



## Broadway Boulevard, Euclid to Country Club

### OVERVIEW OF PLANNING, DESIGN, AND STAKEHOLDER PROCESS TO RESULT IN THE DESIGN CONCEPT REPORT

JULY 18, 2012

Dear Citizen Task Force Members--

Welcome to the Broadway Boulevard Project. We now begin the nitty-gritty of setting a course for the next 18 to 24 months of defining the preferred design for Broadway and its relationship to the surrounding context of the corridor. This communication outlines the general and specific tasks we currently expect to encounter. It also describes the inputs we think will be needed from the Citizen Task Force (CTF) to successfully complete this project.

Specifically included are (1) a definition of the planning and design process to give an overview of what we hope to accomplish and how we--at least at present--are generally proposing to do so; (2) a discussion of what we believe to be primary issues and tasks lying ahead, again as we presently view the situation; (3) a description of the activities we will be undertaking together once a decision on the overall corridor development approach has been made; and (4) a compendium of issues and questions--large and small--that have occurred to us as needed to be addressed in this process. Many of these you will see have been incorporated into the planning and design process.

Please note that this is only our initial take. We expect to work with you to refine and update this process as events dictate along the way. This document will nonetheless provide you with a sense of the sorts of issues that we will likely encounter and plausible approaches for dealing with them.

As you will see, this is an interesting and challenging project. It offers the opportunity to create a unique, vibrant corridor that Tucson can be proud of, one that serves a much greater function than simply moving arterial traffic. We are enthusiastic about this prospect and hope you are as well.

Sincerely,

The Project Technical Team

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## **SECTION 1. DEFINITION OF THE PLANNING AND DESIGN PROCESS**

This phase of the Broadway Boulevard project has a set goal of achieving a Design Concept Report (DCR) that will be arrived at through a Context Sensitive approach. The following provides more detail about what the DCR is and what the Context Sensitive approach will entail. We expect this process will be refined in reaction to stakeholder and agency input, project design, and technical analysis as we move forward.

### **The Two Stages of the Planning and Design Process**

The primary focus of the project at the present time is establishing how to improve Broadway Boulevard and the corridor along it to best suit the needs and goals of the community. This effort will culminate in the Design Concept Report (DCR) which will document the alternatives that were considered, how they were evaluated, and the choices made in developing the approach for corridor improvements. An important part of the DCR will be preliminary plans (approximately 15% complete) which will define many of the physical aspects of the selected corridor development approach. The CTF and other project stakeholders will play an important role in this process and in the choices that are made moving through the DCR process. This initial effort referred to here as the "DCR process" for convenience, is expected to take from 18 to 24 months to complete.

Once the DCR process has been completed, final design will begin during which detailed plans and specifications for the adopted roadway, streetscape, and landscape improvements will be prepared. A detailed land use plan will also be developed. That process is referred to as "final design" and will take about a year. Stakeholders and the CTF will continue to be involved in final design as well.

### **The Big Picture Decision**

The end goal of the DCR process is a decision on how to pursue the development of the Broadway corridor. This includes a set of issues or questions that need to be addressed holistically and in an integrated manner.

1. The configuration of the roadway itself. That includes the alignment --will the widening be to the north, the south, or some combination of the two (assuming it needs to be widened), the number of lanes--six or eight, and so forth.
2. The landscape/streetscape schemes to be employed at various locations along the corridor. Will wide sidewalks be included to better accommodate pedestrians? Will separate bike lanes be provided or will bikes share a "diamond" lane with buses as is currently the case east of Country Club? Will the hardscape of pavement, sidewalk, parking lot, and buildings be broken up using landscaping and what type of landscaping (i.e. number and species of trees and other plants)?
3. What sorts of land use should be encouraged in the corridor and how should the roadway and landscape/streetscape improvements be compatible with that? For example, how can access between the roadway and adjacent development be made safer and easier? How can the pedestrian and bicycle environment be designed to encourage shopping and other commercial activity? How can buildings be oriented in relation to the street to best complement it and improve economic vitality?

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In developing the design concept we need to consider these issues together in the context of the overall function and community values.

