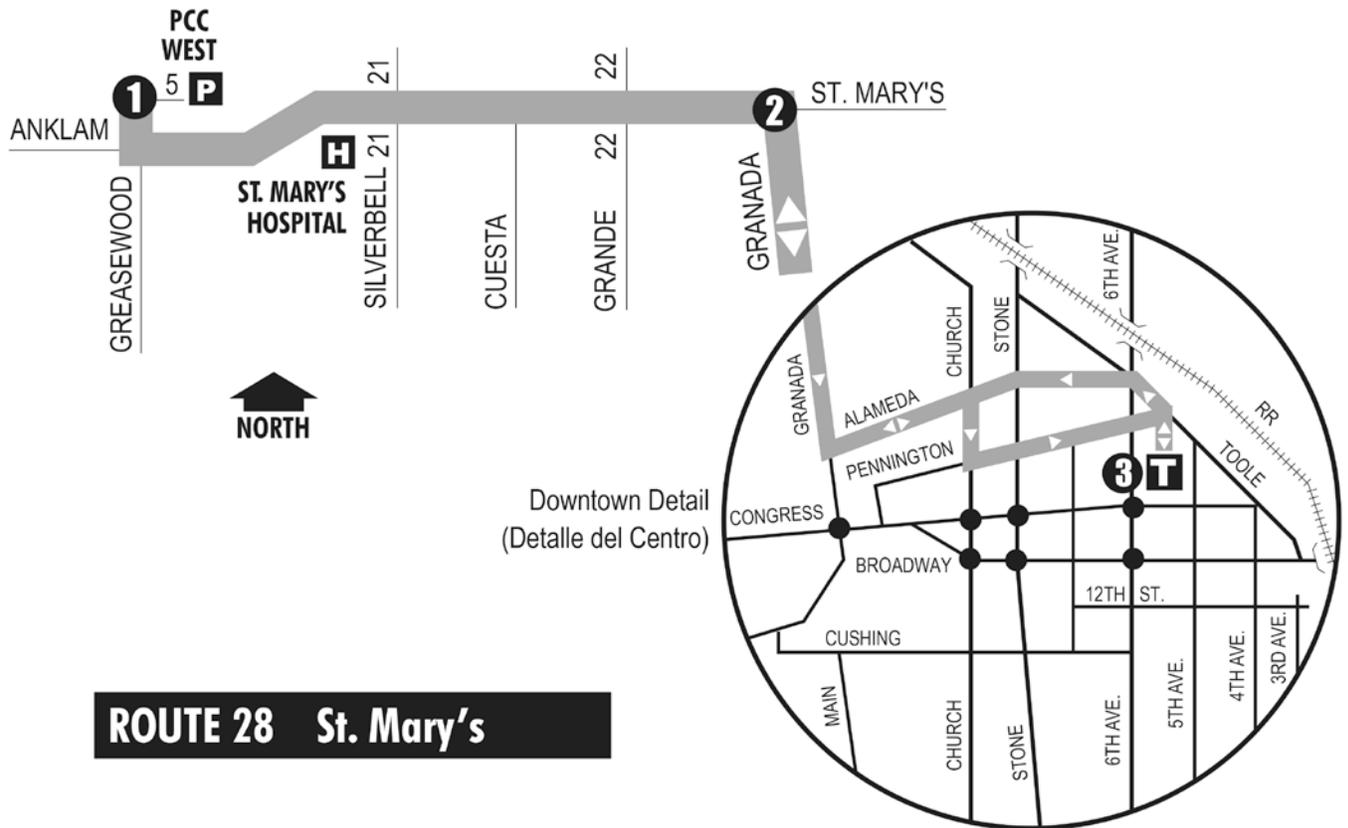
The new route on St. Mary's (Route 28) will operate every 30-minutes from 5:00 a.m. to 7:00 p.m. which will result in a change from 20-minutes to 30-minute frequency from 6:30 a.m. to 8 a.m. and 3 p.m. to 4:30 p.m.

Route 3 Map – 6th St/Wilmot, New Route 3



Planned Service Changes, August 2015 – Sun Tran

Route 3 Map – St. Mary's, New Route 28



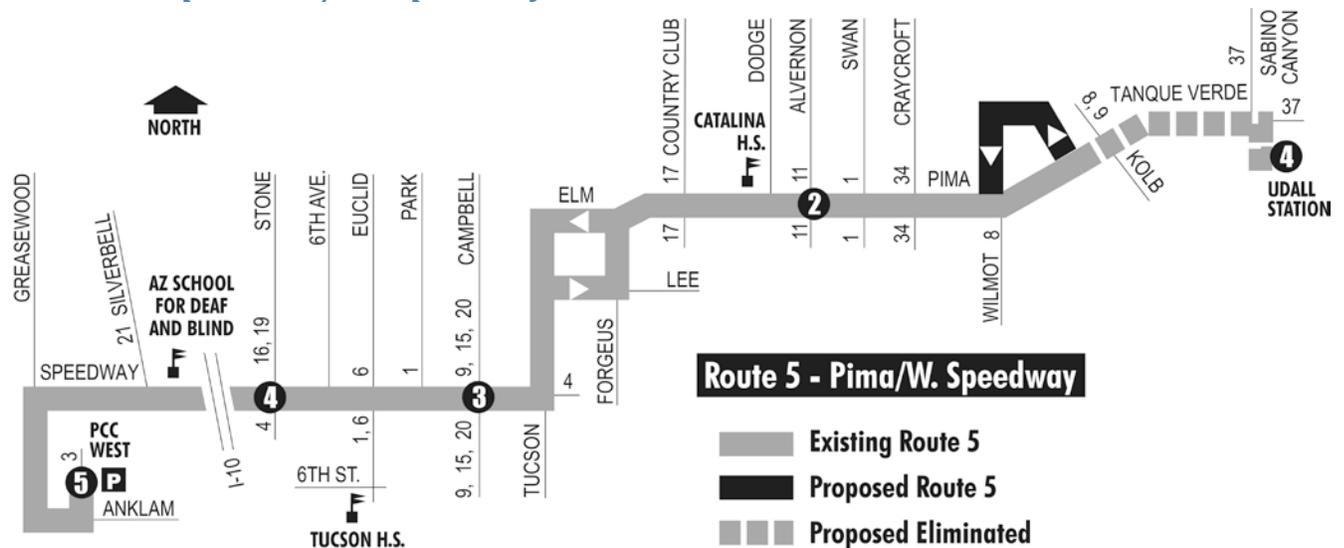
Planned Service Changes, August 2015 – Sun Tran

Route 5 – Pima /W. Speedway and Route 8 - Broadway

Planned change:

- The Route 5 would no longer go to Tanque Verde/Sabino Canyon, but would operate along the Wilmot Loop as the current Route 8, providing continued service on Wilmot between Pima and Grant roads.
- The Route 8 would no longer travel the Wilmot Loop and will go to Sabino Canyon at Tanque Verde. Running time will be adjusted to improve on-time performance.

Route 5 Map – Pima / W. Speedway



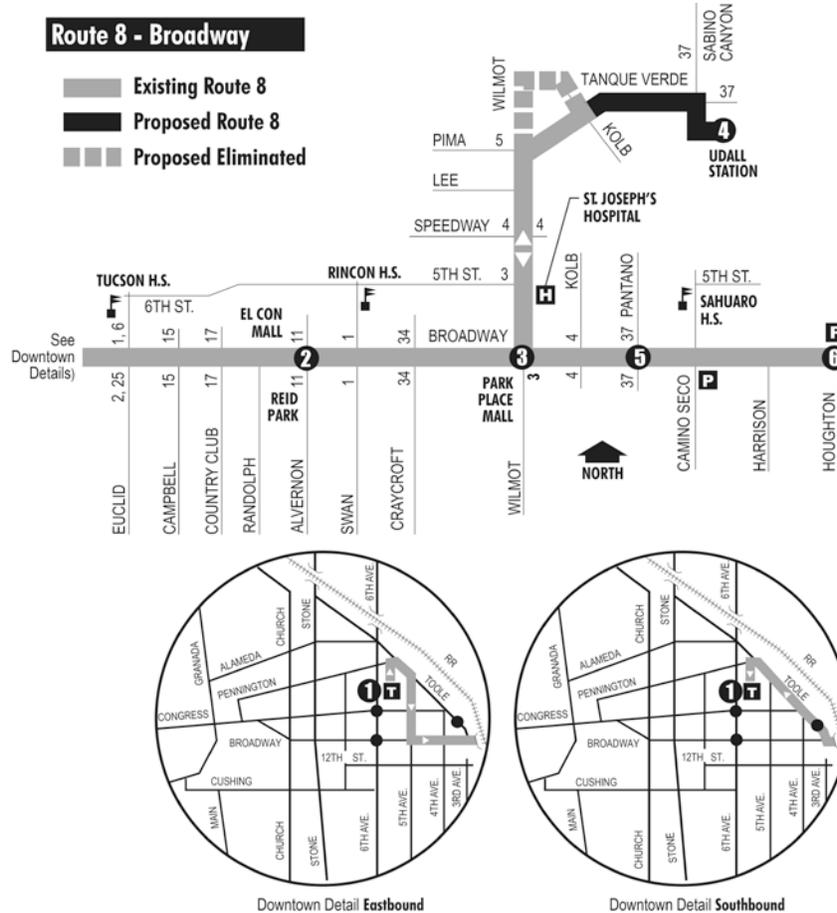
Planned Service Changes, August 2015 – Sun Tran

Route 8 - Broadway

Planned change:

Adjust frequency between the hours of 7:15 a.m. to 11:30 a.m. from 10- to 15-minute frequency, matching current demand and extend the service on the Wilmot to Tanque Verde segment (leg) until 8:00 pm, currently the Route 5 serves this area until 7:30 p.m.

Route 8 Map - Broadway



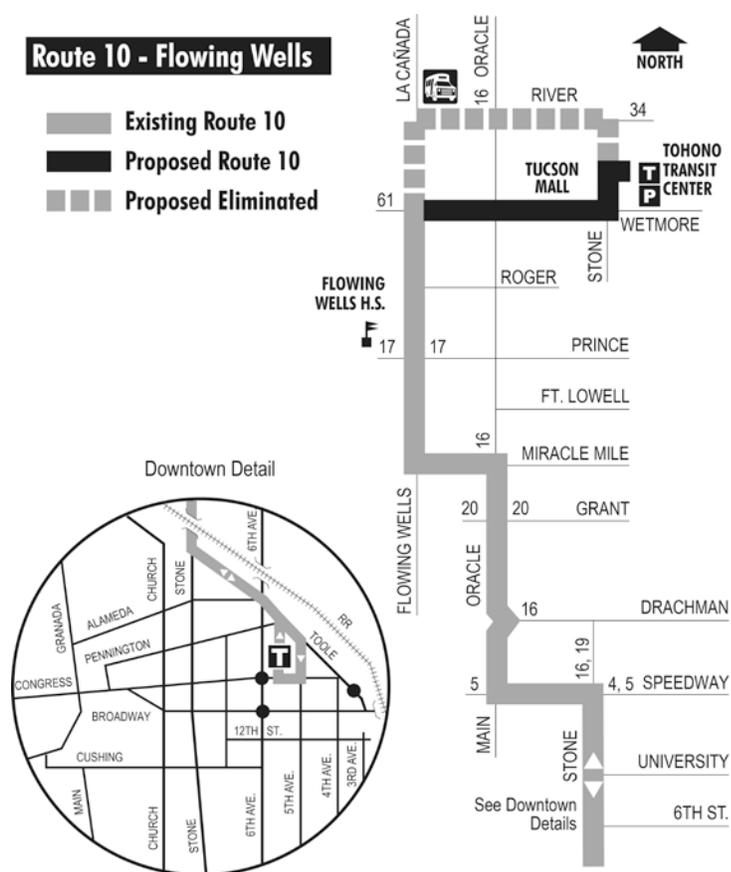
Planned Service Changes, August 2015 – Sun Tran

Route 10 – Flowing Wells

Planned Change:

- Shorten routing to/from Tohono Tadaí Transit Center to operate from Flowing Wells to Wetmore to Stone to TTC.
- Adjust evening frequency from 40 to 60 minutes between the hours of 7:00 p.m and 11:00 p.m.

