



**CITY OF BOULDER
CITY COUNCIL AGENDA ITEM**

MEETING DATE: January 17, 2012

AGENDA TITLE:

Consideration of a motion to adopt proposed amendments to the Transit Village Area Plan (TVAP) connections plan and street section drawings for Pearl Parkway and Junction Place.

PRESENTER/S

Jane S. Brautigam, City Manager
Paul J. Fetherston, Deputy City Manager
Bob Eichen, Chief Financial Officer
Maureen Rait, Executive Director of Public Works
David Driskell, Executive Director of Community Planning and Sustainability
Tracy Winfree, Director of Transportation
Susan Richstone, Comprehensive Planning Manager
Michael Gardner-Sweeney, Transportation Planning and Operations Coordinator
Bill Cowern, Traffic Operations Engineer
Sam Assefa, Senior Urban Designer

EXECUTIVE SUMMARY:

The purpose of this item is for City Council to consider adoption of proposed changes to the [Transit Village Area Plan](#) (TVAP) connections plan (**See Attachment A**) and street section diagrams for Pearl Parkway and Junction Place. Adopted in 2007, TVAP bridges the gap between broad community goals established by the Boulder Valley Comprehensive Plan (BVCP) and site-specific development plans. The area plan outlines the desired future character, scale, land uses, location of street and path alignments, parking, and public spaces. The implementation strategy is outlined in the [TVAP Implementation Plan](#).

The first development projects proposed as part of the TVAP, 3100 Pearl and Depot Square, present both challenges and opportunities related to roadway design. Since the developments are proposed on either side of Pearl Parkway, an auto-dominated arterial road, they pose a challenge for establishing a pedestrian friendly environment, which is one of the TVAP's primary objectives. At the Concept Plan Review for the 3100 Pearl

mixed use project in early 2010, staff and Planning Board directed the applicant to design the Pearl frontage of the proposed development in a more pedestrian friendly manner by incorporating features such as individual entrance stoops. Planning Board also directed staff to explore on-street parking along Pearl Parkway to support the viability of the proposed developments, especially ground floor retail use. In response to Planning Board direction, staff studied a number of design options for Pearl Parkway that incorporate both on-street parking and elements that support a pedestrian environment.

The proposed Depot Square project at 3151 Pearl provides a significant public plaza space as a result of undergrounding the bus facility. The proposed plaza along Junction Place provided an opportunity to design this portion of Junction Place as a “special” street as envisioned in the TVAP. Staff is proposing a “shared” street concept with special design characteristics that would integrate the plaza and the future proposed pocket park to the west to help establish a significant public space at the heart of Boulder Junction.

The city, in collaboration with the developers of 3100 and 3151 Pearl Parkway, is interested in piloting these new street designs to create successful pedestrian environments as well as to ensure complete and safe multimodal functions in the Boulder Junction area. These pilot street designs include a “multiway” boulevard along Pearl Parkway between 30th Street and the railroad tracks, and a “shared street” on Junction Place between the north edge of the bus facility (proposed RTD bus ramp) and the planned bridge at Goose Creek.

STAFF RECOMMENDATION

Suggested Motion Language:

Staff requests council consideration of this matter and action in the form of the following motion:

Motion to adopt proposed amendments to the Transit Village Area Plan (TVAP) as follows:

1. *Add a new boulevard cross-section for the segment of Pearl Parkway between 30th Street and the tracks.*
2. *Amend the current cross-sections and segment designations for Junction Place shown on pages 36-37 of the TVAP (See Attachment B) as follows:*
 - a. *Change the north limit for Segment 1 to be the north side of the RTD bus ramp (future Spruce Street alignment), and reference the left turn lane required in the intersection with Pearl Parkway.*
 - b. *Add a new cross-section for Segment 2, and modify this segment's limits to "North side of the RTD bus ramp (future Spruce Street alignment) to the Goose Creek Bridge. Eliminate on-street parking in the newly revised Segment 2.*
 - c. *Change limits of Segment 3 to be the segment from the Goose Creek Bridge to Bluff, and reference allowable alternate parking configuration along the east side, as well as alternate sidewalk widths for both sides between the Goose Creek Bridge and Carbon Place.*
3. *Amend the current designation for Segment 30 of Junction Place in the TVAP Connections Plan for the portion on the west edge of the 3100 Pearl property, to be an alley designation rather than a local street, as approved in Site Review for 3100 Pearl Street.*

COMMUNITY SUSTAINABILITY ASSESSMENT AND IMPACTS:

Economic:

- TVAP will further the city's economic vitality goals by providing new opportunities for businesses, employment, and housing, and creating opportunities for public/private partnerships. The proposed changes and design enhancement to Pearl Parkway and Junction Place will add value to proposed developments and help in the economic viability of proposed mixed-use developments.

Environmental:

- The implementation of TVAP will promote long-term environmental sustainability by encouraging a resource-efficient land use pattern with comprehensive transportation demand management strategies that will encourage transit use, reduce vehicle miles traveled, and reduce energy consumption.
- The applicable section of Pearl is anticipated for consideration of installation of cutting-edge LED street lighting systems, providing more environmentally sensitive systems over conventional lighting, and integrating technological advances in control systems.
- Other sustainability measures and practices include:

- An evaluation of TVAP based on the Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND) pilot criteria was undertaken by Farr Associates. Conclusions indicate that TVAP would be eligible for LEED-ND certification.
- Integration of innovative treatments into landscape designs to maximize tree soil volume to support favorable conditions for sustainable urban tree planting environments.
- Proposed special materials for Pearl Parkway and Junction Place “special” street would help mitigate urban heat island effects and reduce storm water runoff.

Social:

- TVAP advances the city’s social sustainability goals by increasing affordable housing, expanding employment and transportation options for all members of the community, and providing parks and civic spaces in the area for TVAP residents, employees, and nearby neighbors.
- A pocket park, Depot Square Plaza, the historic depot, and new connections within and to the area will be designed to welcome adjacent neighborhood residents and attract a diversity of users.
- The proposed designs for Pearl Parkway and Junction Place will enhance the quality of the public realm, including the quality of space for pedestrians and bikes.

OTHER IMPACTS

- Fiscal/Implementation

- Pearl Parkway Multiway Boulevard*

- The TVAP included a conventional arterial street section which would be fully funded by private developers as part of the exactions associated with adjoining private developments. The revised proposed cross section in this memo, results in previously unplanned City investment for the enhancements to this new cross section over and above the original street section. Pending development of final designs, this is estimated to be approximately \$2-2.5 M for Pearl between 30th Street and the railroad. These project costs are programmed in the following ways:

- ✓ The City has been successful in obtaining a Transportation Improvement Plan (TIP) federal grant to fund the north side improvements, including \$1M in matching City Transportation funds. That federal aid project includes \$4.0M in federal transportation funds, and will also extend a multi-use along the north side of Pearl, east to Foothills Parkway.
 - ✓ Recently adopted Capital Investment Strategy (CIS) Funds allocated for Boulder Junction, were identified to make up the remaining \$1.0-1.5M in City funding needs for Pearl.

- Junction Place Shared Street*

- The section of Junction Place between the RTD bus ramp (future Spruce Street) and the Goose Creek bridge, has always been planned to be a “special” street section in TVAP. Allocations of City funding as a part of the adopted TVAP Implementation Plan, was originally identified to fund enhancements to this

special street. Pending the development of final designs, the newly proposed “shared street” section will likely result in funding needs beyond the original Implementation Plan projections, but can be accommodated through funding capacity in that plan.

Long-Term Maintenance

Pending final designs and materials selection, the proposed modifications to the identified segments of Pearl Parkway and Junction Place will likely result in added long-term maintenance costs associated with these non-typical street section designs. Staff will work to develop acceptable strategies for sustaining these public improvements as part of design development.

- Staff time – Primary implementation of TVAP is accounted for in existing staff work programs. Since no major changes were originally envisioned for Pearl Parkway as part of the TVAP, the proposed multiway boulevard street section for Pearl has and will result in some previously unplanned dedication of staff time associated with the overall project management (including design, construction) for these improvements. Enhancements to Junction Place were always envisioned as part of the TVAP Implementation Plan, so no net change in staff time is anticipated for that public improvement.

BOARD AND COMMISSION FEEDBACK

On Dec. 12, 2011 the Transportation Advisory Board (TAB) recommended 4-0, with 1 member absent (Matt Moseley) and on Dec. 15, 2011, the Planning Board approved 4-1, with 1 recusal (B. Holicky), the proposed amendments. TAB requested additional information concerning the options for the management of parking, as well as information concerning the metrics and standards by which the success of the multi-way boulevard pilot project will be judged.

PUBLIC FEEDBACK

In early 2010, during the initial Concept Plan review for 3100 Pearl Apartments (formerly 3100 Pearl Project), Planning Board directed staff to explore the possibility of on-street parking on Pearl Parkway. At the April 22, 2010 Planning Board meeting, staff first presented the multiway boulevard/shared street concept for Pearl Parkway as a possible design solution for staff to explore in order to accommodate on-street parking as well as to create a pedestrian friendly environment. On May 10, 2010, staff made a similar presentation to TAB to get the board’s feedback on the concept.

Following recommendations by Planning Board, staff organized a stakeholders meeting on October 20, 2010, where members from the TAB, Planning Board, Boulder Design Advisory Board, Community Cycles, and developers for the 3100 Pearl Apartments (3100 Pearl Parkway) site, met to discuss and explore initial ideas and concepts for Pearl Parkway. The design options explored at the workshop included enhancements to the proposed cross-section originally identified in the TVAP as well as options for a multiway boulevard, which would include on-street parking along Pearl Parkway (See Fig. A).