### **Context Sensitive Solutions Approach**

As discussed at the first CTF meeting, a "Context Sensitive" approach will be followed in developing the corridor design. (This has also been referred to as a Context Sensitive Solutions or CSS approach.) Important elements of a context sensitive approach are (1) that it accounts for the unique needs and qualities of the project area as well as the community at large, and (2) it involves public input throughout the planning and design process. Another aspect of this approach is that its actual mechanisms are flexible and adjustable to the particular project and how it develops over time. You can find additional information about the Context Sensitive approach to planning and design of transportation improvements by looking at the following resources:

- <http://contextsensitivesolutions.org/> - a site managed by the Federal Highway Administration that provides a broad overview of CSS;
- <http://ite.org/css/> - a webpage managed by the Institute of Transportation Engineers that describes the application of CSS principles in urban and walkable environments;
- The ITE's recommended practice for CSS in conditions similar to Broadway can be downloaded at <http://www.ite.org/emodules/scriptcontent/Orders/ProductDetail.cfm?pc=RP-036A-E>.

### **Sponsoring Agencies**

The sponsoring agencies--that is the agencies providing the funding for this project--are the City of Tucson, the Regional Transportation Authority (RTA), and Pima County. The City is the lead agency for the planning, design, and construction. The RTA will contribute the bulk of the funding through the regional half-cent sales tax passed by Pima County voters in 2006. Pima County will provide funding from its 1997 bond package. These agencies will make the final decisions regarding this project.

### **Project Vision and Goals Framework**

One of the first tasks of the DCR process will be to establish the "Project Vision and Goals Framework". This will be a documentation of public needs, wants, and expectations for the corridor and will serve as a guide to the development and evaluation of various strategies and approaches for developing the corridor. This will be developed in collaboration with the CTF and sponsoring agencies. Input from the general public will be included in the development of this document. Not all of the visions and goals held by the various individuals and groups with interests in Broadway will necessarily be compatible, reflecting the tensions surrounding this project that currently exist in the community as discussed below.

The Vision and Goals Framework will be a working document. As we progress together in developing design concepts and the DCR, the need for changes may arise as we learn more about the possibilities for Broadway and work through the various tradeoffs between various goals and visions. The desire is to ultimately define a Vision and Goals Framework that

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everyone can agree with. This and many of the other tasks and issues described here are more fully discussed later in Section 2.

### **How the Corridor Development Approach Will be Determined**

The process we will undertake to determine the corridor development approach will rely on the formulation and evaluation of alternatives. The technical team will work with the CTF to define a set of initial alternatives reflecting the various visions of the corridor building from the Project Vision and Goals Framework. The technical team will evaluate the alternatives to determine the various benefits, costs, and other impacts. These results will be discussed among the technical team and the CTF, and a refined set of alternatives developed. That could consist of particular alternatives being discarded, new ones added, or existing ones adjusted. This process will be repeated iteratively, leading over time to a selected approach.

### **Evaluation Criteria**

The technical team will work with the CTF to establish the criteria by which alternatives are evaluated. These criteria will reflect the Project Vision and Goals Framework. They will cover a range of categories set up to measure various community-valued functions of the corridor.

### **Identifying and Resolving Tensions**

Conflicts, or tensions, between differing perspectives on how the Broadway Boulevard corridor should ultimately look and function now exist and others may emerge through the DCR process. These need to be identified and defined in specifics to help the technical team and the CTF better understand the various stakeholders' aspirations and fears regarding this project. The analysis and candid discussion of the Context Sensitive process will result in a realistic assessment of the tradeoffs associated with various approaches--that is the cost and impacts as well as benefits--and facilitate the process of achieving the broadest possible agreement on the future design for the Broadway Boulevard corridor.

### **Technical Support**

For the Context Sensitive process to work well--and for this project to be successful--decisions by the CTF, elected officials, and the general public need to be sound and well informed. It is the job of the technical team to provide the information and analysis needed to do so. Regarding CTF participation, this process will generally include (1) identifying issues and questions where input is needed, (2) presenting the options that exist, and (3) explaining the technical pros and cons such that informed decisions can be made. In many cases, the technical team will provide and explain its initial recommendations as a starting point for discussion and refinement by the CTF.