Route 10 Map – Flowing Wells



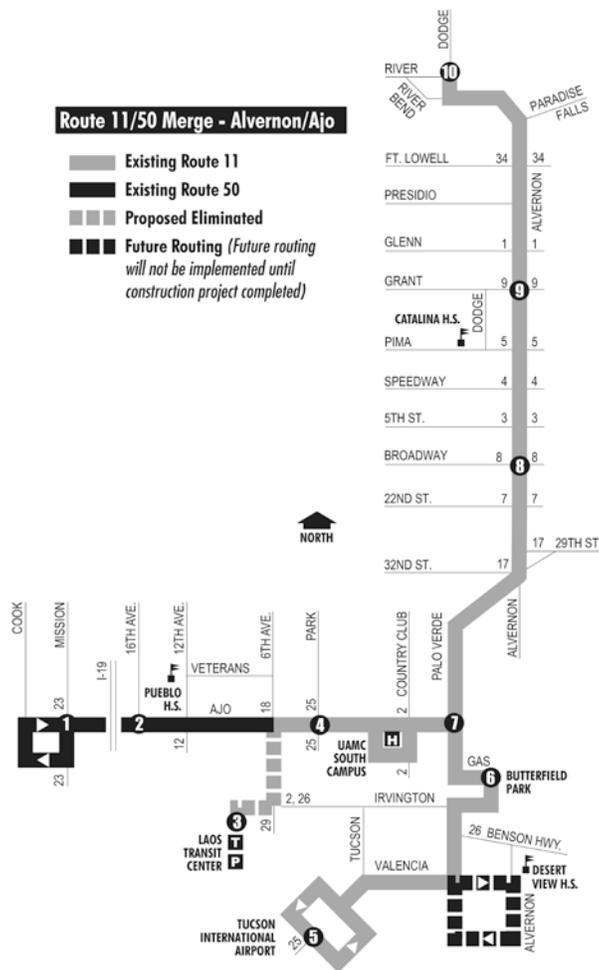
Planned Service Changes, August 2015 – Sun Tran

Route 11 - Alvernon Way and Route 50 – Ajo Way

Planned Change:

The joining of the routes creates continuous east/west Ajo service between Palo Verde and Mission Road. Data showed that many passengers currently choose the stop at Ajo at 6th Ave to transfer between the two routes instead of at Laos Transit Center. The base route frequency along Alvernon would improve from 15 minutes to 10 minutes between the hours of 1:00 p.m. and 4:00 p.m. with the two legs operating at 20 minutes.

Route 11 Map - Alvernon Way/ Ajo Way

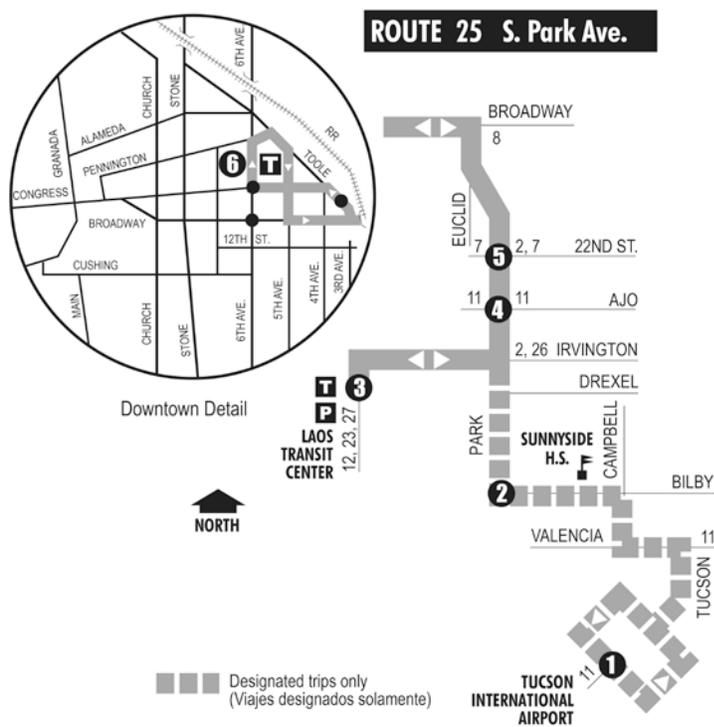


Planned Service Changes, August 2015 – Sun Tran

Route 25 - S Park Avenue/N 1st Avenue

Planned Change:

Adjust weekday frequency from 20 to 30 minutes between the hours of 4:00 a.m. to 8:00 p.m.

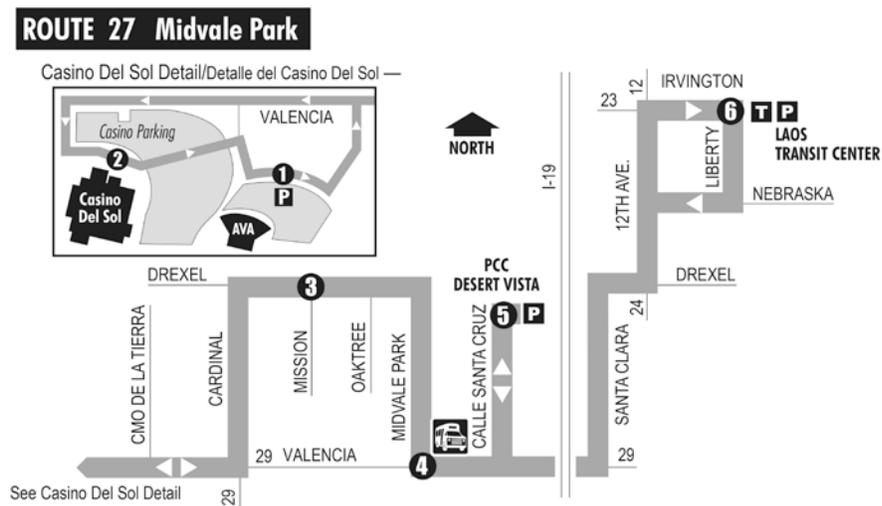


Planned Service Changes, August 2015 – Sun Tran

Route 27 - Midvale Park

Planned Change:

Adjust evening frequency from 40 to 60 minutes between the hours of 7:00 p.m. until 11:00 p.m.



Planned Service Changes, August 2015 – Sun Tran

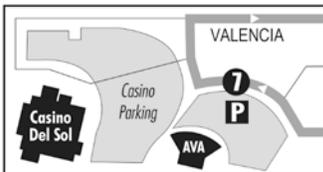
Route 29 - Valencia

Planned Change:

Adjust evening frequency from 40 to 60 minutes between the hours of 7:00 p.m until 11:00 p.m.

ROUTE 29 Valencia

Casino Del Sol Detail/Detalle del Casino Del Sol



See Casino Del Sol Detail



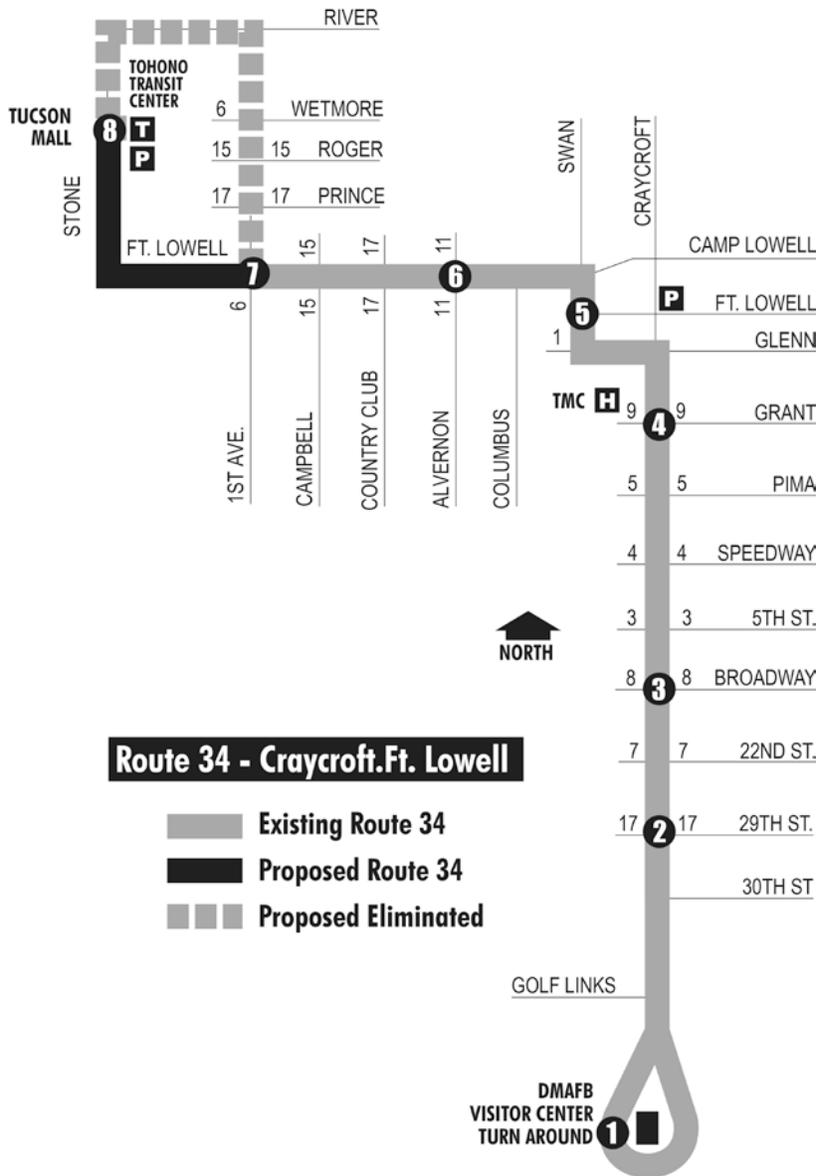
Route 34 - Craycroft Road/ Fort Lowell Road



Planned Service Changes, August 2015 – Sun Tran

Restructure routing by removing route from N. 1st Avenue and River Road and reroute to service Ft. Lowell to Stone Ave to Tohono Transit Center.