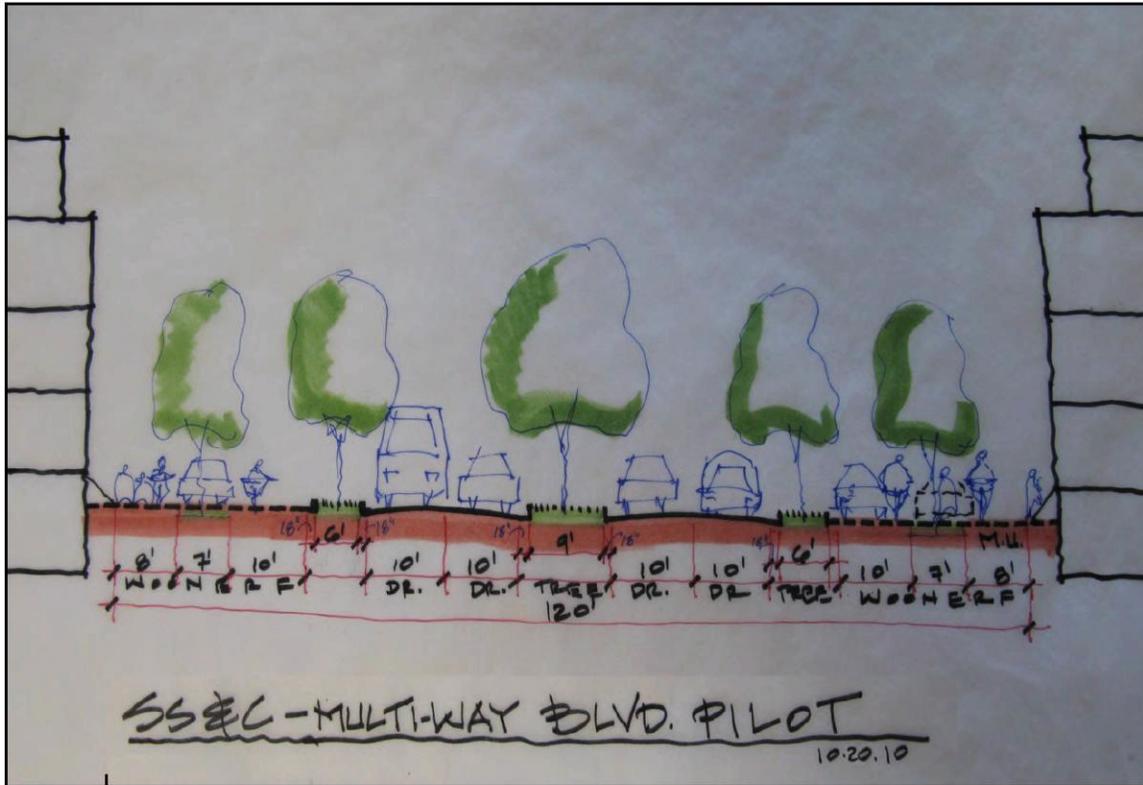


Figure A – Initial Pearl Parkway section view concept

Input from the stakeholder workshop was used by staff for subsequent research and analysis, and to develop four (4) initial alternative designs.

Following evaluation and the development of several refined multiway boulevard alternatives, staff met with members of Community Cycles on October 12, 2011. The meeting was needed to discuss these alternatives and their impacts upon bicycle facilities in the Pearl Parkway corridor. Community Cycles members had a number of comments summarized in **Attachment C**.

At its Oct. 17, 2011 meeting, staff briefed the TAB concerning alternative design options being considered for the Pearl Parkway multiway boulevard. At that meeting, staff also briefed the TAB about the proposed cross-section for Junction Place between Pearl Parkway and the Goose Creek Bridge.

At a workshop on Oct. 19, 2011, the Pearl Parkway multiway boulevard design and the Junction Place “shared street” concepts were further discussed and evaluated. This workshop was facilitated by MIG, Inc., a planning firm headquartered in Berkeley, California. The workshop, entitled “re: Streets”, was part of a National Endowment for the Arts’ (NEA) funded project focused on the design of public streets to better serve as pedestrian-oriented public spaces. Community stakeholders in attendance included representatives from the Center for People with Disabilities, Community Cycles, and several landscape architect and transportation planning and engineering professionals, as well as city staff from various departments and a representative from the US Access Board. Participants were divided into five groups that spent time designing a shared

street concept either along the Pearl Parkway multiway boulevard or Junction Place south of Goose Creek. Each group provided comments regarding the work of their group. These comments are provided as **Attachment D**.

On Oct. 25, 2011, a public open house was held to solicit input concerning a multiway boulevard on Pearl Parkway and specific input on the refined multiway boulevard alternatives being considered. The open house was followed by a stakeholder meeting, attended by representatives from Community Cycles, Boulder Design Advisory Board, and property owners and developers along Pearl Parkway, as well as city staff. The purpose of the stakeholder meeting was to receive additional input concerning the Pearl Parkway multiway boulevard design alternatives. A summary of the questions asked and input received both at the Open House and at the subsequent Stakeholder meeting is provided as **Attachment E**.

On Nov. 29, 2011, staff met with members of the Community Cycles Advocacy Committee to share the preferred cross-section design for the Pearl Parkway. The group suggested several design details to incorporate as well as recommendations for improved bike parking along the corridor and safe maneuverability of cyclists at potential conflict points. While the group voiced some concerns about the provision of on-street parking, they expressed an appreciation for developing a design that seeks to balance the competing needs of multiple uses. A summary of the group's comments is provided in **Attachment F**.

BACKGROUND:

Transit Village Area Plan (TVAP)

The TVAP envisions Boulder Junction as a new transit-oriented neighborhood that will evolve into a lively, mixed-use, pedestrian friendly place where people will live, work, shop, and access regional and local transit. New housing in the Boulder Junction area will provide the opportunity for people to live close to employment, services, entertainment, transit, bikeways, a new park and a civic plaza. The area is envisioned to become a desirable place to live for people employed in Boulder, people seeking affordable housing, seniors, and anyone who wants to reduce or eliminate automobile use.

Following are the goals and objectives articulated in the TVAP relevant to the proposed designs for Pearl Parkway and Junction Place:

- Create a lively, engaging, well-used and well-loved pedestrian-oriented place
 - Locate building entries along Pearl Parkway
 - Provide active first-floor uses, such as retail, where feasible
 - Develop Junction Place from north edge of bus facility as a “Special Street” designed to give priority to pedestrians and keep vehicular speeds low
 - Look for opportunities to create car-free or car-reduced zones
 - Provide seating, planters, art, special pavement and lighting along Junction Place
 - Close to the (transit) facility, design roadways at a pedestrian scale and to control vehicular speeds
- Provide ample pedestrian zones and on-street parking where appropriate.

Recently Approved Developments:

The first two major developments proposed at Boulder Junction, Depot Square and 3100 Pearl Apartments (see Fig. B), have been approved by Planning Board and City Council. 3100 Pearl Apartments is a 319-unit apartment development along with 3,000 square feet of retail space on the south side of Pearl Parkway. As was envisioned in the TVAP, the proposed project would initiate the planned extension of Junction Place south of Pearl Parkway, and would provide a sidewalk and alley on the west end of the building as a pedestrian and bicycle access to units that are located on the west side of the site. It will also provide multi-use paths on the east and south side of the site. With provision of multi-use paths on the south side of the site, it was determined through the Site Review process for 3100 Pearl, that a full width local street, as is currently designated in TVAP segment 30, was extraneous. The connection from 30th to Junction Place will remain, with a reduced pavement width to the alley configuration. This was determined to be appropriate during Site Review given the planned multi-use path and the limited length of this connection.



Figure B – Aerial view of Depot Square and 3100 Pearl Apartments concepts

The Depot Square, on the north side of Pearl Parkway, project will construct an RTD bus facility and will use private capital to develop the Transit Oriented Development (TOD) potential of the site. The resulting plan is a mix of uses that includes an underground RTD bus facility, the rehabilitation and repurposing of the historic depot into an active use, 71 apartments, and a 140-room boutique hotel. With buildings placed to frame the street and the creation of a significant public plaza space linking the various uses, the

proposed development meets the goals and objectives of the TVAP. As a result of undergrounding the bus facility, the created plaza will become a significant public space at the heart of Boulder Junction.

TVAP Connections Plan Amendment Process:

The TVAP Connections Plan is a right-of-way and Transportation Network Plan (TNP) that is administered according to Section 9-9-8 of the Boulder Revised Code (BRC), 1981, and incorporated into the Transportation Master Plan (TMP). Approval requirements for amendments to the TVAP Connections Plan are outlined below. In most cases, elimination of a proposed connection requires approval by both the Planning Board and City Council. Relocation of a local street onto an adjacent property or by a distance of greater than 50’ requires Planning Board review. Other amendments are generally reviewed administratively. The TVAP plan amendment requirements are summarized in the following table:

	Relocation greater than 50’ or onto an adjacent property	Relocation less than 50’	Addition	Elimination
Streets				
Collector Street	Planning Board	Administrative	Planning Board	Planning Board and City Council
Local Street	Planning Board	Administrative	Administrative	Planning Board and City Council
Alley	Administrative	Administrative	Administrative	Administrative except along 29 ½ alignment ²
Paths				
Multi-use Path	Administrative	Administrative	Administrative	Planning Board and City Council
Pedestrian Walkway	Administrative	Administrative	Administrative	Planning Board and City Council

² Elimination of the alley proposed along the 29 ½ alignment must be approved by the Planning Board and City Council

The proposed changes to the roadway cross-sections on pages 34, 36 and 37 of the TVAP require approval of both the Planning Board and City Council.

ANALYSIS:

Pearl Parkway:

The plan for the RTD site and 3100 Pearl Apartments prompted discussions by Planning Board and staff about the need to re-examine the proposed street section for Pearl Parkway to create a stronger pedestrian-oriented environment and a “gateway” to the Boulder Junction neighborhood. To support the proposed mixed-use residential developments, Planning Board also recommended on-street parking along Pearl Parkway.

Pearl Parkway is a major arterial road carrying a significant amount of traffic (approximately 25,000 cars per day). The vehicular volume and speed of traffic along Pearl Parkway pose challenges for achieving the objective of a pedestrian-oriented

environment along Pearl at the street level. These factors also make it difficult to provide on-street parking without compromising safety and service along the arterial road.

Presently, bi-directional bicycle travel is accommodated with a 12-foot multi-use path on the south side of Pearl Parkway. There is no sidewalk along the north side of the street, though a worn social trail exists. This facility has few conflict points with motor vehicles and is currently used by 250 to 300 cyclists per day (approximately 90 percent of cyclists in this corridor ride on the south side multi-use path). This corridor connects Foothills Parkway and points east with the Twenty Ninth Street mall and downtown. Bicycle use in this corridor is anticipated to increase as transit-oriented development occurs in the TVAP area.

In part, the challenges this project creates for cycling are due to the space required to provide parking; access to parking; and pedestrian-oriented design features (i.e., trees, benches, etc.) in the confined right-of-way space between the arterial roadway and the property lines. Another challenge is striking a balance between through-cyclists and place-making goals. To provide efficient cycling and to encourage new cycling in this corridor, it is ideal for cyclists to be able to move quickly through the corridor. To provide a pedestrian-oriented area with minimized bicycle conflict, it is ideal for cyclists to move slowly through this area. A significant challenge of this project has been to find the balance between these two needs while ensuring safety for all users.

As a result, Transportation and Community Planning and Sustainability staff began to study options, including a “multiway boulevard” design as a possible solution. A multiway boulevard would allow the arterial service to continue, while simultaneously provide for safer pedestrian and bicycle movements and on-street parking within a local access street (See Fig. C for an illustrative example of a multiway boulevard).



Figure C – Illustrative example of a multiway boulevard

In response to the direction from Planning Board, options were developed to enhance the pedestrian environment and provide parking on Pearl Parkway. At a stakeholder design workshop on Oct. 20, 2010, staff along with representatives from the city’s Transportation

Advisory Board (TAB), Planning Board, Boulder Design Advisory Board (BDAB), Community Cycles, and the developer for 3100 Pearl, discussed and explored design options for Pearl Parkway. These options included enhancement of the cross section identified for Pearl Parkway in the TVAP plan as well as design options for a new “multiway boulevard.” Based on input from workshop participants, and subsequent research by staff, four conceptual alternatives were developed.