### **Meaningful and Informed Public Input**

As noted above, public input is a key component of the Context Sensitive approach and an important part of its success. The primary source of public input will be through the CTF via regularly scheduled meetings. General public input will occur as well through public meetings

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including interactive workshops and open houses, calls to the audience at the end of each CTF meeting, and through emails and comments made through the project website.

To ensure that the breadth of public interests are represented in the design and decision-making process, separate meetings will be held at key points during the DCR process with neighborhood and business groups, elected officials, sponsoring agencies, and other groups and individuals with specific interests in the project.

### **Technical Advisory Committee**

In addition to the CTF and the sponsoring agencies, input will be sought from a Technical Advisory Committee (TAC), yet to be assembled. The TAC will consist of planning and design professionals from within the community including agency staff. Though acting only in an advisory capacity, the TAC will have much experience and expertise to offer and will be of great benefit to the project.

### **Review Process**

The various reports, plans and findings prepared by the technical team will be reviewed and commented on by the CTF, the TAC, and sponsoring agencies. The documents will be revised accordingly, and if appropriate, the review process repeated.

## SECTION 2. PRIMARY ISSUES AND TASKS

During the course of the project to date, the technical team has developed an initial sense of the issues that will be encountered and tasks that will need to be performed during the DCR process. This section describes these including in some cases examples to help illustrate them. Additionally, some preliminary tasks and inventories that are ongoing or have already been completed are also presented here. The primary purpose of this section is to provide an overview of the work ahead as well as that which has already been performed. The following issues and tasks contained in this section are:

- Project Vision and Goals Framework
- Evaluation Criteria
- Caveat: Private Property Development Rights and Project Discussions of Future Land Use Options
- Existing Studies, Data, and Reports
- Review Northward Alignment Approach
- Corridor Development Alternatives
- Evaluation Process
- Achieving Resolution
- Decision Point
- Major Intersections

### **Project Vision and Goals Framework**

This task will result in a framework for the vision and goals of the project from the perspectives of the project's various stakeholders. Ultimately the target for this project is to have a general consensus of a shared vision for the future of roadway, roadside development, and adjacent land as well as a set of goals for what the public investment in the project will support in terms of

- Multi-modal mobility and access;
- Land use and development character;
- Economic sustainability and revitalization;
- Environmental sustainability; and,
- Other terms to be defined by project stakeholders.

Given current discussion in the community, it is unlikely that a consensus can be reached in defining a shared vision and goals early on. This task will focus on developing a framework for the vision and goals working with the various project stakeholders including:

- The City of Tucson (economic development, transportation, etc.);
- The RTA;
- Property owners and businesses along Broadway;
- Residents of the neighborhoods adjacent to Broadway; and,
- People from throughout the region that use the roadway to commute or to reach the businesses along Broadway.

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The framework will constitute a clear set of visions and goals that can be used to develop, assess, and refine the roadway and roadside development design as well as approaches for future land use along Broadway. Exploring these options will engender discussion among stakeholders that can lead to a consensus vision and goals and shape a preferred concept for roadway and roadside design. A report will be prepared documenting the Project Vision and Goals Framework.

### **Evaluation Criteria**

A set of criteria will be established for rating or comparing general corridor development approaches. These criteria will reflect the Project Vision and Goals Framework, and will be formulated to measure the overall performance of corridor alternatives, as well as costs and impacts. In establishing the evaluation criteria, we will also define the processes by which they will be applied and the "acceptable" and "desirable" limits for each criterion established.

They will cover a range of categories set up to measure various functions of the corridor, such as:

- Multi-modal transportation function; (see examples below)
- Commercial/residential viability; (see examples below)
- Pedestrian and bicycle friendliness;
- Visual quality;
- Protection of historic resources;
- Impact on valued buildings;
- Suitability for future high capacity transit;
- Respect for Tucson history and culture,
- Broadway's function as a gateway into downtown,
- Creating a sense of place that the community values and can be proud of, (see examples below), and
- Project Costs (see examples below).