Route 34 Map - Craycroft Road/ Fort Lowell Road



Public Input on Planned Service Changes for 8/2/15

| COMMENT | ROUTE | SUMMARY | IN FAVOR YES/NO? |
|--|-------|---|------------------|
| Sun Tran Route 2 - Pueblo Gardens ...The caller is requesting no service change. Thank you. | 2 | No changes to Route 2 | No |
| The caller is requesting to please have service into Quincie Douglas Center (RT 2 both N/B and S/B) on the weekends as well. The caller’s family has the SummerGo pass and would be great benefit to everyone! | 2 | Keep service into Quincie Douglas lot. | No |
| Please do not remove the existing at the Quincey Douglas Community Center!!! The existing Sun Tran Route 2 now stops on the East Side of the Quincey Douglas Community Center. This Sun Tran Route 2 serves various local communities including the elderly and infirm residents of the Blanche Johnson Court Yard Apartments. Changing this Sun Tran Route 2 stop to the North East and North West corners of Kino Boulevard and 36th Street, imposes an unnecessary burden upon the elderly and infirm residents of the Blanche Johnson Court Yard Apartments. Many residents of the Blanche Johnson Court Yard Apartments require mobility assistance such as walkers, canes, and wheel chairs. These residents of the Blanche Johnson Court Yard Apartments would find crossing a busy intersection (specifically the intersection of Kino Boulevard and 36th Street), even with controlled lights, difficult and hazardous. For this and other reasons, we strongly oppose the initiative to change the current Sun Tran Route 2 stop on the East Side of the Quincey Douglas Community Center. | 2 | Do not change Route 2 routing near Quincy Douglas Community Center. | No |

Public Input on Planned Service Changes for 8/2/15

| | | | |
|--|---|--|--------------------------------------|
| <p>I live near Suntran Route 2. I am in favor of the proposed changes, however I would like to make a suggestion: I think that Route 2 should go down Kino Pkwy. to Tucson Marketplace Blvd. and go through the shopping center (past the Costco, Walmart and forthcoming Cinemark Theatre) to Park Avenue. People who live on Route 2 currently have to change buses to Route 6, and then still walk a considerable distance from Park Ave. to get to the stores. Alternately, the bus could turn west on 36th St. at Quincie Douglas Library and then turn south on Nobel Way to get to Tucson Marketplace Blvd. (to avoid slowing traffic on Kino and allowing for pick-ups on 36th for Quincie Douglas and Blanche Johnson Courtyard). Question: If Route 2 changes are approved and the bus begins using Kino Pkwy. between 36th St. and Silverlake, will any bus stops be added on Kino - for instance at Quincie Douglas Park entrance and Saint Isidore St. in the center of the block? Thank you for the opportunity to comment.</p> | 2 | <p>In favor of Route 2 changes, but has recommendation on routing to serve Tucson Marketplace.</p> | <p>Yes, with additional comments</p> |
| <p>Leave it the way it is. Wants it to enter Quince Douglas every day. Do not increase fare.</p> | 2 | <p>Prefers no changes to Route 2</p> | <p>No</p> |
| <p>Routes 8 & 25 : The frequencies should NOT BE LESS, as these are busy routes used by people to access jobs and children in care during work hours. Limiting the eastside portion just to midday leaves the E.6th/E.5th corridor without service at other times. To save money, it would Campus to the busiest times, whilst retaining the make sense to limit the full route to the East PCC portion of E.6th St, which services the UA, and E.5th St. to WILMOT, retaining access to medical centers/labs, and businesses. Otherwise, this entire swath is left without bus service at peak times and during business hours. Route 3 on East 6th/5th Street goes by the Sam Hughes area and other It is short-sighted to think that only PCC students benefit from this route.residential neighborhoods, and is used by students and faculty alike. It is short-sighted to think only PCC students benefit from this Route.</p> | 3 | | <p>No</p> |

Public Input on Planned Service Changes for 8/2/15

| | | | |
|--|---|---|----|
| <p>I am dismayed to learn that the #3 bus is again faced with a "service change," as a result of which it will be split into two routes. I use the #3 frequently (at least twice/week), and I board at Pima Community College West. Often I ride to points beyond Ronstadt -- either to the U of A or doctor's appointments on Alvernon. Being forced to change buses at Ronstadt is burdensome to riders, and I oppose this change. Forcing women with children in strollers, disabled people in wheelchairs, and the elderly to get off one bus and board another creates unnecessary hardship. And in really hot weather the hardship is even greater, as we must leave the relative comfort of an air-conditioned bus to (possibly) wait until the continuing bus arrives. Please don't divide the #3 route into two routes.</p> | 3 | Dislikes Route 3 being split, as she travels through RTC on this route. | No |
| <p>This is a comment on the planned service change to Route 3 that will be discussed at tomorrow's transit task force meeting. I am opposed to splitting up the Route 3 bus at Ronstadt. I am a park and ride rider who parks at PCC West and at least 3 times a week rides the bus through to 4th Ave. or the U of A, and transferring buses would be a big enough hassle so I'd think twice about using the Park and Ride when I'm going past downtown.</p> | 3 | Opposed to splitting Route 3. | No |

Public Input on Planned Service Changes for 8/2/15

| | | | |
|--|------------------|---|--|
| <p>Here at The Ranch at Star Pass we house 1000 + Students that are both from PIMA and The University of Arizona. We also have neighboring complexes that house more than 1,000 students and workers from around Tucson. This request is long overdue, for the nearest bust stop is at PCC-WEST and though it is a 15 min walk, it really is far in 100 degree weather. I know that you would get plenty of business from the stop to help students get to school, work, or other places around Tucson. Please let me know if there is anything you need for us to get this stop up and running. Thank you for your time and hope to hear from you soon!</p> | 3 | Wants a new bus stop near The Ranch at Star Pass. | No |
| <p>Please don't split routes 3 & 28 - hurts riders & increases costs. Also please no bus-rail interface. Thanks for listening!</p> | 3 & 28 | Do not split the routes | No |
| <p>As for these proposed service changes most of them seem like really bad ideas especially the splitting the route 3 into two different routes because it is officially the only way to get from east to west now without transferring . About the only one I can really agree with would be the combining of the 11 and 50 but they also need to extend this completed route to go around the AFB to at least golf links and Kolb park and ride so it can meet with routes 4 and 17 making our travels easier from this side of town. Quit with the Splitting.</p> | 3, 11, 50, 4, 17 | Not in favor of most of the recommendations, especially splitting of Route 3. Supports combining Route 11 and 50. | No, but does support combining Routes 11 and 50. |
| <p>1. How will the travel time from 6th Street and Campbell to PCC West be effected after the split of Route 3 into east and west segments? 2. I like half the route 8 going to Udall. The bus seems always full before noon even in the summer. 3. Are you planning route 11 not going to the airport? Need better connections to the airport. 4. Route 25 airport ? Running fewer buses and increasing travel time for passengers just has fewer people riding.</p> | 3, 8, 11, 25 | Has several questions, but expresses concerns about needing more connections to the airport and likes Route 8 to travel to Udall. | No |

Public Input on Planned Service Changes for 8/2/15

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| <p>I'm sure International Student Association (ISA) at The University of Arizona won't be happy on the change of route 5. When our club organize a hiking trip at Sabino Canyon Recreation Area, we ride route 5 to Údall Park, and have one car to ferry people up to Sabino. Wilmot loop is further away.</p> | 5 | <p>Change makes travel to Sabino Canyon difficult.</p> | No |
| <p>I have been riding for 25 years and the number 8 has always been my reliable go-to bus for getting anywhere in the city. If you make the wait time more than 30 min., it will no longer serve its purpose for me in getting to work and I will have to use a taxi to get to work on time. Please keep it at 20 minutes as it is a bus that is used a lot and is sometimes so full that there is no room for boarding passengers and they are made to wait by the driver. It is not used so much from Harrison to Pantano, yes, but with new addition of the Houghton route, it may see more traffic/passengers. Please give it another year at least. I am 60 years old and partially blind and forced to use alternate modes of travel. My next best option is walking to the Route 17 and riding after a mile plus walk. This is ok except when it is over 100 degrees outside.</p> | 8 | <p>Frequencies should be improved, not make passengers wait longer.</p> | No |
| <p>Changes the Route 8 from every 10 minutes to every 15 minutes in the morning - particularly early morning - makes no sense at all if you are really trying to encourage ridership and provide service. The problem with the Route 8 now is that they often overlap early in the morning so that a 10 minute frequency becomes a twenty minute one. With a planned 15 minute frequency, I can easily see that stretching to 25 or 30 minutes. People who work downtown or along the bus route can't plan to use it with such infrequent trips.</p> | 8 | <p>Don't increase the wait time for Route 8.</p> | No |

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| <p>I have a concern about route 10. To eliminate the route travelling to River Rd and La Canada is saying that all those who live north of Wetmore does not count. There is already bus 61 that services Wetmore and it makes no sense to add another bus. River road and La Canada is a growing area and since there is no bus route that connects River road and LaCholla, Route 10 is the closest route. Again it shoes that people who are making these decisions are people who do not ride the bus. My mother's house is on La Canada and River and I depend on the bus travelling to River road. There is more family homes and apartments between Oracle road and LaCholla on River and route 10 is currently the only route that comes close.</p> | 10 | | |
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| <p>Regarding changes to Route 10: Adjusting the evening frequency from 40 to 60 minutes would have little impact on me, as I seldom ride in evenings. However, changing the route from River Road to Wetmore would have a significant impact on me and a lot of other riders. I am a retired person with only Social Security, living near Flowing Wells Rd, and I ride the bus, exclusively, on a daily basis. Six years of riding on Route 10 (north and south) has given me a practical knowledge of ridership - who rides, when they ride, where they get on and where they get off. I take #10 a couple of times a week to grocery shop at 'Albertsons' (La Canada at River Rd). (Riding the bus means being unable to carry all the groceries in one trip) I also get my prescriptions at the pharmacy there. I see by the number of shopping carts at the bus stop, that shows there are other shoppers who must use the bus. I have talked with other people at that bus stop. Some are employed at other businesses around the 'Albertsons' shopping plaza, 'Whataburger', just to name one. Their only way to get to and from work is #10 bus. At that bus stop, I have also talked with students from ITT Technical Institute (1455 W River Rd), who's only transportation to and from school is #10 bus. Also at that stop, some students are going to and coming from Flowing Wells High School. There is also the Chinese Cultural Center, which, while it doesn't have daily events, at times does have people coming, some by #10 bus. Then, there is the bus stop at 4625 N Flowing Wells (about halfway between Wetmore and River Rd). A number of elderly retirees who live along route 10 regularly go to a barbershop there; and, should the route change, wouldn't be able to walk from Wetmore. At that bus stop, I have seen disabled patrons in motor chairs, also families with baby carts, and many other individuals getting on and off. I have often ridden the #61 bus and know its ridership too [it having the least number of riders in the whole system]. And while there is hardly anyone ever boarding or leaving the #10 bus between La Canada and Oracle Rd, or Oracle and TTC; on the route 61 bus, there are even fewer riders getting on or off between Flowing Wells and Oracle and TTC. Route 61 serves Wetmore Rd to TTC with minimal ridership. Moving the #10 route from River Rd to Wetmore eliminates two important bus stops and makes the (almost riderless) Wetmore Rd from Flowing Wells to TTC a redundant waste. What will it save? Only about 5 minutes, and the #10, #61 drivers already have a layover at TTC. And fuel savings on the 1½ miles with NO traffic lights are minimal. Sun Shuttle #412, while it serves the River Road at La Canada area, it runs only once every 1½ hours !! Now, with Route 10, I can go directly from home to River Rd on one bus in about ten minutes and come back home on one bus in about ten minutes. If I have to go via (proposed #10 change) to Tohono Center, wait there for Shuttle #412, take it BACK to La Canada, wait for returning #412, take it BACK to Tohono Center, wait for #10, and finally take it home - how long will that be in hours?!. And then there are all of the other people who have to use that part of Route 10. Many of the buses have not had displayed the pink cards of Notice of Planned Service Changes. Most of the passengers have not even been aware of the pink cards, and so, not read them. Even reading them, they cannot get the details about the service changes. Many riders are without computers and, I suspect, even internet ignorant. Only because I could access Suntran.com and navigate to the proposed changes, am I able to make the case against changing Route 10. I do, however, write in behalf of all those silent and unaware Suntran patrons who would be adversely affected by the proposed changes to Route 10</p> | | | |
| <p>Do not change Route 11. Keep it as is.</p> | <p>11</p> | <p>Do not change Route 11.</p> | <p>No</p> |
| <p>Longer hours on Bus Route 11 north and south bound. I think this route has many riders that need the ride and it's not enough to have longer hours service (currently service hour is too short that ends about 7 pm.)</p> | <p>11</p> | <p>Prefers later hours of service.</p> | <p>No</p> |
| <p>I am opposed to Sun Tran Route 34 proposed changes. The contemplated planned route changes would greatly affect my ability to retain my job at my current employer.</p> | <p>34</p> | <p>Impacts this passenger's ability to get to work on time.</p> | <p>No</p> |

