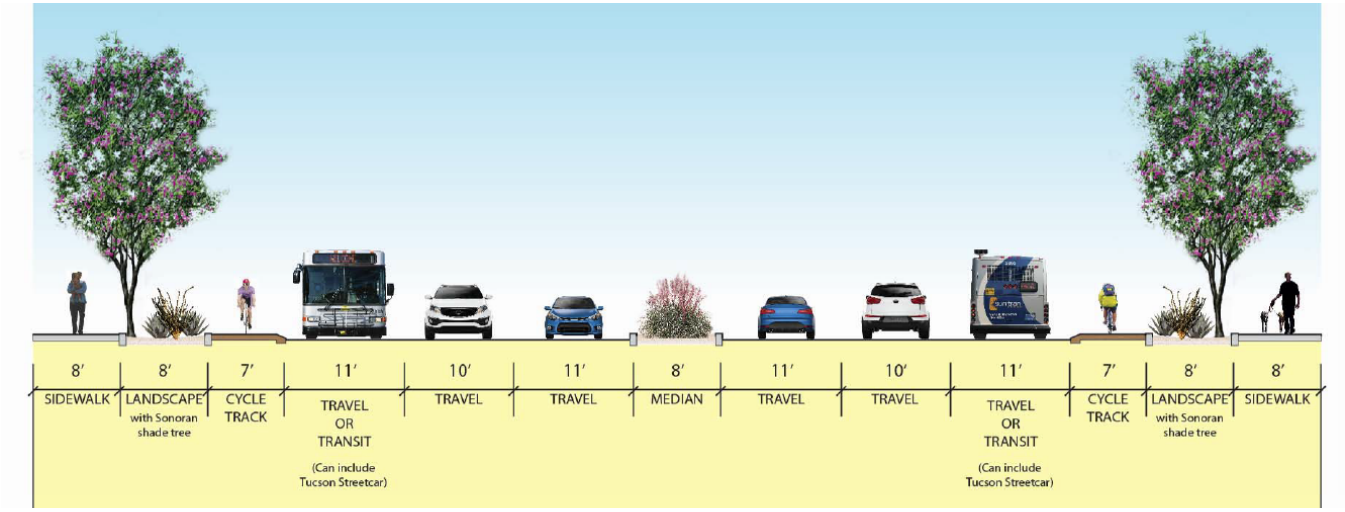
To: Broadway Citizens Task Force
From: Broadway Project Team
Date: August 4, 2014
RE: August 7, 2014 CTF Meeting Materials for Item 8. CTF Discussions and Recommendations: Block-by-Block Analysis of Map Variations

As requested by the CTF at the July 17, 2014 meeting, time is set aside for the CTF to do a block-by-block review of alignment variations at key locations as part of this item. It is anticipated that these discussions may result in possible recommendations for the roadway width and placement. This memo describes the materials for the Task Force to review together. Staff and project team will be present to respond to questions.

Alignment Variations

The variations used for your consideration represent blocks between major intersections, which have not yet been designed, but will be influenced by the alignment placements between these stretches. The general design widths apply:

Roadway lanes, next to median and outside lanes	11 feet
Roadway lanes, middle	10 feet (City minimum = 11 feet)
Turning lanes	10 feet
Medians (vary in size)	2 feet – 30 feet
Median Pedestrian Crossing Refuge	8' nominal, 2' minimum, widens as necessary to accommodate left turn bays
Bike Lanes (Cycle Tracks)	7 feet (includes buffer/curbing)
Sidewalks	8 feet (in places narrows to 5 feet)
Landscaping	8 feet (including curb, in places narrows to 4 feet and less)