Using evaluation criteria that looked at various categories (economic, social, environmental, function, safety, cost, and “place making” (**See Attachment G**), staff identified Alternative 2 as the most appropriate followed by Alternative 4. Based on the staff analysis, there were no significant concerns identified with any of the conceptual alternatives. The most significant unresolved issues at that time were how to best continue to accommodate bi-directional bike traffic as well as how to treat the edges near the buildings in the multiway boulevard alternatives. More information about this process can be found at the following link:

http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=15393&Itemid=2103#PEARL

Pearl Parkway Multiway Boulevard Options:

Based on input at the October 20, 2010 workshop, staff focused on developing design refinements for the local access street to accommodate on-street parking as well as all travel modes, while creating an attractive, pedestrian-oriented space. Three refined alternatives, based on the two initial multiway boulevard alternatives are shown in the cross-section views provided as **Attachment H**.

The “refined” multiway boulevard alternatives have some common “Key Attributes” as well as attributes unique to each alternative. These “Key Attributes” are summarized in **Attachment I**.

Following the public process and collaborative evaluation of these refined alternatives, a preferred approach to the Pearl Parkway multiway boulevard has been determined. A proposed preliminary plan and section for Pearl Parkway is shown in Fig. D.

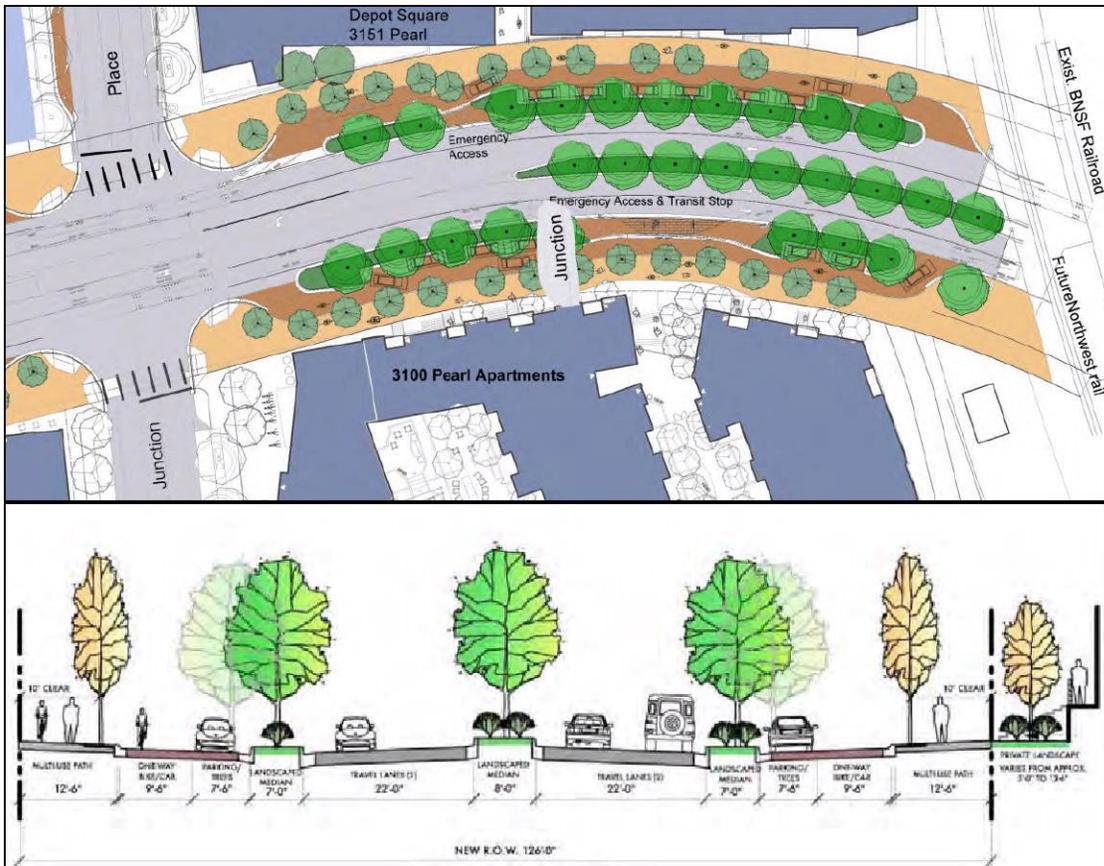


Figure D – Plan and section views of proposed Pearl Parkway “multiway” boulevard

While there are still design details to be determined, the basic cross-section dimensions and preliminary plan view for the staff recommended option is well developed. The proposed plan represents a balance of all of the competing interests with a solution that combines key features from many of the alternatives into a refined alternative. Staff recommends Alternative 1 (Parking Street Side), with the following key additional refinements:

- Adjustments to the cross section width for Pearl Parkway roadway lanes, parking, etc. have resulted in creating additional space for a narrow, second row of trees at the interface between the side street and multi-use path.
- Detailed design for emergency access for the 3100 Pearl Apartments and Depot Square sites has resulted in acceptable configurations, while minimizing the impact of this access on the streetscape and landscape design. This emergency access need has been combined with proposed transit stop infrastructure on the south side of Pearl Parkway, and with a proposed drop-off area on the north side of Pearl Parkway, resulting in an efficient use of the limited space available.
- Transit Stop infrastructure has been accommodated.
- Raised treatments are planned on the side-street approach to each of the multiway boulevard segments to provide for safe vehicle speeds.
- A mountable, ADA detectable, short curb is planned between the side street and multi-use path, allowing for ease of bike movement between both features and sharing of the side street access lane by both slow-moving cars and bikes.

- The proposed cross-section for Pearl Parkway contains side street access and parking lanes as well as multi-use paths that vary slightly from current city standards. This project serves as an opportunity to test how modified roadway and bikeway standard designs can support safe through-movements for bicyclists and cars while also supporting stronger place-making and quality of life for area residents. As a demonstration project, city staff will identify appropriate measures to evaluate the effectiveness, safety and efficiency of the proposed design in relation to its objectives. Experience and real data will help staff determine potential future applications of these design techniques, as well as to adapt these demonstration designs if change is needed.

Junction Place:

In addition to Pearl Parkway, staff has been working to establish a new design for a portion of Junction Place north of Pearl Parkway, from the RTD bus ramp to the proposed Goose Creek Bridge. Consistent with the TVAP's intent to create a "special street," staff's proposed design envisions a "shared street" that will give pedestrians and bicyclists priority over motorized vehicles. It will also create an attractive public place that serves as the connector between the proposed Depot Square Plaza to the east and the future pocket park to the west of Junction Place. "Shared street" implies a common space to be shared by various travel modes. The most important trait is a slow vehicle travel speed. These "streets" also often have no curb and gutter at the edges of the automobile travel way. The design of the "shared street" portion of Junction Place will incorporate some of these characteristics as well as similar materials as the proposed Depot Square plaza. The transportation consultant firm of Fox Higgins was hired to provide research and recommendation on the viability of the shared street concept at Junction Place. The firm's research summary, including recommendations, is included in **Attachment J**. Staff is continuing to work on evaluation of various street materials and design features, and the cost of long-term maintenance aspects of various design features. The conceptual plan and section view for the proposed design of Junction Place as a shared street is shown in Fig. E.

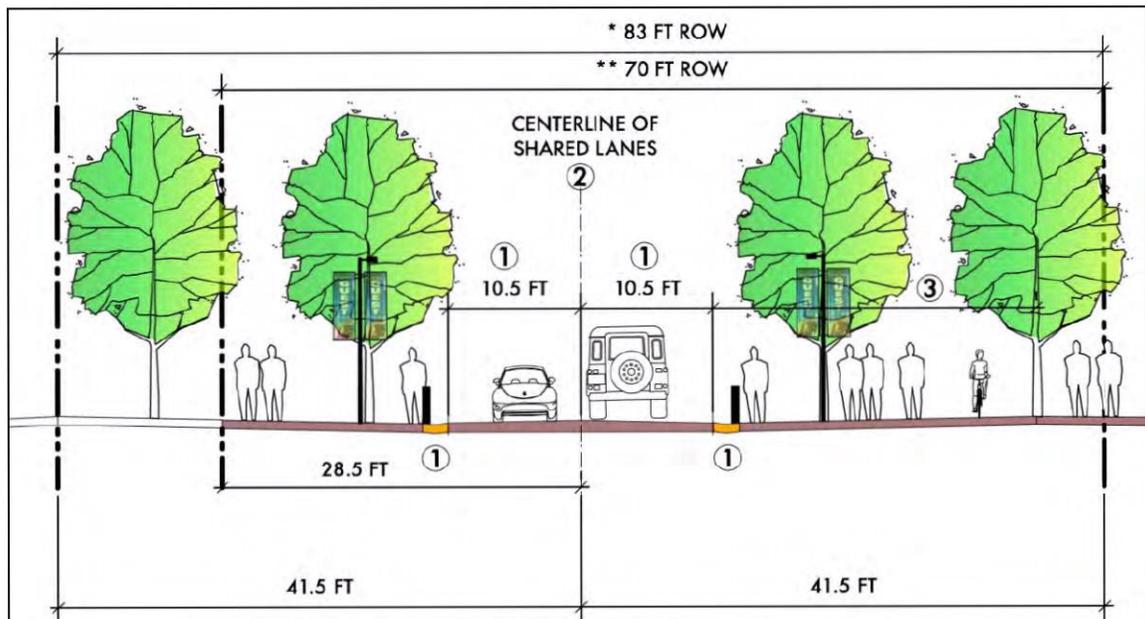


Figure E – Plan, axonometric and section views of proposed Junction Place “shared street” design.