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| What a bummer: it will stop me from my classes. I don not like the change. | 34 | Impacts ability to get to class. | No |
| Don't eliminate River Road stops on Route 10. | 10 | Don't eliminate River Road stops on Route 10. | No |
| Why are there no services on River Road for Route.34 and Route 10 on the route changes for Aug. 2015? | 10, 34 | Why is Route 10 and 34 not changing to serve River Road? | No |
| I would like to keep the Route 3 as is and combine Routes 11 and 50. Thanks | 3, 11, 50 | Don't change Route 3, approved of Routes 11 and 50 planned changes. | Yes - Routes 11 & 50; No - Route 3 |
| I would certainly appreciate service on route 29 to expand to 11:00pm; however I would also suggest service frequency to run every 15-20 minutes from approximately 4:00-6:00 pm during weekdays. Over-crowding during that period of time could lead to or compound injuries if the bus is involved in an accident. It is also is very uncomfortable for passengers.I know route 16 is not included in this discussion, but I would suggest service on Saturdays to Ina/Thornydale, increase to every 30 minutes because of overcrowding and many people find it difficult to get to and from work. | 16, 29 | Decrease wait-times, not increase them. | No |

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As a regular Suntran customer for twenty years, and also someone for whom public transportation is their ONLY transportation, I would like to suggest greater frequency for every single North/South route, as well as later schedules. One might be able to get a Speedway bus every fifteen minutes, but when the connecting bus only runs every forty minutes AND stops running at 7:30pm it makes a maze of getting home for someone who works past eight at night, particularly on weekends. Also, it would be great if Sun Tran understood that not all of your passengers live off of Speedway, Broadway and Fifth Street, and therefore would appreciate it if the other East/West routes ran more frequently. I, for example, live near 22nd and Swan, and in order to get home from work on the weekends I can either sit for an hour at Ronstadt or sit for forty minutes at Swan and Broadway. During monsoon season or when it's 110 degrees outside, these options are unbearable at best, and also somewhat dangerous. Thank you for your time and consideration.

| Misc./General | Overall, wants to decrease wait-times | No |
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| <p>Why are we bringing up stuff from the past?! would Say No on the changes.The Main Changes are To Fix the Problems that you have already.One of the Problems is 8 Houghton,4 Houghton. Remove the 8 Ho & 4 Ho.I think that 8 Ho and 4 Ho Should be Renamed to Either 8H (Houghton)4H (Houghton).8W Wilmot). 4G (Golf Links) or 8-H (Houghton) 8-W (Wilmot) 4-H (Houghton) 4-G (Golf Links)Here is the problem Suntran Dosen't even want to Listen to Us Passengers. People get on For Free Machine Steals Money.The Route 3 Few Ideas Rename Route 3 from RTC To PCC West To Route 5. Route 5 Would Go From RTC To Udaul Station. Route 3A Could be RTC To PCC West. Route 3B Could be RTC To PCC East. Route 3A Could be RTC To PCC East. Route 3B Could be RTC To PCC West. Route 3 Could be RTC To PCC East. Route 14 Could be RTC To PCC West. Route 3 Could be RTC To PCC West. Route 14 Could be RTC To PCC East or Route 3 Could be RTC To PCC East, Route 28 Could be RTC To PCC West, Route 3 Could be RTC To PCC West. Route 28 Could be RTC To PCC East Or Route 3 Could be RTC To PCC East. Route 30's or 43 or 53 Could be RTC To PCC West. Route 3 Could be RTC To PCC West. Route 30's or 43 or 53 Could be RTC To PCC East. Kolb Rd Needs a Route thats all I have to say You don't want to add onto the Route 9. Then Route Unknown Can Go From Udaul To Golf Links. Route 4 Would only Go From RTC To Broadway/Houghton. The Only # I would Not Choose is 13 as a Route # As to the Route 50 and Route 11 What could be interesting is Route 50 Could Go Down Ajo To Alvernon To Golf Links To Kolb and Golf Links or something like that. That Would be a Nice Connection from Southside to Eastside Or Route 50 From Ajo/Mission To Ajo/Palo Verde.There wouldn't be any Need for two 11's. Or Route 11 Goes to Laos then Goes Down 6th Ave To Ajo To Ajo/Mission. Its Ilke 2 Routes Together without any Changes other than Just a Route #. The Problem is The City dosen't know how to Manage The Money. There is Advertisements on the Buses and We The passengers Have to Put up with "We Don't have money" Where is the Money Going? As Passengers We Have the Right to know. Then if it gets any Better We as Passengers are Getting Told That Sun Tran May Go on Strike. The Quility of Suntran is Really bad Thats all I have to say.Riding a Bus and the Back Door Dosen't work. People Take The Bus To get to where they Need to get to. We Don't need the Rude Drivers that are just after money. You don't like your Job, Then go somewhere else. I would Fix the problems you have. The Talking Bus is Simple.Route 16 To Laos Transit Center I didn't know Route 16 Still Goes To Laos, Interesting It should be Route 16 To DowntownSo I am going to leave it to that for now. You have a nice day.</p> | Misc./General | Numerous comments on various routes. | No |
| <p>At the very least WEEKEND SERVICE IN RITA RANCH by the Sun Shuttle!!! People need to get up town on the weekends too!! Houghton Road to line would be great as well.</p> | Misc./General | Wants weekend service in Rita Ranch. | No |
| <p>Food for thought, it sure would be nice to have extended hours for buses leaving downtown area on Friday and Saturday nights or just for 2nd Saturday Nights for responsible adults who would like to enjoy adult beverages.</p> | Misc./General | Wants extended hours. | No |
| <p>Please keep routes as they are.</p> | Misc./General | Do not change any routes | No |
| <p>If your goal is to save monies, then why don't you reconsider the changes to the express routes also? I remember that saving to be 1 million?</p> | Misc./General | Recommends evaluating express routes to save money. | No |

Public Input on Planned Service Changes for 8/2/15

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| <p>Because of your policies regarding charges and transfers, I have great concerns about splitting routes. For many years I have been unemployed, and homeless. Places I have been able to stay at, and people I have been able to stay with, have been beyond the city's limits...and the routes and shuttle stops in those areas. At times I catch a shuttle, that takes me to a bus...which counts against my allowed transfer. Because I need to get to the other side of town, I also must pay an additional fare. The situation is the same for the return trip. Before February, I was able to take a shuttle and a #16 bus to Laos Transit Center...so I may use the services at the El Pueblo Regional Center (City of Tucson Community Services Department, D.E.S., El Pueblo Clinic Medical Services, library, etcetera). Because of changes to route #16, it now costs more for me to do that. It also costs more for me to get to use routes 4, 8, and 7. I had been going to the Pima County One-Stop location, and the Pima Community College Community Campus, on North Commerce Park Loop. Because of the extra cost, I haven't been able to continue using their services.</p> | Misc./General | | No |
| <p>In planning routes it would be good if the #34 ran more than every half hour. Weekends need more full service. Not once an hour.</p> <p>The bus stop on 25th and Craycroft going north is full of weeds. I would appreciate it if it was cared for.</p> <p>An idea for your employees. : "Use only the bus service for all travel including weekends" This includes shopping, appointments, social functions, work, etc. That way a bus schedule would be more effective.</p> <p>Honolulu buses run about every 15 minutes 24 hours 7 days a week. It's great! I have been a bus rider for over 40 years so I know what I am talking about.</p> <p>PS. The new trolley is not really "new". Years ago in Milwaukee they took out the trolley tracks to modernize and use buses with fuel.</p> | 34 | Improve frequency of Route 34. | No |
| <p>Instead of changing the routes, why don't you fix the one thing that causes the frustration and time delays. Coordination of the various buses.</p> | Misc./General | Coordinate buses better. | No |

JARRETT
WALKER
+ ASSOCIATES

Let's think about transit

Memo

To: Jeremy Papuga, City of Tucson
From: Jarrett Walker, JWA
Date: June 22, 2015
Subject: Comments on Proposed Network Changes

This memo discusses our observations regarding proposed changes to the Sun Tran network in August 2015 and February 2016. This memo is designed to provide shared understanding of our view as it stands today.

Attached to this memo and included in it by reference is a table summarizing the proposed changes and our comments, and also a set of maps showing our understanding of what the network would look like after each proposed round of changes.

Our scope was to review these changes particularly in light of the outcomes of the concurrent Transit Visioning process, but also in light of our understanding of network design best practice. We have not analyzed the details of the planned service changes for the City of Tucson FY 2016 to anywhere near the detail that Sun Tran staff has. As a result, our concerns are high-level.

The Big Picture

Difference Between Short and Long-Range Thinking

We want to emphasize that our concerns about the proposed FY 2016 service changes are not criticisms of anyone involved in preparing it. The problems arise, rather, from the fact that service changes are included in the assumptions in the FY 2016 budget adopted by the City of Tucson Mayor and Council, without the framework of a long-term plan. A long-term planning process is just beginning, and its only product so far is the draft (unadopted) Visioning report. Given that the FY 2016 service changes are a reaction to a budget reduction it is not surprising that it could be in conflict with the

Visioning report. This is a normal issue to have when there is a need to make service adjustment due to a decreased budget.

Short term planning tends to be reactive to known problems and issues. In the absence of a visioning or long-range planning framework, short-term planning tends to be especially reactive to current ridership patterns, cutting service where ridership seems low and sometimes adding it where it seems high. Sometimes staff may also be working toward a particular goal for the future network that they have in mind, but if this vision hasn't been developed in a way that is shared and adopted by enough stakeholders, they usually do not get much support to pursue that goal.