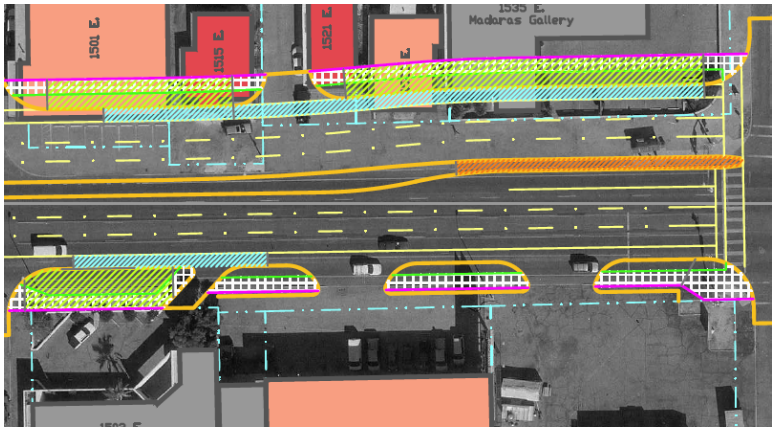
Prototypical 118 foot wide cross section

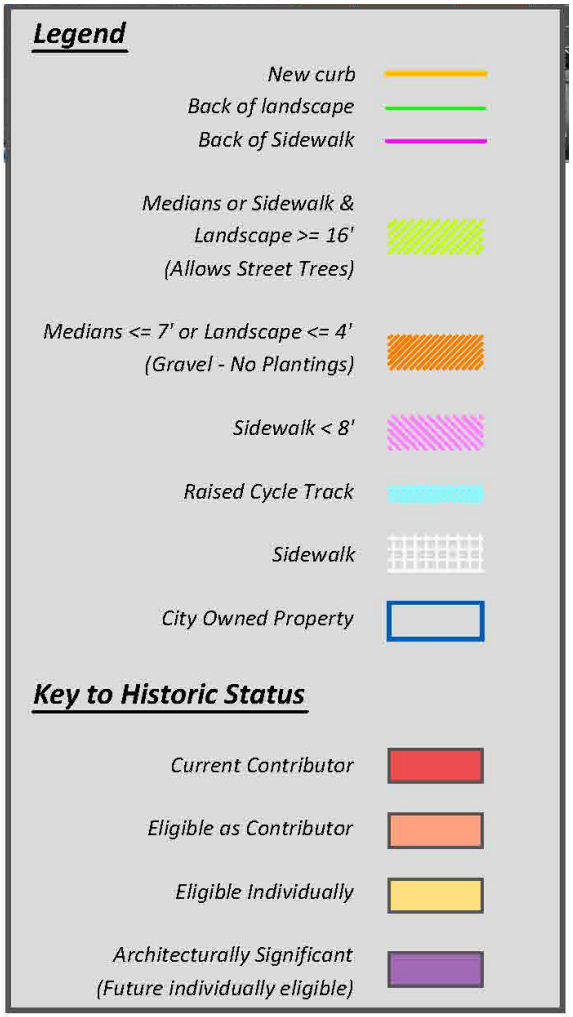
Santa Rita Avenue to Martin Avenue Variations		
Variations	**Park to Santa Rita Avenues**	**Santa Rita to Campbell Avenues**
Variation 1 Avoid buildings impacts to the north, particularly those that are contributing structures for the Rincon Heights Historic District	• Widen to the north because of cost considerations, city already owns properties between Park and Fremont	• Shift south as quickly as possible to avoid impacts to buildings in Rincon Heights Historic District • Shifts north after First Assembly of God Church to minimize impacts to commercial properties on the south side (all 4 variations are similar in regards to Campbell Avenue intersection alignment)
Variation 2a Primarily focused on avoiding impacts to Miles Exploratory Learning Center and some additional buildings along the south side	• Widen to the north because of cost considerations, city already owns properties between Park and Fremont • Southside local access lane and on-street parking to reduce impacts to businesses between Park and Fremont Avenues	• Shift towards the north as approaching Highland Avenue to avoid direct impacts to Miles ELC • Approaching Warren Avenue shift south to minimize impacts to the First Assembly of God Church • Campbell intersection and approach same as other variations
Variation 2b Same as Variation 2a, but with bus left turn provided at Vine Avenue	• See Variation 2a	• See Variation 2a • Like Variation 3, provides left turn for west bound school buses at Vine Avenue to avoid Miles ELC buses having to circulate more extensively in Miles Neighborhood
Variation 3 Attempt to compromise between Variations 1 and 2; minimal property impact to Miles Exploratory Learning Center and narrower sidewalks to reduce extent of widening to the north results in 7 less contributing buildings being impacted compared to 2b, but still many potential acquisitions so that the potential acquisition cost is about $0.8 million lower than 2b.	• Similar to Variation 2, but narrower south side sidewalk from Fremont to Santa Rita	• Narrow sidewalk and landscape area on south side to reduce extent of north widening • Some property impact to Miles ELC, narrower sidewalk adjacent to school • Cherry to Campbell is similar to Variation 2 but with narrower south sidewalk and less widening on north side