The project team will work with the CTF and the TAC to develop the criteria, and the sponsoring agencies. The following are examples of criteria that could be used:

#### ***Transportation Function***

- Arterial traffic measured by level of service, time to traverse the corridor, total delay time, and/or similar measures of performance at various times of day;
- Transit based on frequency of service, perceived wait time and travel time, actual speed, and provisions for waiting passengers;
- Bicycle traffic measured using the quantitative procedures the 2010 Highway Capacity Manual which consider vehicle volume in outside lane, percentage of heavy vehicles, vehicle speeds, widths of travel and bicycle lanes, pavement quality, cross street width at signalized intersections, and the number of unsignalized intersections and driveways;

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- Pedestrian traffic also measured as level of service per the 2010 Highway Capacity Manual which considers factors such as vehicle volume in outside lane, vehicle speeds, presence and width of sidewalk and buffer, lateral separation between vehicles and pedestrians, right-turns on red and permitted left-turns during "Walk" phase, and crossing delay (signalized and uncontrolled), and locally-specific measures, such as shade.
- Multi-modal transportation measures, such as using person trips rather than vehicular trips to measure delay and travel time.

#### ***Commercial/Residential Viability***

- Potential ability to use existing or remnant parcels for commercial development. (Larger--particularly deeper--parcels are suitable for a greater range of development types.);
- Revenue production *potential*, the estimated revenue that would be produced through property and sales tax of developed property. (Note the emphasis on the word "potential" and the caveat discussed next regarding the use of private property);

#### ***Business Impacts***

- The number and size (based on number of employees) of businesses to be relocated. This will be based on information developed by MainStreet;
- The number and size of businesses remaining and having to endure the construction;
- The extent to which the improvements once completed will enhance the business environment;

#### ***Sense of Place***

- The impact to significant structures impact determined both in terms of number and importance;
- Impact to historic structures;
- Visual quality that will exist once the improvements are complete;
- The sense that the corridor acts as a gateway to downtown;

#### ***Project Cost***

- Construction Cost. Approximate construction costs for each alternative will be determined for comparative purposes;
- Right-of-way Cost. Acquisition and relocation costs for the various alternatives will be determined based on information provided by Tierra; and,
- Operations and Maintenance Cost. Approximate or relative costs of operating and maintaining transportation systems--the roadway, streetscape, lighting, landscaping, etc--will be estimated.

A set of criteria for the project will be developed in conjunction with the CTF, the TAC, and the sponsoring agencies.

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## **Caveat: Private Property Development Rights and Project Discussions of Future Land Use Options**

The commercial functions of property fronting the roadway are an important component of the overall function of the corridor. Private businesses serve the needs of nearby residents and commuter alike, and planning the corridor to allow or encourage commercial activity is appropriately included in the overall process. It is noted here, however, that the City of Tucson does not have the ability to compel any particular use of adjacent property. State law, for example, precludes a jurisdiction's ability to condemn property other than that strictly needed for the roadway construction itself. A jurisdiction cannot, for example, purposefully acquire properties under their rights of Eminent Domain or through legal condemnation actions in the middle of the block to create side parking for remaining parcels or new redevelopment opportunities to create an overall viable block.

Similarly, the City of Tucson cannot guarantee variances from zoning and other codes, or ordinances that would be needed to employ some of the boulevard concepts that would otherwise preserve some buildings. Concepts such as reducing front setback, signage, and parking requirements may make sense from a planning and commercial perspective. However, these concepts would have to be considered carefully on an individual property-by-property basis at the property owners' initiative for compliance with the various City of Tucson codes, regulations, ordinances, and other institutional requirements that may apply, and the plausibility of securing any necessary changes or variances.

For these reasons, discussions throughout the project's Planning and Design Process that pertain to any future or potential land use options shall be conceptual and strategic in nature.

## **Review Existing Studies, Data, and Reports**

There are a number of existing plans, studies, and data that focus on Broadway Boulevard in general, or on the project area in specific. Five key studies were commissioned since 2008 that will be presented to the CTF and TAC, and discussed.