Purely short term planning, no matter how well it's done, has some limitations. For example, it relies heavily on patterns of existing ridership even though existing ridership depends on the existing pattern of service. This process is unavoidably circular. If a substantially different pattern of service is better for the city, it is very hard for a process driven by ridership analysis to discover that, because ridership data about an existing system rarely reveals such patterns.

A long-range plan arises from a very different impetus. It begins by observing that the city faces challenges that take time, consensus and leadership to address, and noting how these challenges may get worse in the future. For a city, these tend to include issues of traffic congestion, emissions, public health, economic development, and ensuring access to jobs and opportunity. None of these issues usually seems to be especially at stake in a typical short-range planning process or adjusting service to meet budgetary requirements, but they are the foundation of a long-range plan.

When a strong long-range plan is in place, the short-range planning task becomes quite different, because all planning is expected to move toward the long-range vision. We anticipate that had such a vision been in place, the service recommendations could look different. The conversation about cutting the transit budget would also have been more informed.

Special Problems of Budget Cut

Among the immediate problems the FY2016 service changes are addressing is a substantial budget reduction required by the City of Tucson. This budget direction was not based on an assessment of the degree of damage that any particular percentage cut would inflict to the various transit outcomes that the City values. The final FY 2016 service changes, whatever they turn out to be, should be presented to Council in a way

that helps them understand, at a suitably high altitude, what damage was done by the decision to cut the budget by the specified amount.

Again, if the short-range plan had been in place first, any direction to cut the transit budget, as well, would have happened with a greater awareness that this was a decision to move away from the city's transit goals, and of the specific outcomes that would likely be undermined as a result.

Level of Authority of the Visioning Report

The Visioning report – as presented to elected officials, agency staff members, and the public on Friday, June 19 – is *not* a short-range transit network plan, but it does provide some core ideas for such a plan and an impetus to develop it further. In this exercise we use the Visioning report's priorities map as though it were a short-range network plan, because nothing more authoritative is available, but we do not want to overstate the authority or comprehensiveness of that document.

Typically, a full long-range transit network plan would have a much more thorough exploration and analysis of alternatives, a stakeholder advisory committee, a more extensive and structured public discussion, and finally adoption by both PAG and the City Council.

The Visioning report is the report on one workshop of key stakeholders who worked through the city's transit issues together, and also on our own observations about the kinds of network design that tend to prosper in the long run. It is necessarily high-level. The key outcomes are maps showing recommended priority sequences for expanding the Frequent Network and beginning High Capacity Network planning.

We observed in our analysis of the workshop results that the vision networks that workshop participants drew tended to focus southern service on access to the airport – which is a citywide interest but possibly not the top priority for people living in the south. As a result, this is an area where our own high-level network ideas, expressed in the priorities map, differ substantially from the workshop networks – for example by providing east-west service in the south rather than just the north-south patterns that the workshop tended to prefer.

We therefore feel it's important not to oversell the Visioning report. Where there was strong consensus in the workshop on network design principles and major corridors, we think this is a strong indication that these are solid assumptions, but further analysis and

consensus building would be needed to lock down every detail of the proposed Visioning priorities to the point that it would constitute an overriding authority on network design. Such work is recommended but was not part of this project.

Core Visioning Principle: The Frequent Network

The most important disconnect between the proposed FY 2016 changes, and the Visioning process is the concept of the Frequent Network and especially the high frequency grid.

As outlined in that report, the Frequent Network is the set of all services that run frequently enough that customers perceive that the next bus is always coming soon. There is widespread industry agreement that the baseline definition of frequent service includes 15-minute frequency or better all day. Stronger definitions extend this service level to weekends and evenings.

Frequent Networks are associated with minimal waiting and therefore the freedom to travel spontaneously, not just on rigidly scheduled itineraries. The payoff is evident: most transit agencies report their highest all-day productivity (ridership per unit of operating cost) on their Frequent Network lines. This routine finding should nevertheless be striking because doubling the frequency doubles operating cost, which initially would cut the productivity ratio in half. The high productivity of frequent lines means that frequency, *despite its operating cost*, is the key to high-ridership transit that is heavily useful and valued in a city.

Frequency is especially powerful when it creates grid patterns, because every time two frequent lines cross, transfers are easy and fast, so each line becomes useful for reaching all the destinations on the other line. This is why frequent services in grid patterns tend to be even more productive than frequent services generally.

The Visioning process is emphasizing this frequent grid service pattern as the foundation of future transit mobility in Tucson, and this view was enthusiastically embraced in the workshop. All of the networks drawn in the workshop feature strong grid elements, and the thinking about future grid corridors, such as debates about the relative value of Craycroft, Wilmot, or Kolb crosstowns – was all informed by an understanding that these lines work only as well as their grid connections do. If this approach is confirmed as the vision, it will follow that service planning must view itself as a steward of the Frequent Network, and will be instructed to protect and enhance this product even in the face of the vagaries of the daily budget.

Portland's TriMet, for example, took this approach in the financial crisis. Their 2008 service cuts, precipitated by a steep fall in tax revenue, went out of its way to protect the midday frequencies on its Frequent Service Network, and focused instead on cuts in other areas. When the budget situation became so severe that they had to reduce midday frequencies from 15 minutes to 17 or 18 on the frequent grid, they experienced the biggest ridership drops in the history of the agency. This is easily explained when you consider how these cuts affect both the delay and reliability involved in connecting at grid transfer points. In a grid, if these connections don't work, the system doesn't work.

Transit agencies that rely on frequent networks are also using them to organize land use, and advertise them as logical location choices for people, businesses, and institutions that want or need to rely on transit. To achieve these outcomes, the frequent network must feel permanent. To that end, TriMet sometimes introduces frequent services but does not brand them as part of the Frequent Service Network until they are confident of their permanence. This also explains why TriMet did everything possible to avoid cutting the Frequent Service Network below 15-minute headways, and why restoring those frequencies has been their top priority as the economy has improved. Many other transit agencies – including such comparable cities as Las Vegas and Fresno – are now planning frequent service brands using the same principles.

Other Recommended Principles

Our thinking on these changes is also motivated by two other well-tested principles:

- Look for service patterns useful to many different people and trips. Do not focus too narrowly on any one market, demographic group, or trip pattern. This tends to require pushing back on requests for specialized service or special accommodation of some groups over others.
- Design all-day service around all-day demand. Don't design the all-day service pattern around a problem that happens only for a few hours. Overcrowding, school demand, and various other issues may come up routinely but only at certain times of day. While it's good to handle these problems with the all-day network if it is efficient to do so, designing the all-day network around these problems is usually more expensive and inefficient than just running one or two tripper buses at the times of high demand.

Both of these principles are essential for building a frequent network. Within any limited budget, maximizing frequency means running the fewest possible number of separate routes or patterns, which in turn means building lines that are useful for many purposes, not just one or two, and at all times of day and days of week. Frequent lines thrive on the *diversity* of their users and the diversity of the kinds of trips they're making.

Current Frequent Network

Tucson has no formally defined frequent network, but prior to February 2015 it did have an extensive network of services that are every 15 minutes throughout the service day. *Two of these, as noted, were cut to 20 minutes in February, effectively removing them from the frequent network.*

East-West Elements:

- 22nd st, downtown to Harrison (Line 7, cut to 20 minutes in February).
- Broadway, downtown to Wilmot (Line 8).
- Speedway, downtown to Kolb (Line 4).

North-South Elements:

- Oracle, downtown to Tohono Tadaí (Line 16).
- Campbell, U of A to Tohono Tadaí (Line 15, cut to 20 minutes in February).
- Alvernon, Rillito River/TJCC to Palo Verde & Ajo (Line 11).

There are also two South Tucson frequent radials that do not form a grid:

- S 10th/12th downtown to Laos (Line 12).
- S 6th, downtown to Laos (Line 18).

In addition, Line 9, which covers Grant between Campbell and Kolb, is frequent for several midday hours, but not all day. We do not consider it part of any implied frequent network.

Service Change Recommendations and Their Impacts

This section reviews the specific service change recommendations for August 2015 and February 16. Here, we discuss in detail specific changes that bring up more complex

network design issues. Smaller changes, and those for which we have no comment or critique are noted in the table attached to this memo. That table shows each proposed change and our current reaction to it. Also attached are maps showing our understanding of the February 2015, August 2015, and February 2016 networks, to help us see network effects and especially grid effects.

We begin by reviewing the frequency cuts to Campbell and 22nd that were made in February 2015 but which we suspect may need to be undone, all or in part, depending on their ridership impact. We think it is important to keep this issue in mind when considering the proposals for August 2015 and February 2016, because it may be possible to undo some of the more harmful impacts of those changes.

February 2015 Changes (Retrospective)

CAMPBELL AND 22ND REMOVED FROM FREQUENT NETWORK (FEB 2015)

Of the eight corridors forming what could be branded as a Frequent Network, two, Campbell and 22nd, were cut to 20 minute all day headways in February 2015, a level at which grid connection points cease to function well because transfer waits are both too long and too unpredictable. Again, the experience of other agencies is that frequency changes in this 15-20 minute range have especially large ridership impacts, especially in a grid structure. We think both of these changes are likely to be relatively harmful, not just to existing ridership but also to the potential to grow these corridors in the long term.

We understand that this change was motivated, in part, by a desire to complete an important missing link in the grid, by extending the Campbell line to touch Broadway and 22nd. This is certainly a good idea, as it makes Campbell service useful for more types of trips, including providing 22nd St passengers with a connection directly to the University. It was also motivated by the observation that ridership was falling along Campbell, and that not much ridership improvement along 22nd had been observed when its frequency was increased to 15 minutes just over a year ago.

We agree that extending Campbell service to 22nd is an excellent move but would have been more reluctant cut frequencies below 15 minutes to achieve it. As a short north-south line, Campbell is especially dependent on transfers and thus on the consistent high frequency connections with east-west lines. Extending the line south will make this even more true.

On the other hand, now that the frequency on Campbell has been cut, it may be appropriate to consider whether Euclid/1st should be the next priority for high frequency. Staff notes that university activity concentrations appear to be moving south and west, closer to Euclid than to Campbell. Euclid-1st also shows up as the most productive corridor that has only 30 minute service, which is a signal that raising that corridor to 15-minute frequency may yield even better benefits than that frequency does on Campbell. Both Campbell and Euclid-1st are high priorities for frequent service, but we do not claim to know which should come first.

Line 7 on 22nd St looks like a very logical grid element, but it is weaker than Broadway and Speedway for some obvious structural reasons. Densities are lower, and a long stretch between Park and Country Club is essentially inaccessible.

If the 20 minute headway proves to be a problem, one option is to restore the 15 minute headway but introduce a shortline in the vicinity of Kolb, with 30 minutes service further east, as demand drops off east of there. This would restore the core grid element and its frequent connections while still saving at least one bus from the line. It would also pull back the Frequent Network brand to the strongest segment of the line, to be extended east further in the future, rather than dropping this line from a Frequent Network. While some 22nd trips are busy east of Kolb, this might still be a solution if that demand occurs only on select trips. Obviously any shortline in this area is contingent on the availability of a turnaround, something Sun Tran staff have indicated may be an issue. Still, if ridership does suffer with the cut to frequency, this option is may be worth additional investigation.