Attachments:

Attachment A – Proposed changes to TVAP Connections Plan

Attachment B – Revised cross-section for Junction Place between Spruce Street and Goose Creek

Attachment C – Community Cycles comments from October 12, 2011 meeting

Attachment D – MIG workshop comment sheets

Attachment E – Summary of Open House and subsequent Stakeholder meeting comments

Attachment F – Community Cycles comments from November 29, 2011 meeting

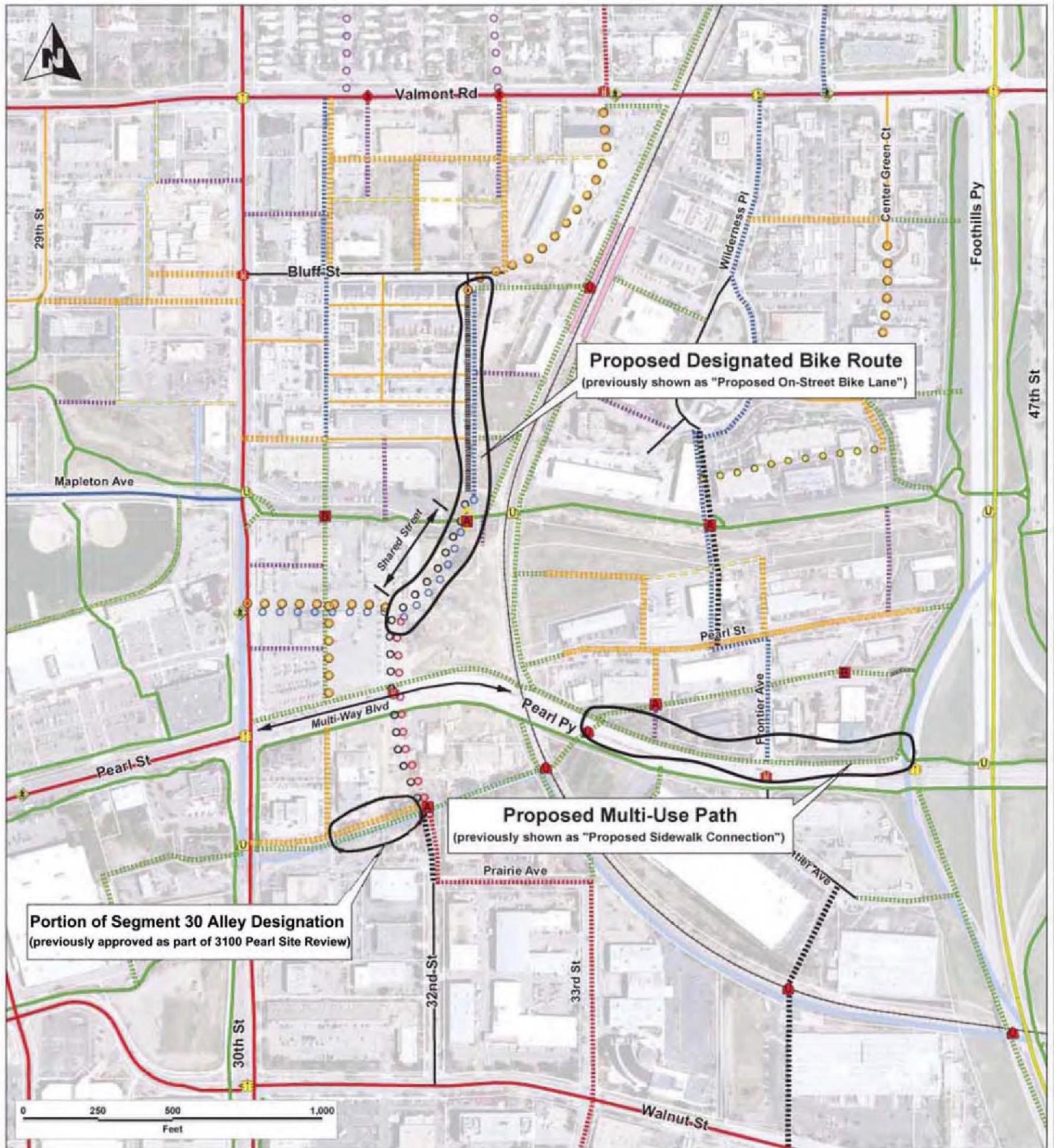
Attachment G – Evaluation criteria used to consider original four alternatives

Attachment H – Section views of “Refined” alternatives

Attachment I – Key Attributes of “Refined” alternatives

Attachment J – Fox Higgins research on Junction Place shared street

TVAP Transportation Connections Plan Amendment



Legend

Existing Street Connections	Proposed Street Connections	Existing Bike and Ped Connections	Proposed Bike and Ped Connections	Existing Bike/Ped Crossings	Proposed Bike/Ped Crossings
Collector Street	Collector Street	Multi Use Path	Multi Use Path	Enhanced Crossing	Traffic Signal
Local Street	Collector Street - Flexible Alignment*	On Street Bike Lane	Multi Use Path Existing Upgrade	Underpass	Roadway Bridge
Railroad	Collector Street - Upgrade Existing	Designated Bike Route	On Street Bike Lane	Traffic Signal	Enhanced Crossing
Plan Area Boundary	Local Street	Sidewalk Connection	On Street Bike Lane - Flexible Alignment*		Bridge
Proposed Rail Platform	Local Street - Flexible Alignment*	Paved Shoulder	Designated Bike Route		Underpass
	Local Street - Upgrade Existing		Designated Bike Route - Flexible Alignment*		Enhanced Access
	Alley		Sidewalk Connection		
	Alley - Flexible Alignment*		Sidewalk Connection - Flexible Alignment*		



Junction Place as a Special Street

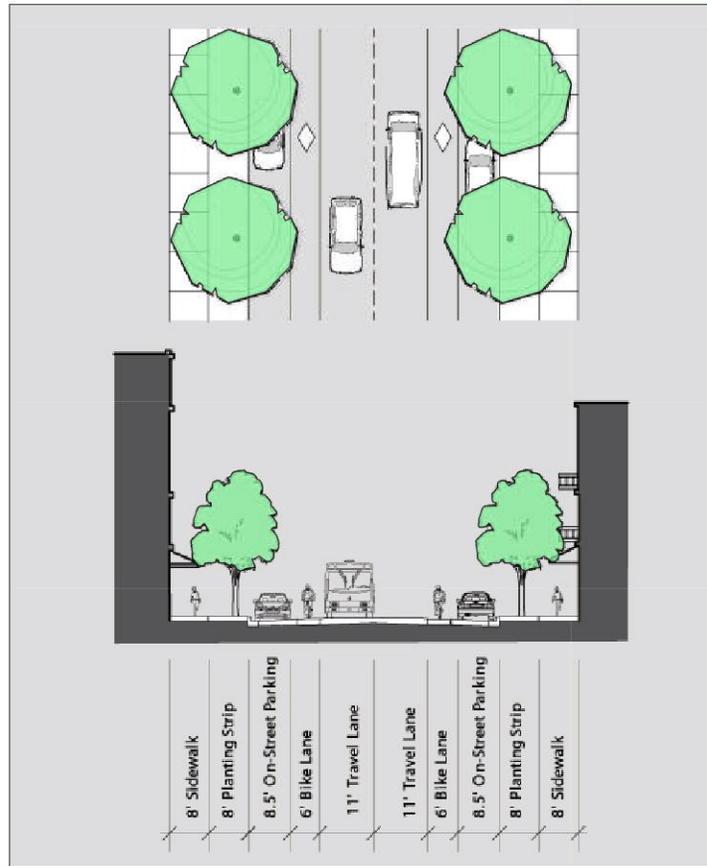
Junction Place will be a central spine for the west side of the area. It will be designed to give priority to pedestrians and keep vehicular speeds low. Traveling the length of Junction Place between Pearl Parkway and Valmont Road will be possible but discouraged by the design and character of the street, as the street is not intended to function as a through-street or north-south alternative to 30th Street. Rather, it is intended to provide access to the bus and rail facilities and adjacent neighborhoods from nearby arterials.

For phasing and design purposes, Junction Place has been broken into ~~three~~ **four** segments. The exact alignment for each segment will be determined at the time of redevelopment of the adjacent properties through Site Review. Comparative costs and impacts to adjacent properties will be considered. Phasing, funding and cost sharing for Junction Place is addressed in the Implementation Plan.



Junction Place will emphasize pedestrians and bicycles over vehicles and will be enriched with amenities, such as special paving.

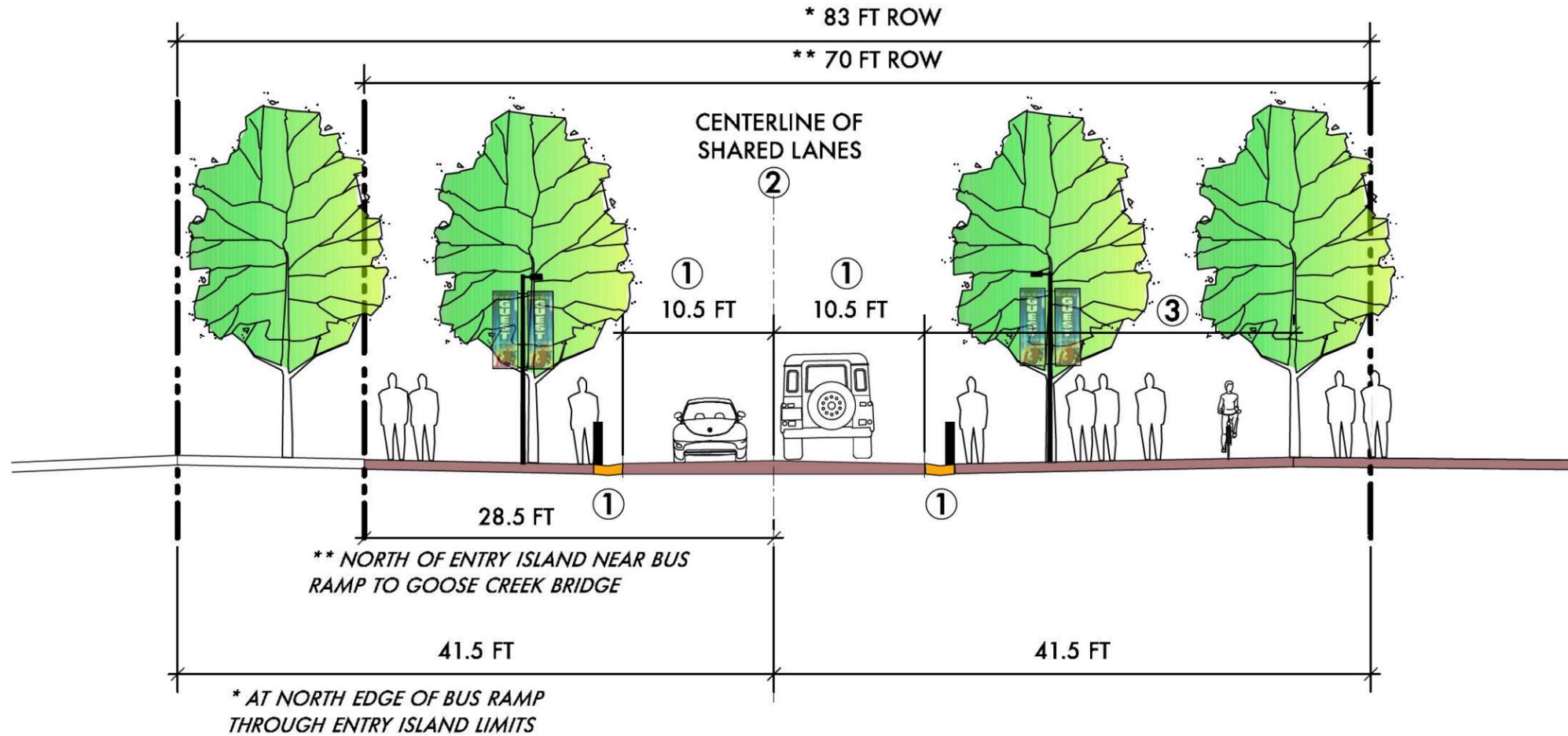
Junction Place Segment 1
 Southern Area Boundary to North Edge of Bus Facility Area **Ramp (future Spruce St)**



83' Street Section

Note: Center left turn lane at Pearl requires adjustments to cross section elements, and dedication of additional sidewalk easements at outer edges beyond shown 83' ROW.