***Traffic Analysis*** -- An initial traffic report for this project has been completed by Kittelson and is posted on the project website. That study addresses transit, bicycle, and pedestrian movement, as well as vehicular traffic. Additional analysis and input by Kittelson will be needed throughout the DCR process.

***Existing Land Use and Urban Form Assessment*** -- An inventory and assessment of existing land use and urban form has been prepared by CD+A. This information will be used in establishing the Project Vision and Goals Framework and in formulating and evaluating corridor development alternatives within the context of the area. A report documenting this effort will be posted on the project website in the near future.

***Historic Buildings Inventory Report*** -- Swaim Associates in partnership with Ralph Comey Architects, Jennifer Levstik, and the Tucson Historic Preservation Office has identified structures in Broadway considered eligible for listing on the National Register of Historic Places (NRHP) either individually or as contributors to a historic district. Information developed for the pending Rincon Heights Historic District was used as well. This inventory

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will be used to determine impacts to historic structure of various corridor development alternatives. Note that this survey did not address the quality or importance of structure, only if they are historic. The 'Existing Land Use, Urban Form' report, described later in this section, includes a ranking of the structures. The draft report, dated June 15, 2012, is posted on the project website.

**Significant Structures Inventory** -- Swaim Associates has also evaluated and ranked properties along Broadway in terms of historic and architectural significance. The significance of historic structures has been ranked based on degree of integrity, design quality, importance of building, and uniqueness of building. This determination considered design quality, building condition, contribution to streetscape, site functionality, economic value, and community function.

Structures that are not historic but none-the-less provide architectural value or interest to the community were also identified and ranked in terms of importance. This evaluation considered the architectural significance and coherence of the design, how well the building conveys its character-defining features, and whether the integrity of the original design is maintained.

The inventory of significant structures will be included in CD+A's existing land use and urban form report just cited. That data will also be used in the evaluation process. The report documenting this will be posted on the project website in the near future.

**Accommodating Future High Capacity Transit** -- PAG's adopted plan regarding transit identifies Broadway as one of two "priority" high capacity transit (HCT) corridors in the region. That plan calls for incremental implementation of HCT with bus rapid transit (BRT) for "near term" and light rail transit (LRT) for "long term". Near term accommodation of HCT will be through buses operating in diamond lanes if the eight-lane section is adopted, or in the outside travel lanes if a six-lane section is used with pullouts at each signalized intersection.

It is noted here that communities are increasingly choosing BRT over LRT as a long-term HCT solution, and that could in fact become the case in Tucson as well. A future BRT system would require essentially the same lane, boarding, and other facilities however, and the ultimate mode of HCT would not substantially affect any accommodations for future transit made under this project.

Plausible approaches for accommodating future LRT will be identified for each corridor alternative considered. These approaches will include where to place tracks, stations, and other LRT facilities, and what, if any, measures to take with the current project toward that eventuality.

For example, future rail could be placed in the median or in an existing or future traffic or diamond lane. Rail could also be placed in the greenway if one were provided though other functions of the greenway such as a pedestrian path might be displaced. Accommodations made with this project for future LRT could include constructing a wider median and closing side streets or median openings.

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The decision could also be made to not make any special accommodations at this time, leaving such work to be part of the future project. That would in fact be the case for other reaches of Broadway outside the project corridor. Further improvement to the BRT system in lieu of LRT is also a possibility, such as dedicated lanes, level platform stations, or other enhancements.

**Other Plans and Studies** -- As the project progresses, additional plans, reports, and studies may be presented and discussed.

### **Review Northward Alignment Approach**

The premise that the widening is to be to the north will be evaluated by comparing costs and impacts associated with comparable northward and southward widenings. Tierra will estimate of the cost of acquisition and relocation associated with equivalent minimal widenings (130' to 150' right-of-way widths) to both the north and south sides. The effect of using wider widths will be examined as well.

In addition to acquisition costs, other impacts will be examined such as number and size of businesses that would be relocated; the number of historic structures lost; and the number and importance of significant structures lost.