A more radical option for shortening the 7 to improve its frequency would be to delete service on 22nd west of Aviation Parkway and simply run the 7 nonstop into downtown via Aviation Parkway. The neighborhood that would lose the service would still have abundant north-south service, with easy connections at Ronstadt to access 22nd. This added delay is largely cancelled out by restoring 15-minute frequency on the 7 so that the timing of connections with the southern radials is consistent.

Another option is to decide, as a matter of policy, that the city does not see 22nd as a Frequent Network corridor in the long run. While the Visioning network shows 22nd as first priority for restoration of service, this was not tested in the workshops. The workshops used a base map that showed Campbell and 22nd as existing frequent network services (the pre-February 2015) condition, so the participants were not

presented with the question of how important these segments are or how urgent it is to restore them.

Finally, staff notes that the planned reconstruction of the 22nd St bridge will make Line 7 faster, which could also contribute to making frequency restoration easier.

While further changes to Campbell and 22nd are not contemplated in the forthcoming service changes, these possibilities should be considered at least for 2016.

Minor Changes (August 2015)

LINE 11-ALVERNON: FREQUENCY INCREASE AND REMOVAL FROM LAOS TC

While this change is accurately categorized as minor for Title VI purposes, it raises some significant issues.

The proposal is to:

- Increase Alvernon frequency to every 10 minutes, and frequencies on the Ajo Way and Palo Verde segments to every 20 minutes, across a long span of the afternoon, though not quite all day.
- Combine the Ajo way of Route 11 with Route 50, making this a continuous route all the way from Palo Verde to Mission, not deviating into Laos

There are two main arguments for it:

- By deleting duplicating service along 6th Ave between Ajo Way and Irvington, resources are release to support higher frequency.
- The frequency increase on Alvernon is also a response to many indications of overcrowding.

The proposal has three obvious downsides:

- The expensive frequency increase looks lavish at a time when severe frequency cuts have just been made elsewhere. We generally recommend maximizing the extent of 15 minute frequency before introducing more 10-minute frequencies, as is proposed on Alvernon, unless we are dealing with a very short-trip market, like the streetcar's, where sensitivity to frequency is especially high. Staff has justified this frequency change as a response to overcrowding, which we discuss below.
- It severs all trips between Alvernon or Ajo Way and any of the feeder lines extending south from Laos. This trips now require an additional transfer, and:

- The proposed 20-minute frequency on Ajo Way (still 30 at most times of day) is not sufficient to make this transfer easy going north, despite the 7.5 minute frequency of Line 18. Traveling from a Laos feeder to a point of Ajo or Alvernon requires not just a double transfer, but one where the second transfer is to a lower frequency service. When Ajo is at 20-minute headways there is a further problem, which is that the time required to make the transfer varies dramatically from one trip to the next.

On balance, we advise against this change at the currently proposed frequencies, though we would enthusiastically endorse it if all-day 15-minute frequency along Ajo Way were possible. The following details our reactions in more detail.

Overcrowding and Pass-Ups on Alvernon

Sun Tran indicates that bus drivers and passengers along Alvernon sometimes report severe overcrowding. However, if overcrowding were *routine and occurring over a long period of the day*, there would also be reports of pass-ups. Pass-ups happen when there is no more room on the bus no matter how tightly people are packed in, and if severe overcrowding were the routine condition, the normal variation of loading would mean that pass-ups would be happening occasionally. Sun Tran has received no reports of pass-ups.

Sun Tran *encourages* drivers to report overcrowding but *mandates* that they report pass-ups, so while it is possible that pass-ups go unreported, we think this is unlikely to be happening routinely. Drivers are usually motivated to report pass-ups, as they tend to want to offer some encouragement to the people left behind. The lack of any reports of pass-ups suggests that there are probably many instances of severe overcrowding on certain trips, especially trips running late, but that severe overcrowding is not chronic and routine. If it were, pass-ups would inevitably occur now and then and there would be some record of them.

While Alvernon would support 10-minute all-day frequency in a network of abundant resources, the proposed frequency increase across all of Line 11 is going to seem questionable to people who are experiencing frequency cuts elsewhere.

An additional problem is that the two branches of the line have very uneven demand. Ajo Way has much higher demand than the Palo Verde / Airport branch, which suggests that in the long run the Palo Verde segment will have to be separated so that its frequency can be set lower to match its lower demand. Combining the Palo Verde segment with Swan might be one solution along these lines, so that all Alvernon trips

would flow through to Ajo Way or eventually Irvington. The latter is suggested both in the Visioning document and Gene Caywood's comment.

Meanwhile, Sun Tran may wish to do some more explicit surveying to determine exactly when and in what conditions overcrowding is occurring along Alvernon. This would help clarify whether the solution is a frequency increase or whether inserting trippers at certain times, briefly increasing the frequency to 7.5 min, is a better solution. The advantage of trippers is that they do not require increasing the Palo Verde frequency from 30 minutes to 20 minutes, which does not appear justified even in the long view of the Visioning.

Ajo Way Crosstown Proposal

Like the Grant crosstown discussed below, the Ajo Way crosstown will be a big success in the context of an eventual high frequency grid. Currently, however, the proposed frequency on Ajo is insufficient for good grid connections, and there are not enough north-south high-frequency lines crossing Ajo to provide abundant mobility payoffs in return for losing the direct service into Laos.

Severing Ajo Way from Laos has some very severe impacts on a number of logical trips inside southern Tucson. Notably, residents along Ajo Way will have great difficulty getting to important destinations in their own area, such as the major shopping areas along Calle Santa Cruz and the Wal-Mart area just west of there on Valencia.

A logical long-term structure for this area would be to expand the high-frequency grid to include 15-minute crosstowns on both Ajo Way and Irvington. One eventual possibility is for Alvernon to be combined with Ajo Way only, while another north-south high-frequency route, eventually Country Club or Campbell, is extended south and

turns west to be the Irvington crosstown.¹ Palo Verde, which is a very low priority for frequency, would then be an extension of Swan, where frequency is also a very low priority. This eventual structure, creating a southern grid, would deliver routes that allow frequency to be set correctly for each segment.

Meanwhile, our assessment is that the currently affordable frequencies are too low to replace a radial structure (centered on Laos) with a grid structure. When introducing newly required transfers, these need to be either (a) among high frequency services, so that the transfer is fast, or (b) at timed-transfer or “pulse” points where schedules can be coordinated.

In general, best practice design on the edges of grids is especially careful in designing the transition point between the inner grid area and the more radial timed-transfer area further out. Sometimes a crosstown analogous to Ajo Way is created but still deviated into the major center, Laos in this case, to retain one-transfer access to all the other routes converging there. The situation is rather analogous to Euclid and Park; on the surface they suggest a good crosstown but they are too close to Ronstadt for that to work well; they would lose too many connections by not deviating there while the time cost of deviating to Ronstadt is low. Although the distance is further, we suspect that removing the Ajo Way corridor from Laos will be a net negative for similar reasons.

LINE 8-BROADWAY FREQUENCY CHANGE AND ROUTE ADJUSTMENT

Two changes are proposed to the 8-Broadway. The first would reduce AM peak frequency from every 10 minutes to every 15 minutes. While this frequency cut will increase waiting times, likely negatively impacting ridership during this period, the

¹ We concur with Gene Caywood’s suggestion here, which is that an Irvington crosstown, described going east from Laos, would turn north on Country Club, east on Ajo Way, north on Palo Verde and etc. to continue as a north-south frequent line. This provides frequent service between Laos and the medical center at Ajo & Country Club..

proposed 15-minute frequency at least preserves the integrity of the route's grid connections.

One important aspect to this frequency change is an implied cut to the frequencies of both branches of the 8, serving Wilmot north of Broadway and Broadway east of Wilmot. These branches are not currently frequent, but cutting them from 20 to 30-minute frequency does increase waits, diminishing the service quality and likely impacting ridership. The only bright side is that the pattern of connections with intersecting 15- or 30-minute services becomes more consistent.

We note that neither of these branches was not an especially high priority for frequent service in the Visioning workshop. There was a general interest in extending the high-frequency grid further east, but apart from some shared interest in Kolb there was little consensus about priorities here. In our Visioning report we assigned relatively low priorities to improvements in this area because so many higher-ridership areas (both central and south) clearly need the frequency first.

The second change to the 8-Broadway would revise the north branch to extend out Tanque Verde to Sabino Canyon, rather than turning around via Wilmot, Grant and Tanque Verde. Line 5 would now turn around using the 8's current turnaround. We have no concerns about this change.

LINE 3 SEVERED DOWNTOWN

The Visioning report suggests that the direct link between downtown and PCC West Campus, currently provided by Line 3, should eventually be in the Frequent Network. At that stage, it would probably become an extension of the Broadway, Speedway or 22nd lines, so that customers on north-south lines east of downtown would have a one-transfer grid connection to reach PCC West Campus.

In the short run, breaking up Line 3 does introduce potential double transfers to reach PCC West Campus from many origins that now make a single transfer. On the other hand, Line 3 is so infrequent that it is difficult to transfer to in any case, so this change may not make things that much worse. In general this change moves us toward the Visioning network in that it severs PCC West Campus from a permanently low frequency line, the 5th St corridor, so that it can later be made more frequent and reconnected to a more appropriate eastern partner.

STANDARDIZING CLOCK HEADWAYS (LINE 10, 27, 29)

Some proposed changes increase the use of clock headways, patterns that repeat each hour. For infrequent service, we recommend that all headways of 30 minutes or worse be multiples of 30 minutes. This (a) makes the schedule easy to remember, (b) makes it possible to build timed connections at obvious nodes such as Laos, and also (c) ensures that even if connections are not timed, they work the same way no matter which trip you're on. We note the change of the 29's evening headway from 40 minutes to 60, and more generally we would endorse all frequency cuts that change all headways of 35-59 minutes to 60. We do not even consider these to be cuts, as they improve connectivity with other lines due to harmonized frequencies.

Clock headways are the same reason we generally recommend adjusting 20-minute headways either up to 15 or down to 30. In a network where the multiple of 15 is the dominant headway pattern, the multiple of 20 interacts awkwardly with other routes, especially half-hourly routes, causing wide swings in the connection time from one trip to the next.

LINE 34 AND 10 COVERAGE REDUCTIONS NORTH OF RILLITO RIVER

The small northward deviations of Lines 34 and 10 in the vicinity of Tohono Tadaí Transit Center are both proposed for deletion, and given the low ridership, and the alternative service via Sun Shuttle routes for the Line 10 area, we see little downside to this.

We noted a potential for a stronger change here. Line 34, which generally covers Fort Lowell, turns north on 1st to Tohono Tadaí. This potentially creates a high frequency segment along the northern part of the Euclid-1st corridor but not the higher-demand southern part. Rather than turn north at all, consider turning Line 34 south and running it into downtown via 1st-Euclid, thus delivering 15-minute headways on this high demand segment. This also solves a key problem with the Grant crosstown proposal discussed below. It would clearly be an interim arrangement because the entire Euclid-1st corridor is a high-priority for frequent service. Once that frequency is achieved, and when Fort Lowell also supports frequent service, the final configuration of Fort Lowell service should be to continue west on Fort Lowell to Oracle, then potentially take over the current 10 routing via Miracle Mile, etc. to Tohono Tadaí. This would achieve some savings by removing Line 10 from downtown, and would provide complete grid service on the full length of Fort Lowell, while retaining direct service from this corridor to

Tohono Tadaí. Again, this should only be attempted when sufficient grid frequencies are available.