JUNCTION PLACE SEGMENT 2
TYPICAL 'SHARED STREET' SECTION
(NORTH EDGE OF BUS RAMP TO SOUTH EDGE OF GOOSE CREEK BRIDGE - LOOKING NORTH)



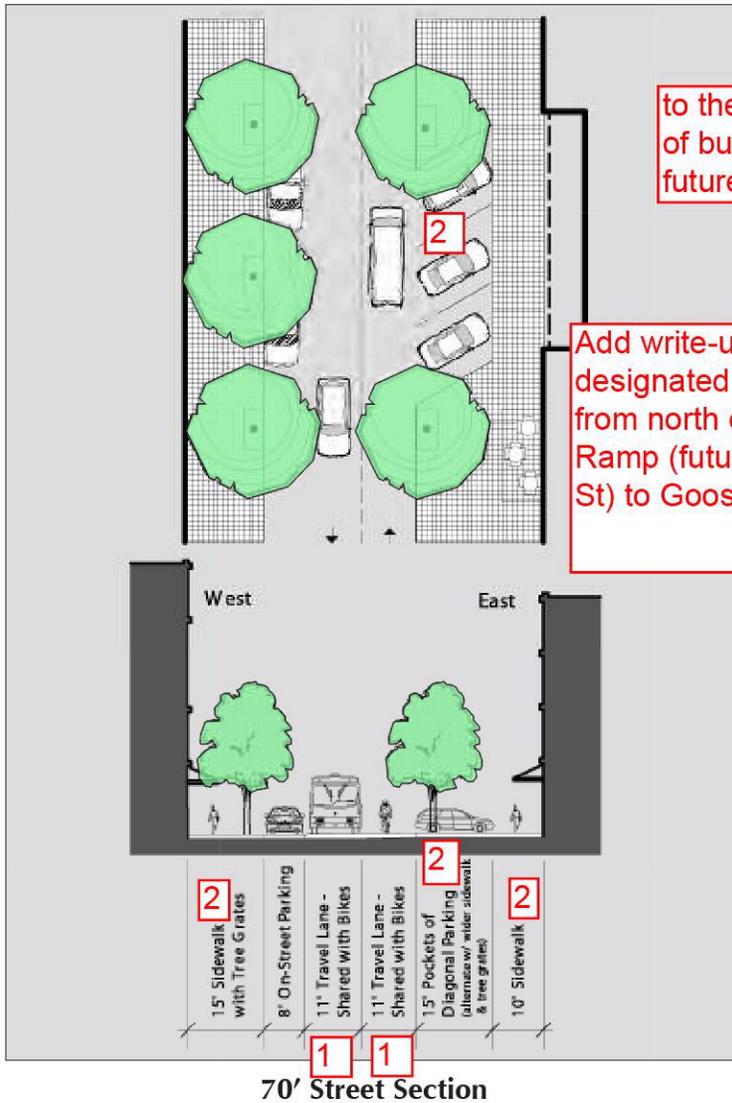
NOTES:

- ① PLACEMENT OF BOLLARDS AND OTHER SIMILAR FURNISHINGS TO EDGES IS TO BE DETERMINED. MAINTAIN 21 FT CLEAR.
- ② CENTER MEDIAN AREA PLANNED AT SOUTH ENTRY TO SEGMENT 2 AND POSSIBLE OTHER LOCATIONS. WIDTH AND LOCATIONS TO BE DETERMINED.
- ③ DROP-OFF AREA NEAR DEPOT WILL RESULT IN MODIFICATIONS IN THIS AREA.



Junction Place Segment 3

Goose Creek Bridge - North Edge of Bus Facility Area to Bluff Street



to the north edge of bus ramp at future Spruce St

Add write-up for newly designated Segment 2 from north edge of Bus Ramp (future Spruce St) to Goose Cr

Junction Place Segments

Each segment will have two travel lanes (one in each direction) and on-street parking.

- Segment 1 is the southern segment, from the existing 32nd Street, across Pearl Street and north past the bus facility. This section will receive significant bus and vehicle traffic and will have a standard street cross-section, on-street bike lanes and wide detached sidewalks to separate the various travel modes.
- Segment 3 is the middle section from the northern extent of the bus facility, near Goose Creek, to Bluff Street. A majority of this section follows the existing 33rd Street, which will be widened to accommodate a shared-space street (where vehicles and bikes share the roadway) and wide pedestrian areas. On-street parking will be parallel or in pockets of diagonal parking, alternating with wider sidewalk space for outdoor seating, larger planting areas, or other amenities.
- Segment 4 is the northern section from Bluff Street to Valmont Street. This section will have more vehicle traffic than the middle section and will have a local street cross-section (see next page).

Notes:
 1. Minimum travel lane width may be reduced to 10.5'.
 2. Possible parallel parking configuration may be allowed on the east side, and possible narrower sidewalk sections (both sides) may be allowed between Goose Cr and Carbon Pl consistent with approved Steel Yards P.U.D. and existing 52' ROW.



Bicycles and cars share a travel lane on northbound 13th Street in downtown Boulder, as is planned for Junction Place Segment 2.

ATTACHMENT C - Summary of Comments

10/12/2011 Meeting with Community Cycles

- In considering Alternative 1, folks thought the parking on the main street side was superior to the parking on the sidewalk side. Moving parking towards the main street would remove it as a conflict for bikes/peds on the MU path and would ensure that people using the parking would enter the street, generating some of the pedestrian activity that is desired.
- There was concern about how fast cars would drive on the side street, especially in the Alternative 2 scenarios, because of the wider travel space in those alternatives. The group did not think signing would be effective and suggested looking at physical mitigation (humps, etc...) that would slow down traffic.
- There was a lot of discussion about whether the pedestrian oriented street was likely to be realized in any of these alternatives. The fact that the adjacent land use has effective back-doors to the side street, as well as the limited median space, the high speed and volume of traffic on Pearl Parkway and the other choices available (like Junction Place) all seemed to point towards this area not seeing a lot of pedestrian activity. Is this really a pedestrian oriented area supporting the adjacent land use or is it just a buffer from Pearl Parkway which includes some on-street parking?
- There was concern for where bicycle parking would be installed along the corridor. A couple suggestions were to install a bike corral on each block of the Pearl Parkway side streets, and when considering things to place in the landscape side-street median (transit stop, benches, etc...) consider placing bike parking there.
- There was a lot of concern about Alternative 2B regarding the contra flow lane. The group was concerned about motor vehicles driving in the contra flow lane, just in general or specifically when maneuvering for a parking space or when someone in a parked vehicle opens a car door.
- There was a lot of concern about how the bicycle lanes on Pearl Parkway were eliminated from the TMP during the TVAP process. Community Cycles did not feel like they were involved in that process and felt like they should have been. The group is interested in understanding the rationale at that time for removing the bike lanes.
- The group had a general concern about the interaction between bikes crossing Junction Place and vehicles turning right and left from Pearl Parkway onto Junction Place. They felt this is generally an issue on MUs at intersections but would be more so here both because of traffic volume, site distance and a multi-way boulevard. Tighter turn radius was suggested. Avoiding sight distance issues with landscaping was also suggested.
- There was a lot of concern about the fact that Pearl Parkway will remain a high speed, arterial roadway carrying 30K to 40K traffic volume. The group was particularly concerned with the multi-way boulevard concept because it makes it easier for the thru high speed car traffic yet it slows down bike traffic. Cyclists that currently choose to ride in vehicle lanes on Pearl Parkway will be discouraged to continuing doing so because the main roadway vehicle lanes will be narrowed. The group suggested taking action to reduce the speed and volume of traffic on Pearl Parkway. The group suggested using smaller traffic signal displays or possibly reducing the number of lanes to create congestion and reduce volume and speeds.
- It was suggested that we strengthen the connection between the south side of Pearl Parkway and the rest of the TVAP, at the Junction Place signal. Pearl Parkway is a "Canyon of Death" separating the two.
- Important to prioritize the "slew path" missing link for cyclists who want to avoid this area.

Boulder Junction Charrette

October 19, 2011

Group 4 discussion notes

Notes by JJ. Folsom

BICYCLES

- Bicycle contraflow lanes should not be a priority but they should be allowed and safe – they can be part of multi-use path but should not have a dedicated lane
- Cyclists prefer Alt One parking on Main Street side. A dedicated bike lane should be provided on both the east and west sides of the street.

PARKING

- Some on-street parking spaces on Pearl Parkway should be designated for vendor parking for a couple hours per day – i.e. 11am – 1pm.
- Parking on Pearl Parkway should not be for residents, it should be paid and/or timed to provide turnover. If these spaces are part of the NPP they will be abused by residents that do not want to purchase a structured space or have a second car
- A parking space should be dedicated to parking bicycles – potentially a bike corral

PEDESTRIANS

- There must be a walkway between the bike lane and the front steps of the residences
- Transit stops should be focal points for pedestrians and easily identifiable

VEHICLES

- Gateway treatments should be provided at 30th and at the rail road tracks to signify to motorists that they are entering a pedestrian and bicycle zone
- Where does snow storage go?
- The 'frontage road' entrances and exits should have a raised crossing to slow vehicles entering and exiting off and on Pearl Parkway
- Consider eliminating the median to reduce the street width

GENERAL/ALL MODES

- Sight lines must be considered when placing trees and other vertical elements near intersections
- Paving materials should be contrasting. The 'frontage/boulevard lanes' should be a different material than Pearl Parkway
- A demonstration of how a shared street can work with a hybrid rolled curb should occur in the boulevard lanes – a cross between a rolled curb and no curb – a gentle slope that allows for easy movement across the space and can have a different material and/or texture
- The major entry at Junction Place Village should have improved awareness/visibility due the high volume of pedestrians and potentially cyclists.

Cowern, Bill

From: Ratzel, Marni
Sent: Tuesday, October 25, 2011 6:57 PM
To: Cowern, Bill
Subject: Fwd: Shared Streets breakout group notes

Sent from my Verizon Wireless Phone

----- Forwarded message -----

From: "Jones, Cris" <Jonesc@bouldercolorado.gov>
To: "Ratzel, Marni" <RatzelM@bouldercolorado.gov>
Subject: Shared Streets breakout group notes
Date: Tue, Oct 25, 2011 12:04 pm

Hi Marni,

Here are the main themes from my group. They focused on Pearl Parkway:

- There was general concern about trying to transform a high speed arterial into a slower shared street. The two seem incompatible
- Need to have sight buffers between side streets and main arterial to help keep speeds slower (cars will travel faster when they can see other cars traveling faster) -- parallel parking adjacent to the main street will help provide this buffer.
- Need to accommodate safe crossings of Pearl Parkway at intersections and easy access to transit stops.
- Only incorporate curb and gutter where absolutely necessary to delineate specific uses and spaces.
- There was general questioning about the need to introduce cars to the side streets -- Consider placing parallel parking on Pearl Parkway with wide bike lanes as a buffer from general traffic.
- In consideration of ADA accessibility, we should consider a more subtle type of detectable pattern that's noticeably different from truncated domes at crossings.
- The group generally felt that Pearl Parkway is a very different place than Junction Place and it should be treated as such.
- Shared space should feature raised crossing transitions at entry points with textured pavement (pavers/cobbles) to indicate that this place is different from the roadway.
- To best accommodate bikes: Contra-flow bike traffic should go slow in the shared space while bike lanes should be provided on Pearl Parkway for fast through traffic. This would allow the shared space to be used for Farmer's Markets/Festivals without impacting bicycle mobility.
- Shared space parking should vary from block to block depending on the context of the adjacent land uses. Residential areas can have parking on the left side of the space while RTD and hotel drop off should happen on the right side of the shared spaces.