### **Corridor Development Alternatives**

The basis of a Context Sensitive approach to corridor design is that the function of the roadway, including its landscape and streetscape improvements, considers not only the transportation function but also other needs of the project area, as well as the community at large. As discussed above, alternatives formulated for investigation will include various elements of the corridor design so they can be considered together. A discussion of the sort of design elements and examples of what they may entail is provided here to better illustrate this concept.

**Roadway Configuration** -- Examples of roadway configurations likely to be considered include:

- The voter-approved improvements which entail six travel lanes, two dedicated bus lanes, bike lanes in each direction, a raised landscaped median, ADA accessible sidewalks, and continuous street lighting;
- The voter-approved configuration without bus lanes. Separate bike lanes would be necessary, and bus pullouts would be provided where possible;
- A configuration with wider medians to accommodate future high capacity transit;
- Other configurations designed to accommodate certain features, such as a separate pedestrian-bikeway.

**Landscape/Streetscape Design** -- A range of roadside design concepts that can be paired with roadway design and adjacent development concepts. Examples might be:

- Landscape and sidewalk configurations that improve pedestrian access and comfort to a "desired" level.

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- Lesser landscape/sidewalk configurations that provide a "minimum" level of pedestrian access and comfort but require less overall roadway width;
- Options to enhance existing commercial development. This could include "behind-the-curb" improvements which can range from traditional sidewalks and landscaping typically associated with arterial roadway improvements to more extensive improvements that serve specific functions, such as access roads that provide parking and business access, raised medians to separate pedestrians from higher-speed arterial traffic, widened sidewalks to encourage pedestrian and shopping activity, "cycletracks" with curbs or medians providing bicycle paths a separation from vehicular traffic, and so forth.
- A greenway access option providing open space that could include a multiuse pathway or a future transit corridor.

**Land Use Options** -- The corridor design can be used to enhance existing development or encourage valued types of redevelopment. As stated earlier, discussion of land use options will be conceptual in nature (see earlier notation, "Caveat: Private Property Development Rights and Project Discussions of Future Land Use Options"). Examples of some approaches that may pertain include:

- Maintaining/enhancing existing development that would not be acquired by the Project, through landscape/streetscape measures as just described;
- Identifying strategies for how to re-establish commercial development along the corridor;
- Where possible, and appropriate, creating landscape/buffering, open space, or greenway reuse.

These design elements will be combined in different ways to create corridor development approaches reflecting various goals. For example, an alternative approach that strives to minimize the impact on existing businesses or historic structures would seek to narrow the right-of-way by minimizing traffic lane, bike lane, sidewalk, and landscaping width. An alternative approach intended to enhance the pedestrian, bicycle, visual, and commercial environments would require a wider right-of-way.

An initial set of corridor development alternatives will be formulated to reflect the range of positions reflected in the Project Vision and Goals Framework, the public listening session, and discussion with the CTF. This will start the iterative corridor design process.

### **Evaluation Process**

Each alternative will be evaluated using the criteria established above. Drawings will be prepared to illustrate graphically the alternatives and to determine right-of-way requirements, impacts to businesses, and historic and significant structures. These results will be discussed with the CTF and sponsoring agencies. That could result in adjustments to improve the alternative, discarding the alternative if it seems hopeless, or creating entirely new alternatives based on the results and knowledge gained through the initial evaluation. Input from the general public will be sought as the CTF and technical team undertake this process.

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### **Achieving Resolution**

The process of refining and evaluation of alternatives will be repeated until consensus on a tentative general corridor approach is achieved.

### **Decision Point**

That recommendation will be taken to the public for input and revised if need be. The final recommendation will be forwarded to the sponsoring agencies with recommendation(s) for action, followed up with revisions if necessary. A report documenting the process will be prepared to serve as the vehicle for official adoption.