Olsen Avenue to Tucson Boulevard Variations		
Variations	**Norris to Plumer Avenues**	**Plumer Avenue to Tucson Boulevard**
Variation 1 Minimize south side impacts between Norris and Plumer Avenues and minimize north side impacts between Plumer and Smith Avenues	• Provide local access lane for parking access on south side from Norris to Olsen Avenues • Shift alignment to the south approaching Plumer Avenue to allow for local access lane on north side	• Provide local access lane for parking access on north side from Norris to Smith Avenues • Shift alignment north as approaching Tucson Boulevard to minimize impacts on the south side
Variation 2 Minimize south side impacts between Norris and Plumer Avenues and south and north side impacts between Plumer and Tucson Boulevard	• Same as Variation 1	• Provide local access lane for about ½ of block on north side from Norris towards Smith Avenues • Shift alignment to the north sooner and further north as approaching Smith Avenue • Continental Building is directly impacted • South side businesses with street fronting parking have local access lane to minimize impacts
Variation 3 Minimize south side impacts between Norris and Plumer Avenues and maximize building preservation on south and north sides between Plumer and Tucson Boulevard	• Similar to Variations 1 and 2 • Slightly less shift to the south as approaching Plumer Avenue	• Impacts all street front parking • Only 1 direct building impact • Has estimated acquisition cost that is third highest
Variation 4 Intent is to reduce or eliminate south side impacts from Norris Avenue as far east as feasible without directly impacting the Continental Building which is identified as being individually eligible for historic structure status; acquisition cost is highest of the four	• From Norris to Olsen similar to Variations 2 and 3. • Shifts further north from Olsen toward Plumer and directly impacts buildings on northeast corner at Plumer.	• Provides some street fronting parking between Plumer and Smith for north side businesses • Otherwise similar to Variation 3

Map Legend Overview

Additional information has been added to the alignment maps to assist the CTF in assessing variations in ability of the resulting street designs to provide pedestrian space, landscape for water harvesting/green infrastructure and shade, space for cycle track. The following is the legend from the alignment maps and a sample area from an alignment map:





- Sidewalks highlighted with a white grid, and sidewalks narrower than 8 feet in width have a pink hatching.
- 16 foot or wider areas of median or landscape and sidewalk are highlighted with a green hatch, because these are wide enough to have a shade tree which can provide a pedestrian comfort and urban heat island benefit.
- Medians that are less than 7 feet in width and side landscaped areas less than 4 feet in width are highlighted in orange, because based on current TDOT Landscape Architect practices these areas would not be planted and would be either rock/gravel or concrete paved.
- The portions of the bicycle lane that can have a raised cycle track treatment as illustrated in the base street section are highlighted in a light blue hatch. These are off-set from intersecting streets and major driveway access points and for locations where a right turn lane is provided and vehicles must cross over a bicycle lane. In addition, resulting short segments of potential cycle track have been eliminated to avoid a "roller coaster" effect for cyclists.

Block-by-Block Acquisition Costs Tables

Tables reflecting estimates of acquisition costs, as well as building impact and acquisition estimates, are provided block-by-block on the maps as well as with a total for each full variation.