LINE 25 FREQUENCY CHANGE

The minor change proposed for Line 25 would standardize the route to a 30-minute frequency all day long. Currently, the route runs every 20 minutes during the midday period from approximate 12:30 pm to 4:30 pm.

This change would improve the ability of Sun Tran to time connections throughout the day at Laos Transit Center. Additionally, Sun Tran staff plan to offset the frequencies of Line 25 and Line 2 on Irvington between Laos TC and Park, introducing a new segment of frequent service.

In addition, we strongly recommend that the next service change include a review of scheduling at Laos, to ensure that timed transfer connections among all half-hourly and hourly lines are as consistent and reliable as possible. This is an area of high transit reliance but scattered destinations, and a timed-transfer structure is the only way to deliver all trips to their destinations without long delay. Timed transfer is also a way to create more security at Laos (both perceived and actual) at the time that most customers are using it.

Major Changes (February 2016)

GRANT ROAD (LINES 9 AND 20) CROSSTOWN

Building successful grids inevitably requires taking apart historic routes that run in a more radial pattern, zigzagging into downtown. Line 9 is a route of this kind. With the emphasis on everywhere to everywhere access along the grid, combining Lines 9 and 20 to create a continuous Grant line – all the way from Greasewood in the west to Kolb in the east – seems like an easy and obvious move.

However, the frequency necessary to make this work is not fundable at this time. Successful changes of this kind require high frequency on the new grid elements, so that if passengers must transfer who formerly had a direct trip, the transfer is not too onerous. Instead, FY 2016 proposed service changes have a 30-minute frequency on the new Grant crosstown, which is insufficient for a grid effect. Line 9 now runs every 15 minutes for about six hours a day, and this would be cut back to half hourly, so the change is substantial. This change also interacts badly with the frequency cut on the Campbell crosstown, which will make it more difficult to reach U of A from outer parts

of Grant. This amounts to a transfer between a 30-minute service and a 20-minute service, which means not just long waits but waits that vary based on which trip you're on.

We recommend deferring a Grant crosstown until it can be run every 15 minutes, and until the necessary *high frequency* grid elements are in place to support it. At a minimum this would include 15-minute frequency on Campbell and Euclid-1st, which are very high priorities for this service in any case. Meanwhile, since the Line 9 frequency is too brief to count as Frequent Network service in any case, it may be possible to curtail some of this, depending on demand, to achieve some savings.

FREQUENCY CHANGE TO LINE 27-MIDVALE PARK

This change would reduce peak frequency on the Line 27-Midvale park from every 15 minutes to every 30 minutes. Currently, the 27-Midvale Park operates at 15-minute headways from approximately 2:00 pm until 6:15 pm, and serves several important destinations such as PCC's Desert Visa campus at Calle Santa Cruz and Drexel, a commercial concentration at Valencia and Midvale, and Casino del Sol, where the route has its terminus.

There is a minor conflict between the Visioning future frequent network and this frequency change. The real problem, however, is the routing, which needs to be revised at the earliest opportunity. This may not be addressable at this time but the route should be studied further in the context of February 2016 changes.

In the Visioning network, a Priority 2 frequent network segment extends down Calle Santa Cruz from Irvington, terminating at Midvale Park. This is envisioned as an extension of a future frequent network element on Irvington between Palo Verde and Calle Santa Cruz. This is an obvious and urgent improvement to the route, making it both more direct and also introducing service to the retail part of Calle Santa Cruz, north of the college, which the current route misses. This area with its jobs and shopping opportunities obviously needs access from all parts of southern Tucson.

Staff has clarified that the current coverage on Santa Clara Ave, which requires the existing route to be so circuitous, is primarily a security issue; residents in this neighborhood do not feel safe walking to the service on 12th Avenue. While this is understandable, it creates an unmanageable precedent that conflicts with the core Vision idea that routes cannot be so close together if frequencies are going to be maximized. Frequency arises from dividing the resources over the fewest possible

route segments. We therefore question whether any neighborhood can demand two parallel routes 1/4 mile apart if the Visioning network is ever to be achieved.

In addition, spending eternal operating cost is a poor solution to security issues. Modest infrastructure is often a better solution.

Meanwhile, we encourage staff to study other solutions to this problem. Deviations of the 12th Ave service may be worthwhile if they allow Route 27 to be made more rational. If Route 27 could support being 1 mile longer round trip, there is a possible (though still circuitous) solution to getting service to the developed part of Calle Santa Cruz: From Laos, operate west on Irvington, south on Calle Santa Cruz, loop the college and return north to Drexel, then east on Drexel, south on Santa Clara, and west on Valencia to terminate.

Finally, as with all these issues, it may be worth studying whether the security problems are focused at certain times of day. If it is, for example, a problem arising mostly at night, that suggests temporary or short-span solutions, such as deviating from 12th Avenue only at those times.

Conclusion

The above discussion covers the proposed changes that we think are strongly related to the Visioning and may not be aligned with it. In making these comments we want to emphasize again that we were not scoped to analyze these changes in sufficient detail to make exact recommendations, nor do we claim to know all of the considerations that led to the current proposals. We hope these comments are useful to staff as you seek the right balance between short-term and long-term considerations.

Attachments:

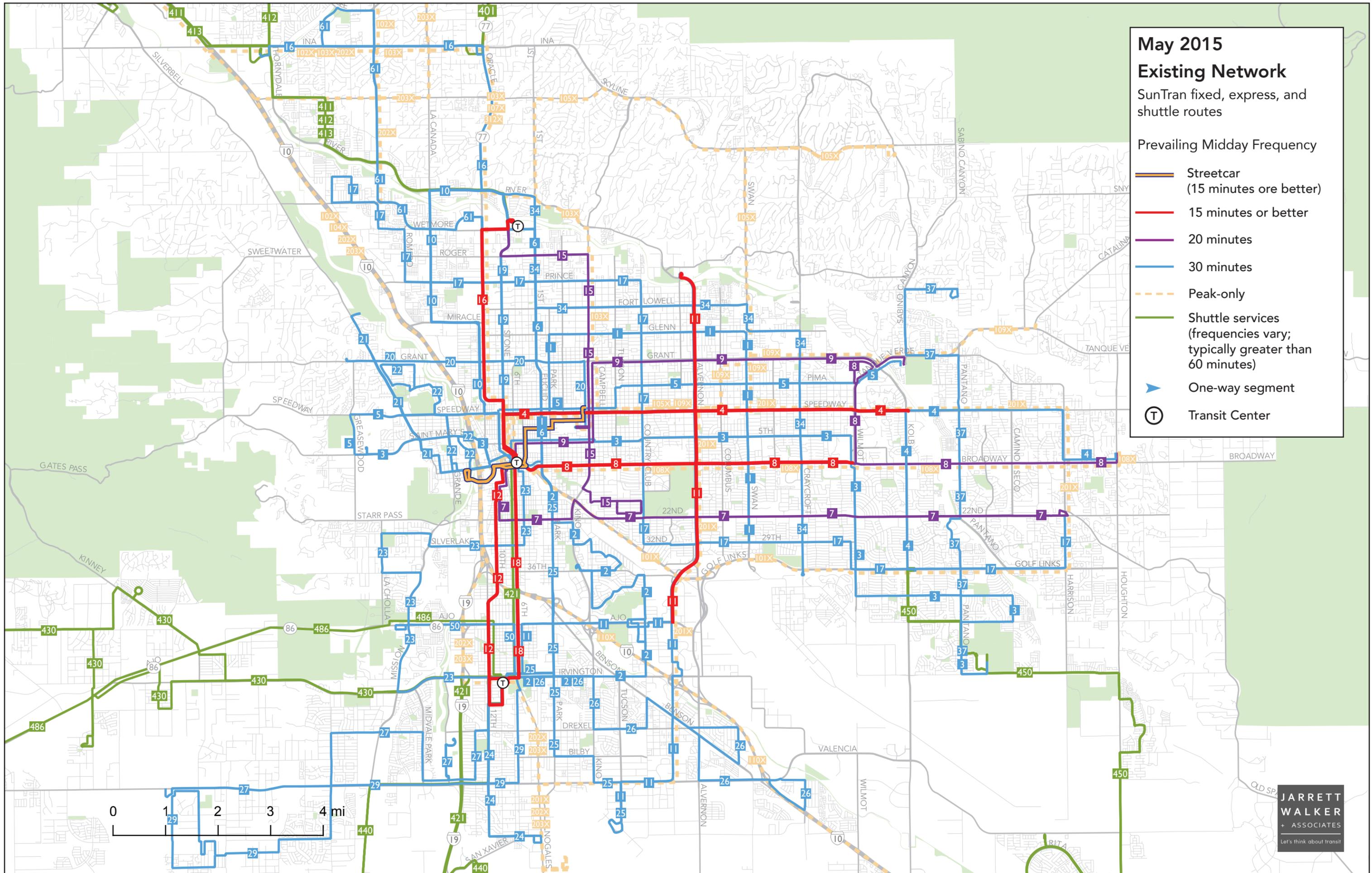
Network Maps as we understand them for February 2015, August 2015, and Feb. 2016.
Summary of Changes and JW+A comments.

May 2015 Existing Network

SunTran fixed, express, and shuttle routes

Prevailing Midday Frequency

-  Streetcar (15 minutes or better)
-  15 minutes or better
-  20 minutes
-  30 minutes
-  Peak-only
-  Shuttle services (frequencies vary; typically greater than 60 minutes)
-  One-way segment
-  Transit Center