### **Major Intersections**

Requirements at the major intersections with Euclid Avenue, Campbell Avenue, and Country Club Road will present particular challenges given the turn lane requirements and in some cases severe right-of-way constraints. While the initial alignment and cross section alternatives will include consideration of the improvements at major intersections, there are a number of refinements that will be studied to identify the potential to reduce impacts. Several options to reduce the right-of-way and other impacts include:

- providing the full complement of through and turn lanes required to achieve conventional levels of service, accepting the resulting impact;
- providing fewer turn lanes or using indirect left turn lanes on Broadway;
- dispensing with exclusive right turn lanes where right-of-way constraints are particularly difficult
- maintain the existing north-south lane configurations, reconstructing the intersections as part of a future widening of these streets;

In each case, drawings will be prepared to determine the extent to which impacts could be diminished and level of service analysis performed to determine the effect on pedestrian, bicycle, bus, and arterial traffic.

### **SECTION 3. SUBSEQUENT ACTIVITIES**

Though a general approach for the roadway alignment and design will have been established at this point, much additional work and many more decisions will remain. Many of these, such as developing a land use plan and determining a detailed landscape/streetscape scheme along the length of the project area, will continue to involve public input, particularly from the CTF. Other decisions, such as establishing roadway profiles, identifying utility conflicts, and preparing a preliminary drainage plan, are more technical in nature and will require a lesser level of input. An overview of these technical tasks as currently anticipated is presented here:

#### **Initial Roadway Plans**

Initial profiles for Broadway and major cross streets will be developed for the adopted horizontal geometric configuration. Initial roadway plans consisting of typical section and plan-profile sheets will be prepared. These plans will be used for the initial drainage design, the utility relocation plan, cost estimating, as well as to define the intended approach.

#### **Initial Drainage Plan**

Once the roadway geometrics and corridor development plan are established, an initial drainage plan will be prepared. The feasibility of reducing the pavement drainage system by collecting and storing pavement drainage in the median and/or roadside landscape areas will be evaluated. The initial drainage plan will identify major features such as discharge points and outfall storm drains. It will also provide the basis for the initial cost estimate later.

#### **Initial Utility Relocation Plan**

Initial utility information will be developed from publicly-available plans and maps, and from information provided by utility companies. It will be documented in a set of existing utility base plans from which likely conflicts will be determined. Conceptual relocation plans will be prepared to identify relocation of publicly-owned utilities that will be a part of the project as well as that involving private utilities to be accomplished by the respective franchises. This plan will also allow a more accurate estimate of utility relocation costs to be made.

#### **Initial Access Management Plan**

General concepts and approaches to access adjacent parcels will have been established with the general corridor development approach. These will be fleshed out through the development of an initial access management plan for the project. This plan will minimize the number of midblock access points to the extent possible, and place driveways as far from major intersections as possible. Median breaks and turn lane lengths will be based on the traffic analysis and input from the CTF and directly impacted stakeholders.

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### **Initial Right-of-Way Acquisition Plan**

A plan depicting graphically the right-of-way and easements needed for the project will be prepared to identify parcels for which total or partial acquisition will be necessary. This will benefit impacted businesses by allowing the acquisition process to commence earlier in the process than is normally the case. Many complaints have been heard in the past about being "left in limbo" between the time the plan is adopted and actual acquisition occurs. MainStreet with the assistance of Tierra is developing a program to fund the early acquisition process. Actual right-of-way plans, S-drawings, and legal descriptions will be provided as needed but generally during final design.

### **Land Use Implementation Strategies**

CD+A, with input from Swaim and EPS, will define an approach for supporting the type of development for the reuse of remnant parcels and the revitalization of other parcels impacted by the roadway improvements and other properties along the corridor. Policy measures available for this include entitlement tools, economic development strategies, and other incentives to encourage and support the implementation of the community's vision for the future of Broadway.