That's it!

Let me know if you have any questions.

Cris

Cris Jones
Transportation Planner
303-441-3217 (p) 720-261-1084 (m)

Re-Street Notes

3-1

Bus stop creates subdistrict on frontage.
Increase connectivity with edge of street.
Bus stop as special event area
Food vendors on outside edge (outside edge through v. to/bikes)
Curbside zone to send signals to drivers on Pearl- invite them in
Build activity zones
Create outward focus

3-2

SE corner of Pearl & Junction Place is great opportunity to energize area
Differentiate area
Create parklet instead of parking space
Lots of traffic on Pearl
Create "rooms" along the corridor

3-3

Fire Access-
Trucks getting bigger
Need more of a barrier between Pearl & side street- small wall?
Break for transit stops
Fire: make sure turning radius works.
Narrowing lanes on Pearl reduces bikability
Need reasonable provisions for bikes

3-4

Parking on street side will increase shared street dynamic
Slow cars on through lanes – will happen due to medians, activity
Need design to make cars go slow
Defacto shared streets-Delwood doesn't have sidewalks

3-5

Legal issues need to be addressed
Install no curb before its time
Develop legible people places that cars and bikes can use carefully
Counterintuitive
Lots to merge together
Safety first

**Pearl Parkway
Multiway Boulevard Stakeholder Meeting
October 25, 2011
City of Boulder, CO**

Attendees:

1. Marni Ratzel
2. Sam Assefa
3. Alex May
4. Bill Cowern
5. Kyle Dorrenbacher
6. Carol Adams
7. Zane Selvass
8. Fred (Community Cycles)
9. Kurt (Community Cycles)
10. Susan Richstone
11. George Tsiouvaras
12. Derek Empey (3100 Pearl Developer)
13. Harris Faberman (3000 Pearl Owner)
14. Sue Prant (Community Cycles)
15. Scott Peterson
16. Jeff Shannihan
- 17.

Notes:

Sam presented background information on Multiway Boulevards:

- Purpose of tonight is to get updated by City staff on where they are currently with the project.
- Get input on the project.
- Sam described the adopted TVAP Plan. The goal for the new neighborhood is to connect to a regional transit facility and create a livable and walkable neighborhood on the back of the transit facility.
- Starting work on Phase 1.
- RTD development approved last week and built upon the transit backbone including a hotel and approximately 70 housing units. It also includes parking for all patrons.
- Undergrounding of the Bus transit facility allows for a large public plaza area.
- Pearl Parkway carries 35-40,000 vehicles per day.
- On roads with high numbers of cars, higher vehicular speeds makes a noticeable audible difference to pedestrians.
- TVAP plan adopted 114' of width. The plan did not go far enough to articulate what was needed for pedestrian uses.
- The idea is to separate high volume, higher speed traffic from the slower traffic.
- Multiway boulevards are not new and several have been conceived and constructed around the country.
- Shattuck Avenue Berkeley, CA provides clues for how Pearl Parkway Multiway is planned with the goal of creating a livable local street.
- Special Pavement and curb-less treatment at side street help to delineate the shared

street

- Ground floor of developments must respond to pedestrian scale. Now the street must respond to the development to reclaim drivable and parking areas to make a "Place" and not just a roadway.
- Last year the 2010 Stakeholder Workshop looked at four distinct plans. Three of the plans looked at Multiway boulevard options and one option looked at a more conventional roadway section with on-street parking and a multi-use path.
- The city has refined the initial four concepts down to three distinct alternatives.

Bill Cowern presented the refined alternatives:

- City evaluated the Multiway Boulevard against other alternatives and after finding no fatal flaws with the Multiway Boulevard options determined to pursue refinements to this alternative.
- Alternative 1: Multiway Boulevard with multi-use path
- Alternative 2A: Multiway Boulevard with "Shared" side street
- Alternative 2B: Curbless: Multiway boulevard with bike contra-flow lane

Planned Improvements by the city:

- City is planning bridge over Goose Creek including a connection to Goose Creek
- City taking lead on Pearl Parkway
- Existing overhead electric lines are planned to be undergrounded from the RR to 30th. City is close to an agreement with Xcel which could possibly allow construction to start in November of 2011.

Alex discussed how the public lead projects are coordinated with private development projects. Funding is provided by Excise Tax including construction Use Tax. Also included are exactions as part of the development agreement.

Key focus is resolution of Pearl Parkway and Junction Place cross sections and key items by the end of the year. This will allow preliminary and final design to be completed so construction can be completed in conjunction with the proposed developments.

Enhancements to Junction Place (Pearl to Goose Creek) are to be funded by the City.

Junction Place Bridge at Goose Creek to be built in conjunction with the Depot Square Development.

Pearl Parkway (portion of North Side) – in conjunction with Depot Square. The City is currently working on options to advance the design and construction ahead of federal funding year.

Input from Stakeholder Meeting

Q: What requirements does TIP funding impose?

A: Adds additional layers of work including CDOT oversight and Federal processes including environmental efforts. The TIP funding does not preclude this project

Q: When was grant submitted

A: October 2010

Even if capital Investment Strategy Ballot passes the city will not be able to fund all the planned improvements. Hoping to fund: Portions of Pearl Improvements and Improvements along Boulder Slough

Comment: City submitted a proposal for funding prior to a public process which does not seem correct.

Q: Need another grade separation along Junction Place

A: Yes, with slough another opportunity for crossing

Q: Other Grade Separations

A: Improved bridge at Railroad creates opportunity for additional grade separations. Unfunded

Comment: Design expedites 35,000 vehicles thru the project while slowing bicyclists to walking speed. These issues have been raised previously.

Comment: Community Cycle favors Alternative 1A. Like the dedicated multiuse path.

Comment: Alternative 2A does not feel like the right solution for individuals with disabilities. Prefers Alternative 1A with parking closer to Pearl Parkway thru lanes.

Comment: Likes narrower drive that will promote traffic calming.

Sam noted that one of the lessons learned from Octavia Boulevard was to raise the entry of the shared streets.

Q: What control happens when the Side Street merges into main street

A: Will be researched, city would like to keep signage down.

Each corner has been laid out with a 5' wide refuge area for bicyclists on each end of the shared street area.

Comment: How will on-street parking be managed? Turn-over parking is desirable. Advocates all metered parking.

City choose unbundled parking and parking maximums to provide those who want to live in a truly walkable and livable area the freedom of not having to pay for parking.

Comments: Developers want more on-street parking in front of building. Against the contraflow bike lanes. Comment was echoed by another developer.

Comment: Goal is to provide livable space. Although separation is good would like to see speeds along Pearl Parkway also reduced.

Comment: Hard to make Pearl Parkway liveable due to the high traffic volumes and high velocity traffic.

Q: Why no trees adjacent to 30th

A: Proximity to intersection with double left turn lanes.

Q: Could one turn lane be removed

A: Operation is at a low level of service today and assumes that no additional traffic will come from this development

Q: Signal Timing?

A: Signal timing will be effected side street, pedestrian calls and bus stacking.

Q: What are lane widths?

A: Thru lanes are narrowed to minimum allowed width from 30th to Railroad

Q: Is speed set by 85th Percentile?

A: City not required to set speed at 85th Percentile, however it is the fundamental method for setting speed limit.

Comment: Need to signal thru traffic on Pearl Parkway with material change so motorists know that this section of Pearl is something is different and to slow down.

Comment: Elements that can slow speeds down include pavement treatments, narrowing of lanes and possibly landscaping. Provide as much "Visual Friction" to motorists as possible as development occurs.

Q: Will Slough Path be Lit? Would like to see better lighting for paths.

A: Lighting will be at Grade Separations. Development will have stoop lighting which will provide some additional lighting. Currently City policy is to not light paths.

October 25, 2011 Stakeholder meeting – Comments RE: Pearl Parkway recorded by Bill Cowern

- Due to the lack of any significant retail on south side development, there is very little potential for pedestrian activation of the boulevard.
- Street width – 10' = slower; while 14' = faster
- Emergency response – Should be able to use both street and MU path in Alternative 1A.
- Alternative 1 conflicts between bikes and peds on MU path overstated. High speed bikes would use side street, especially side street were narrow (10') and if transition between path and side street were curb-less or mountable. Only slower bikes would consistently be on MU path.
- There is a lot being gambled on this area being a successful high pedestrian use place. Odds seem good that it would not be. If not, Alt. 1 falls much more gracefully than Alt. 2.
- Community Cycles prefers Alternative 1 over Alternative 2.
- Both developers and Community Cycles expressed concern about the contra-flow lane in Alt. 2B.
- Some concern about the ability to provide an effective ADA warning for a curb-less street. But support for providing a mountable curb for easy bike transition.



Pearl Parkway Multi-Way Boulevard Project

Oct. 25, 2011 Open-House Meeting

Comment Form



Thanks for attending the meeting and for your feedback - your comments will be considered as a design option is chosen.

JONATHAN HONDORF

Name

Contact Information

Do you have any comments or suggestions on the Four Initial Alternatives?

ALT 1: ~~Good~~ SHARED SPACE (B/C) WIDE PED area

ALT 2: 40/60 TOO NARROW PED area

ALT 3: BAD ^{PARALLEL} PARKING ON STREET HIGH TRAFFIC conflict

ALT 4: BAD NO PARKING FOR LOCAL UNITS

Pedestrian ^{need} will eventually dominate st. use (HIGH UNIT # & High Ped #)

Do you have any comments or suggestions on the Three Refined Alternatives?

ALT 1: BEST NARROW 10' STREET (TRAFFIC CALM +) UNDER PED/MW USE PATH

ALT 2: BETTER THAN 3 BUT TOO WIDE UNDERGATE STREET / conflict

ALT 3: DON'T LIKE CONTRA W/O PROTECTIVE BARRIER



Pearl Parkway Multi-Way Boulevard Project
 Oct. 25, 2011 Open-House Meeting
 Comment Form



Thanks for attending the meeting and for your feedback – your comments will be considered as a design option is chosen.