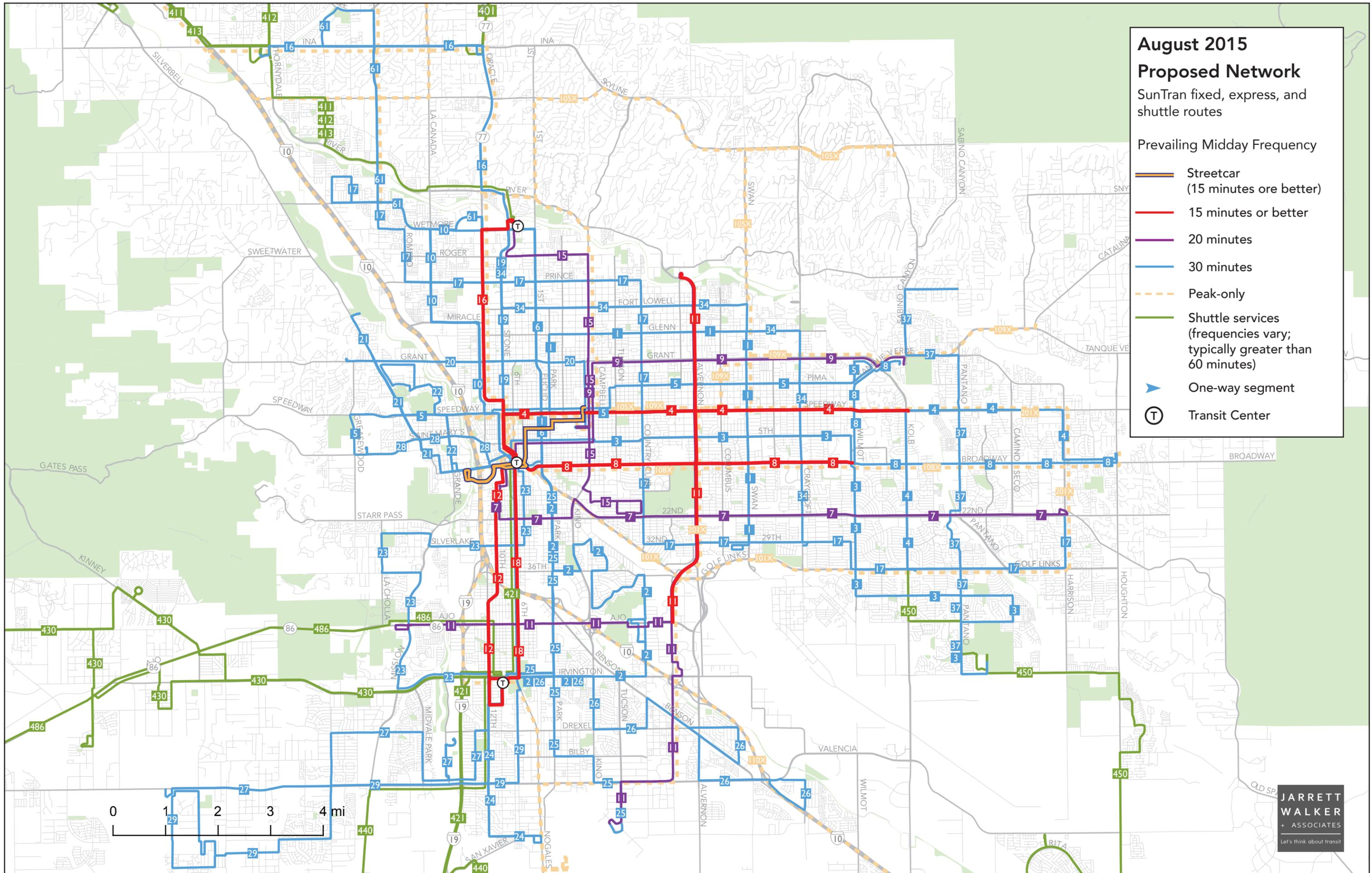


August 2015 Proposed Network

SunTran fixed, express, and shuttle routes

Prevailing Midday Frequency

-  Streetcar (15 minutes or better)
-  15 minutes or better
-  20 minutes
-  30 minutes
-  Peak-only
-  Shuttle services (frequencies vary; typically greater than 60 minutes)
-  One-way segment
-  Transit Center

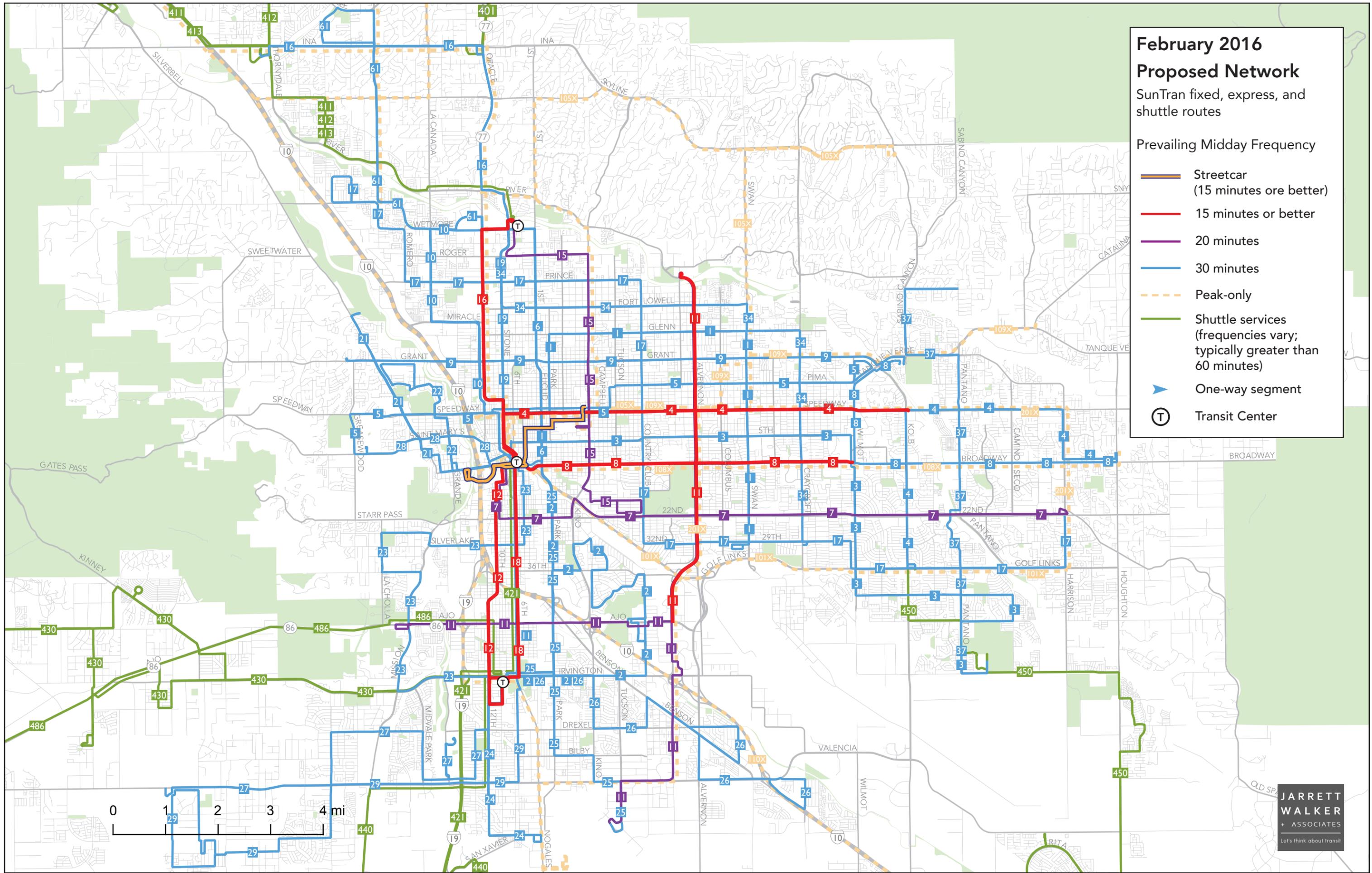


February 2016 Proposed Network

SunTran fixed, express, and shuttle routes

Prevailing Midday Frequency

- Streetcar (15 minutes or better)
- 15 minutes or better
- 20 minutes
- 30 minutes
- Peak-only
- Shuttle services (frequencies vary; typically greater than 60 minutes)
- One-way segment
- Transit Center



Minor Service Changes - August 2, 2015

| Route | Description | Type | Vision Impact | Comments |
|-------|---|-------------------------|---------------|--|
| 1 | New southeast turnaround just west of 29th and Swan | Route Adjustment | No Impact | OK. No additional comments. |
| 2 | Simplify routing through Pueblo Gardens area west of Park between 36th and 22nd. | Route Adjustment | Positive | Excellent. Increases service frequency on Park to every 15 minutes between 36th St and RTC. |
| 5 | Delete east of Wilmot; new turnaround via Wilmot / Pima / Grant (similar to existing 8(a)) | Route Adjustment | No Impact | OK. No additional comments. |
| 8(a) | Extend out Tanque Verde past Wilmot turnaround at Udall Station; basically takes this segment from the Route 5 | Route Adjustment | No Impact | OK. No additional comments. |
| 10 | Delete River Rd. segment between Wetmore and TTC; new shorter, more direct routing via Wetmore from Flowing Wells to Stone. | Route Adjustment | No Impact | OK. No additional comments. |
| 34 | Reroute from TTC to 1st and Ft Lowell via Stone, Ft Lowell. Deletes existing River/1st path, which is longer. | Route Adjustment | No Impact | OK. No additional comments. |
| 8(b) | Reduces AM frequency (From 7:15 a.m. to 11:30 a.m.) on Route 8 to 15 minutes for the current frequency of currently every 10 minutes | Frequency Adjustment | No Impact | Expect some ridership loss. Route 8 branch frequency move from 20 to 30 minutes during this time. |
| 11(a) | Increase frequency to 10 min, 20 on branches (Should be part of the 11/50 improvement) | Frequency Adjustment | Eventual | Not at this time. This frequency increase looks hard to justify while frequency cuts are underway elsewhere. If route does not go to Laos TC it must have another frequent North/south connection. |
| 25 | Decrease frequency from 20 minutes to 30 minute frequency all day (4 a.m. to 8 p.m.) | Frequency Adjustment | No Impact | This is an improvement. The offset with Route 2 between RTC and 36th/Park, to yield 15-min frequency. Potential ridership payoff of new frequent segment. |
| 10 | Adjust evening frequency from 40 to 60 minutes in the evening (7 p.m. to 11 p.m.) | Frequency Adjustment | No Impact | OK. This is an improvement. |
| 27 | Adjust evening frequency from 40 to 60 minutes in the evening (7 p.m. to 11 p.m.) | Frequency Adjustment | No Impact | OK. This is an improvement. |
| 29 | Adjust evening frequency from 40 to 60 minutes in the evening (7 p.m. to 11 p.m.) | Frequency Adjustment | No Impact | OK. This is an improvement. |
| 3 | Splits route 3 in downtown; new route 28 would provide service between PCC West and Downtown; at this time, both would operate at 30-minute frequency | Split Route / Frequency | Mixed | OK if the separability is needed. Future Route 28 is part of Visioning's Frequent Network. Adds a transfer to many trips from the east, but probably only for riders originating along 3. |
| 11(b) | Combine with 11-Alvernon Ajo branch, extending the route west from 6th to Mission | Merge Routes | Eventual | Not at this time. The proposed frequency needs to be 15 minutes to function as a grid route. This change eliminates many potential timed transfer connections for routes south of LTC. |
| 50 | Combine with 11-Alvernon Ajo branch, extending the route west from 6th to Mission | Merge Routes | Eventual | Not at this time. See Route 11 Above. |

Major Service Changes - February 2016

| Route | Description | Type | Vision Impact | Comments |
|-------|---|------------------|---------------|--|
| 9 | Combine with Route 20, operating through route on Grant from University Greasewood to Sabino and Tanque Verde | Merge Route | Eventual | Not at this time. Grid is not strong enough to support this yet. Do not do this until you have 15-minute all day service on Grant, Campbell, and Euclid-1st. |
| 20 | Combine with Route 20, operating through route on Grant from University Greasewood to Sabino and Tanque Verde | Merge Route | Eventual | Not at this time. See Route 11 above. |
| 27 | Reduce peak frequency from 15 to 30 minutes (creates consistent 30 minute frequency until 7 p.m.) | Frequency Change | No Impact | Light conflict with Visioning map regarding frequency along Calle Santa Cruz and to WalMart, which has this as a frequent segment. |