Miles 2. 1400E -- Highland to Vine

	DB Impcts	Prbl Acqs	Prbl Cost
North:	6	6.25	$1.90
South:	--	--	--
Total:	6	6.25	$1.90

In the above example, the alignment variation for the Highland to Vine block directly impacts 6 buildings. Property acquisitions for non-building impacts are added to the direct building impacts to provide the total of 6.25 probable property acquisitions. The combined direct building impacts and other property impacts result in an estimated cost of $1.9 million dollars for acquisition in the block between Highland and Vine for this alignment variation. A more detailed explanation of the methodology used in estimating impacts and acquisition costs is included in Appendix A of this memorandum; however, a summary of the formula used to develop these costs is:

Summary of Formula used to determine Acquisition Costs:
Direct Building Impacts = 1.00 x estimated property acquisitions costs
High Risk for Acquisition = 0.75 x estimated property acquisition costs
Medium Risk for Acquisition = 0.25 x estimated property acquisition costs

Street Design Concept Rating Sheet

At the request of the CTF, the planning team has prepared a rating sheet to help facilitate the review of the alignment alternatives. It is organized by performance topic area with key performance objectives listed. The factors that contribute to an alignments performance are noted. Space is provided for rating of a variation's performance:

1. No support
2. Minimal support
3. Adequate support
4. Strong support

Then there is room for notes.

The sheet also provides space to mark which concept and which block (or section) of the concept is being assessed, space for noting your name, and the date when you did the rating. The intent is for the

rating sheet to help organize your thoughts about the strengths and weaknesses of the alignment alternatives.

A sample rating sheet is provided as an attachment to this memorandum, and hard copies will be available at the August 7, 2014 CTF meeting for your use.

APPENDIX A: Methodology Used to Estimate the Number and Cost of Probable Acquisitions

To help choose between roadway configuration variations, a process has been developed to identify not only those properties for which the buildings would be directly impacted by the corridor improvements, but also those whose structures do not directly conflict with the improvements but are likely to end up being acquired due to loss of parking or other factors. This appendix describes how the likelihood of particular parcels being acquired for a given configuration is determined for the purposes of these conceptual comparisons, and the resulting number of probable acquisitions. It also describes the process that has been used to determine comparative acquisition costs.

LEVEL OF IMPACT

When a building on a particular property lies in the path of actual construction, it will have to be removed or remodeled to resolve the conflict with the new improvements. Such properties are fairly easy to identify from the drawings. Parcels subject to direct building impacts are considered here to be full acquisitions.

Not so straight-forward are parcels which have less obvious impacts, due to factors such as loss of parking. A particular property with no parking may not be desired by the property owner, even if there may solutions to make the property viable; ~~and~~ therefore, it may be at high risk of being acquired. Where several such parcels are clustered together however, the opportunity to retain some structures and to avoid acquiring some parcels exists. As parcels are acquired, it is possible that remnants from some can be purchased to provide private parking for others. The City is statutorily unable to directly acquire property specifically for that purpose. How many private property owners will be interested, however, cannot be determined with certainty. For this analysis, it has been assumed that 75% of parcels identified at high risk of acquisition will ultimately be acquired.

Parcels from which relatively small areas are required to construct the improvements, where the function of the property would not be substantially diminished, are considered at “moderate” risk of acquisition. Though it would logically seem that full acquisition is not called for in such cases, previous experience has shown that full acquisitions can occur in these cases. For this study, 25% of moderately impacted parcels have been assumed to be ultimately acquired.

PROBABLE ACQUISITIONS

Within a particular set of variations, a block-by-block determination has been made of the probable number of acquisitions based on the discussion above. All of the parcels whose structures directly conflict with the proposed improvements are assumed to be full acquisitions. Of those determined to be at high risk, 75% are assumed to be acquired. Of those at moderate risk, 25% are assumed acquired.

For comparing property impacts, the number of probable acquisitions is considered here to provide a more realistic comparison than the number of direct building impacts.

PROBABLE ACQUISITION COST

Tierra Right-of-Way, a consultant on the Broadway Project Team, has provided general information regarding acquisition costs on a block-by-block basis. Those costs include not just the purchase of property but also relocation of occupants, title reports, and other administrative costs, as well as all related demolition and environmental assessment costs where direct building impacts occur. These estimates are as complete as possible at the current stage of project design. The City will not provide cost information for specific parcels.

To estimate comparative costs for the different variations, the block costs have been pro-rated among the affected parcels based on publically-available assessor full cash value (FCV). The pro-rated shares are multiplied by the risk of acquisition values described above--that is 1.00 for direct building impacts, 0.75 for parcels at high risk of acquisition, and .25 for parcels at moderate risk of acquisitions. These values are also shown on the drawings to allow them to be compared.