### **Preliminary (15%) Plans**

An important element of the DCR will initial plans which will provide much of the definition and direction reflected by the DCR. These plans will be approximately 15% complete and will include the following:

- The horizontal geometrics of the arterial roadway including alignments, typical sections, dedicated lanes, bus pullouts, and so forth;
- Vertical geometrics of the roadway defined by profiles, details, and other drawings as needed;
- Streetscape plans including sidewalks, street lighting and pedestrian lighting, frontage roads, transit stop design concepts, and other hard improvements directly related to the arterial roadway;
- Landscape plans showing general palettes and schemes and how they would be applied along the corridor. Detailed landscape plans will be developed during final design;
- Initial drainage plans showing initial location and sizing of storm drain mains, laterals, and catch basins;
- Initial utility relocation plans indicating conflicts and proposed means of resolving them;
- Initial striping plans showing lane markings, cross-walks, and so forth.

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### **Initial Cost Estimate**

A detailed initial cost estimate will be derived from the initial plans. This estimate will be maintained and updated during the final design process. This will provide a more accurate estimate of cost than previously available in that it will be more detailed and because it will reflect the chosen design approach.

### **Design Concept Report**

The official document to come out of this study will be the Design Concept Report (DCR). It will include or reference all of the above studies and plans which will be included with the official actions of the sponsoring agencies. The DCR, together with the initial plans and concept land use plan described next, will define the intended corridor improvements.

An initial draft will be prepared by the consultant team. It will be reviewed with the CTF and sponsoring agencies and revised as appropriate. It will then be forwarded to the sponsoring agencies for official adoption along with the recommendation(s) of the CTF and, if different, the technical team. Once adopted by the sponsoring agencies, it will serve to guide the final design and construction.

#### SECTION 4. ANTICIPATED ISSUES AND QUESTIONS

The following is a potpourri of questions and issues that the project team expects to encounter. Some initial thoughts about the issues are included, in some cases. However, more issues and questions will be encountered as the project progresses. For example, the comments and themes identified in the report from the June 20, 2012 Listening Session event will likely include additional questions or issues not yet represented on this list. It will be a goal to track and update issues and questions bearing on the project design development throughout the Planning and Design process.

- Number of Lanes, or more specifically, will separate bus lanes be included and how many mixed-flow travel lanes and turn lanes.
- How to accommodate bikes. Will separate bike lanes be provided, or will bikes share separate outside lanes with buses and right-turning vehicles as currently the case east of Country Club? And, should parallel bicycle boulevards be considered as part of the project?
- What sort of development is preferable along Broadway and how should this project be construed to support or encourage that?
- Should any widening or shifting of the roadway be to the north as current plans call for, or would a southward widening make more sense?
- How important are the various transportation functions of the roadway and what are acceptable levels of performance?
- Should Broadway become a thriving commercial corridor (is it already), or should retain its current look and feel? Can it do both?
- How can businesses along Broadway be best supported? (Prior to, during, and after construction)
- How can adjacent residential areas be most effectively buffered? How can the project design and corridor development concepts complement and improve neighborhood quality of life?
- Should future high capacity transit (HCT) be planned for and, if so, what type of HCT and how would it best be accommodated?
- How can comfortable, safe facilities be provided for bicyclists? This will be a particular issue with alternatives oriented toward narrow rights-of-way. One possible approach is the concept of "bicycle boulevards" where bikes would be directed from Broadway to one or more nearby parallel streets. Drawing some of the bike traffic from Broadway might improve safety by virtue of fewer riders.
- How can comfortable, safe facilities be provided for pedestrians? For those traveling along the corridor, wider sidewalks and greater separation from arterial traffic are known to improve the pedestrian experience. Is that worth the extra right-of-way width needed though? For pedestrians crossing Broadway, safety can be significantly increased through the use of pedestrian actuated signalized crossing at locations other than signalized intersections.

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- The concept of "bicycle boulevards" will be considered in conjunction with the option of placing bikes in diamond lanes. Less-confident bicyclists would be directed to one or more nearby parallel streets, drawing some of the bike traffic from Broadway.
- How do different right-of-way widths and roadway design concepts address the potential for future changes in travel behavior such as reduced driving and more transit use, use of electric vehicles for in the city trips, and so forth?
- Can the overall efficiency of the corridor be improved through such measures as better coordination of signals, reduce side friction by limiting access to adjacent property, or eliminating left turns except at signalized intersections? Could signalized pedestrian crossings be incorporated into the overall traffic signal coordination scheme?

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