PAUL SAVORITO

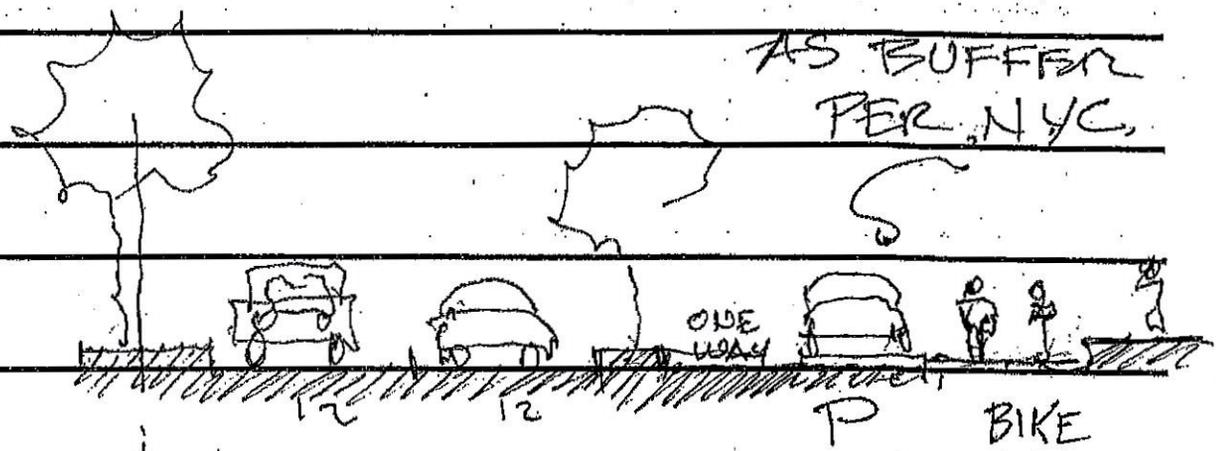
Name

Contact Information

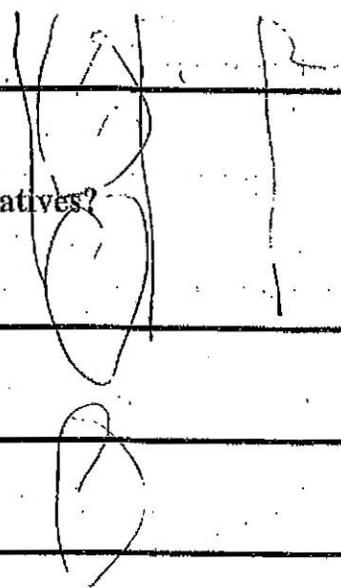
Do you have any comments or suggestions on the Four Initial Alternatives?

PARKING LAWS

AS BUFFER
 PER NYC



Do you have any comments or suggestions on the Three Refined Alternatives?



- turn page over -

Oct. 25, 2011 Public Open-House meeting –
Public Input from post-it notes on graphics

Posted to the Bike Ped Transit Connections map graphic:

Train underpass at Pearl?

Any plans to lower decibel of train whistle for hotel guests/residential?

Posted to the Evaluation Factors graphic

Cyclist community not included in 12/6/10 or 12/10/10 meetings

Posted to Alternative 1 of the Three Refined Alternatives graphic

Can emergency vehicle use the multi-use path as part of their 12 foot need?

10 foot wide (versus 13-14 foot wide) car right of way will calm traffic even when bikes/peds are few

Very little retail out here in plan. Only 6/320 units have stoops – very little potential activity.

Most through bike traffic will be on road. Only slow or (few) contra flow bikes on path.

With parking on street side right-of-way is plenty wide for emergency vehicles.

There will not be much conflict between bikes and peds on multi-use path because bikes will be in side street.

Posted to the Alternative 2A of the Three Refined Alternatives graphic

In absence of high bike/ped usage, a 13-14 foot wide lane will encourage inappropriately fast driving.

Posted to the Alternative 2B of the Three Refined Alternatives graphic

Contra-flow bike lane without a physical barrier invites car/bike conflict given wide (13-14 feet) right-of-way.

Attachment F
11/29/11 Meeting with Community Cycles
Summary

In Attendance:

Sue Prant, Zane Selvans, Fred Ecks, Chuck Brock, Kurt Nordback, Alex May, Marni Ratzel, Bill Cowern, and Sam Assefa

Alex May presented a refined design of the Pearl Pkwy multiway boulevard cross-section.

Design challenges addressed:

- There is a desire to break up hardscape between multi-use path and local roadway and add a row of trees.
- This new approach required emergency access to local roadway to be redesigned.

Key elements:

- A row of ornamental trees in tree grates is proposed to be placed between the multi-use path and the side street. This will narrow the multi-use path, the side street area, the lanes on Pearl Parkway and the median between the main street and the side street.
- *South side by the 3100 Pearl entrance* - the cross-section design incorporates a mountable curb of the divider median to allow emergency vehicle access from the Pearl Parkway main roadway. This widened median area also will serve as an enhanced transit stop.
- *Northside by hotel* - the design includes a kiss & ride at the pedestrian way to BRT station entrance. The mountable curb of the divider median will again only allow emergency vehicle access.
- The westbound transit stop is now located on the far side of the Junction Place intersection. This should encourage transit users cross at the intersection.

Community Cycles Advocacy Committee member comments:

There remained concern about the lack of provision for bike lanes on Pearl Parkway. While some concern was expressed about narrowing the multi-use path, several members acknowledged that the local access roadway would serve as another viable option for cyclists. It is thought that cyclists will use the multi-use path when traveling against traffic. But, share the local roadway for same direction travel with motorists.

Snow removal was raised as an issue that will present an on-going challenge as the city does not usually plow local roadways and the adjacent property owner is responsible for maintaining the sidewalk/multi-use path, but only to a width of at least five feet. It was noted that most commercial properties and HOAs clear the full width of sidewalks designated as multi-use paths.

It was expressed that there seemed to be a lot of challenges to providing on-street parking and that the revised design proposes as little as six parking spaces per block, which seemed to be a significant trade-off.

There was a request to provide a feedback loop that makes parking cost transparent and ensure that the intent of providing unbundled parking is concept ensured not only physically but financially for end users.

The group recommended improved bike parking along the corridor that is functional and convenient, perhaps a bike corral, to reduce the potential for cyclists to lock their bikes to tree or posts. It was also suggested that providing bike parking only on-site would be counter to activating the streetscape.

It was noted that the main entrance to 3100 Pearl along the Pearl Parkway frontage provides access by stairs only and is therefore not an ADA accessible route, though it is the proposed location for the transit stop. The group requested that a bike gutter, stair rail be added to allow bikes to be conveniently rolled up the stairs.

The group also offered the following additional suggestions:

- The design detail of tree grates is important. Ensure that there are no longitudinal openings and that the surface is slip resistant.
- The multi-use paths should be well signed.
- Consider installing sharrows (shared lane markings) along the side street to reinforce that cyclists are encouraged and allowed to ride there and not just expected to use the multi-use path
- Consider installing a colored bike lane segment through the intersection of Junction Place to give cyclists a viable on-street option rather than being required to slow and ride through the crosswalk.
- Make the turning radii of all corners at Junction Place smaller to reduce turning speed.
- Ensure adequate sight distance when considering the placement of trees.

Attachment G

Pearl Parkway Four Initial Alternatives Evaluation

Sustainable Streets & Centers Pearl Parkway Pilot (30th - BNSF RR) Evaluation Criteria

Modified 12-07-10

Updated Following 12/10/10 Meeting

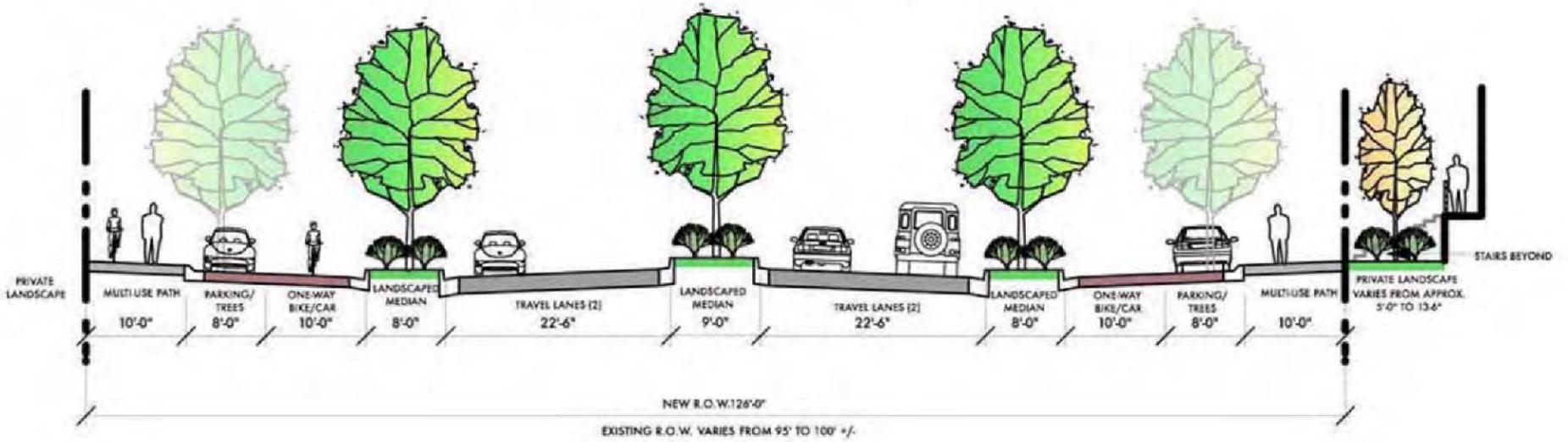
Note: It was noted by stakeholders at the 12-6-10 meeting, that some of the various Pearl alternates being considered for possible implementation along the 3100 Pearl site may not be applicable for other adjoining Pearl frontages pending future development plans (Housing and RTD parcels).

Categories	Weighting (%)	Key Evaluation Factors	Alt 1: <i>MWay Blvd., Park Bldg. Side</i>	Alt 2: <i>MWay Blvd., Park St. Side</i>	Alt 3: On-Street Parking w/ Bike Lanes	Alt 4: <i>Adopted TVAP Section (Enhanced)</i>
Economic Vitality	20%	On-street parking a part of Alts 1-3 (not 4), and maximized in Alt 3 to support adjoining land uses. Higher initial and life cycle costs for Alts 1 and 2, no city cost for Alt 4 (development requirement).				
		Category Rank	3	2	1	4
Social Equity	20%	Alts 1 & 2- creation of distinct place, promoting sharing of spaces and pedestrian orientation.				
		Category Rank	1	1	3	4
Environmental Quality	20%	Permeable pavers anticipated as a part of possible Alts 1 and 2, help soften hardscape surfaces for those alternates. No required center median narrowing Alt 4, and continuous 8' planter strips for Alts 3 and 4 maximize planter areas.				
		Category Rank	4	2	2	1
Functionality	20%	Traditional dual bike facilities (on-street and m/u path) provide dual facilities for bike "to" and "through" trips- benefit over Alts 1 and 2. Vehicular mode function compromised the most by Alt 3 with on-street parking.				
		Category Rank	3	2	3	1
Safety	20%	General overall safety for all modes deemed better for Alts 3 and 4, due to separation and defined spaces for each mode. Safety for vehicular traffic only, diminished by introduction of on-street parking for Alt 3. Emergency access options better for Alt 2.				
		Category Rank	4	2	3	1
Overall Rank			4	1	3	2

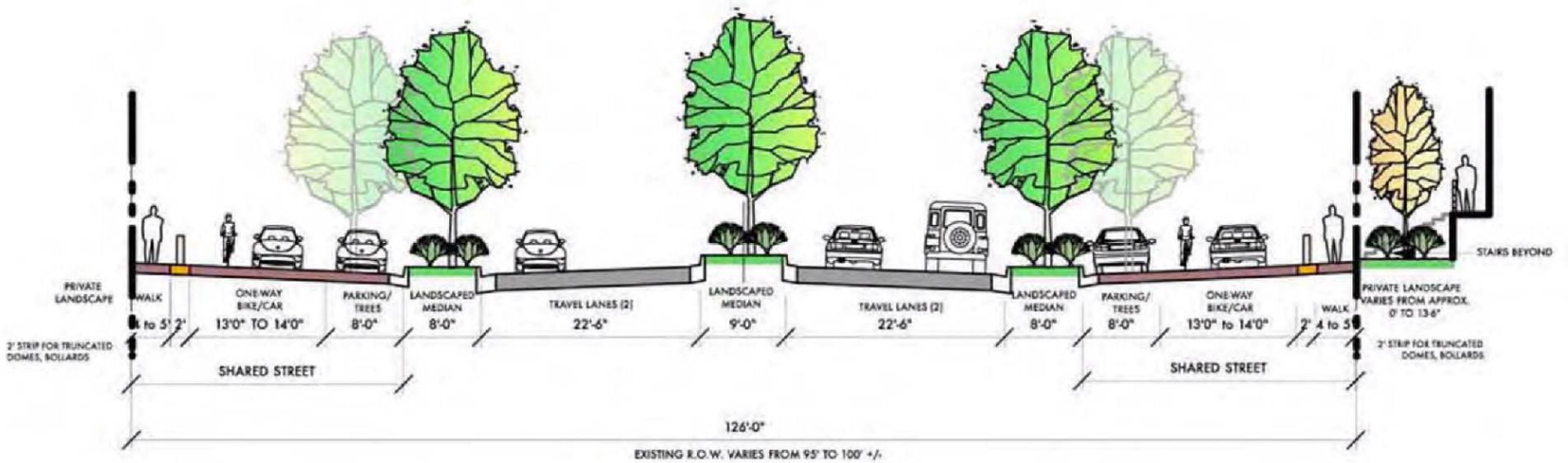
Attachment H

Section Views of Refined Alternatives

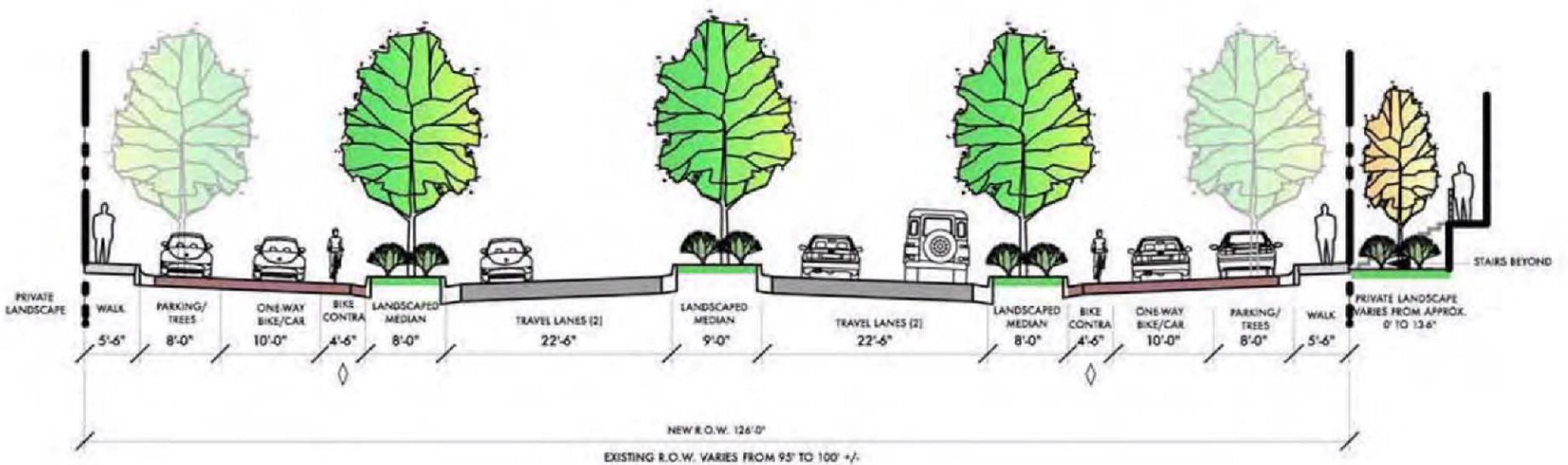
Alternative 1: Multiway Boulevard with Multi-use Path



Alternative 2A: Multiway Boulevard with "Shared" Street Side Street



Alternative 2B: Multiway Boulevard with Contra-flow Lane



Attachment I Key Attributes of Refined Alternatives

Key Attributes (for all Alternatives):

- All alternatives provide a “multiway” boulevard including a “side street” which will provide local access and parking for the adjacent mixed-use development.
- All alternatives provide space for a double row of street trees, though the alternatives with parking on the main street side orients these additional trees directly adjacent to the primary tree row adjoining Pearl Parkway and do not provide a separate additional canopy over the sidewalk/path.
- Portions of the cross-sections for all alternatives could be constructed with permeable pavers which provide both aesthetic and environmental (storm water) benefit, or with other combinations of decorative pavement surfaces. These selections would also be affected by fiscal constraints and resolution of long-term maintenance issues and responsibilities.
- All alternatives provide pedestrian facilities (multi-use path or sidewalk) which are narrower than current City Standards would require for the adjacent land use. In each case, the narrower pedestrian area limits the opportunities to place signing, bike racks and other street furniture in the pedestrian area without further decreasing the usable pedestrian space.

Refined Alternative 1: Multiway Boulevard with Multi-use Path

This refined alternative is not significantly different from the original concept Alternative 1. It provides a one-lane, one-way boulevard “side street” with parking. Parking could be on the right or left side of the travel lane, or alternate back and forth. A second row of street trees would be placed intermittent with the on-street parking wherever it was located. A 10-foot multi-use path would provide multiway bicycle and pedestrian through movement and access. The path would be immediately adjacent to the property line, abutting proposed building stoops and adjacent specialty retail space entrances. As outlined above, this proposed alternative could be a curb-less section, or include various types of separator curbs. For the purpose of this discussion and included graphics, we have shown this alternative with curbs separating the multi-use path from adjoining uses.

Key Attributes:

- Separates bicycle and pedestrian traffic from Boulevard side street motor vehicle traffic and parking by providing a multi-use path adjacent to the property. This will limit conflict between motor vehicles and bicycles/pedestrians.
- The multi-use path would be 10-foot wide (less than the 12-foot wide path that exists today on the south side and less than City Standards) and would be close to the buildings on the adjacent property, reducing its functional width. This will create some potential for conflict between bikes and pedestrians on the path both with each other and with persons entering and exiting the adjacent buildings.
- The multi-use path would be attached (no setback from the side street). If parking is on the building side, then there would be conflicts between path users and people entering/exiting parked vehicles.

- If parking is on the main street side, this provides the potential for wider planting width intermittent with the on-street parking. The wider space could provide for enhanced transit stop facilities adjacent to Pearl Parkway.
- If the roadway section were to be a “Shared” then the 10-foot wide multi-use path would diminish the opportunity to create a contiguous “public place” by separating the “Shared Street” from where most activity occurs, i.e., entrance stoops, retail.
- Boulevard side street area (10-foot wide) is too narrow for emergency response vehicles to traverse, requiring penetration of the diverter landscape median to create emergency response access to the properties adjacent to the boulevard. This could undermine the continuity and function of the tree-planting in the divider median.

Alternative 2A: Multiway Boulevard with “Shared” Side Street

This alternative provides an elevated shared-street environment allowing one-way travel for motor vehicles and two-way travel for pedestrians and bicycles. The shared street would be raised from the Pearl Parkway roadway like a sidewalk. Motor vehicles entering the area from Pearl Parkway would drive up onto the shared side street (similar to a residential driveway). The shared street also includes parking adjacent to the landscape strip. In addition; a 4 to 5-foot wide pedestrian sidewalk at the same elevation would be separated from the drivable area of the shared street by an appropriate treatment to meet ADA standards. This sidewalk would be separated from the shared space with bollards, or other narrow physical obstructions to prevent motor vehicle access, yet allow pedestrians and cyclists to easily travel between the sidewalk and shared space.

Key Attributes:

- Creates a wide (13 to 14-foot) shared space environment where pedestrians, bicycles and motor vehicles operate together, with a narrow (4 to 5-foot) pedestrian only area adjacent to the buildings and stoops. This narrow sidewalk would vary from City Standards and create possible access challenges to fronting land uses.
- The elevated surface area slows motor vehicle traffic upon entrance/egress from the boulevard main street and minimizes conflict with bikes and pedestrians in the shared area.
- Since parking is on the main street side, this could provide portions of wider planting width intermittent with on-street parking. The wider space could provide for enhanced transit stop facilities and other public gathering places adjacent to Pearl Parkway.
- Provides a street character more in concert with proposed fronting land uses, creating potential for a more distinctive special place.
- Space between median and building face reads as a long, hardscape surface without parked cars or trees to break down the scale.
- The Fire Department has indicated that the 13 to 14-foot side street width is adequate for emergency response vehicles and eliminates the required divider median penetrations.

Alternative 2B: Multiway Boulevard with Contra-flow Lane

This alternative provides a one-lane, one-way boulevard side street with parking on the side adjacent to the sidewalk. The sidewalk would be five feet wide. A contra-flow bike lane would be striped along the other side of the roadway adjacent to the landscape median separating the boulevard side street from Pearl Parkway. This would provide a facility for bikes traveling in the

opposing direction to boulevard side street traffic. As outlined above, this proposed alternative could be a “Curb-less” section, or include various types of separator curbs. For the purpose of this discussion and included graphics, we have shown both versions of this alternative. This alternative could not be a “Shared-Street” due to presence of parking adjacent to the sidewalk and the pedestrian sight distance safety issues that it would create.

Key Attributes:

- Provides a contra-flow bicycle lane which minimizes conflict between motor vehicles and opposing direction bicycle traffic.
- Narrow (10-foot) space shared by motor vehicles and bikes traveling in the same direction creates potential conflicts when motor vehicles stop to park. This may induce wrong-way bicycle riding in the contra-flow bike lane.
- Parking on the building side adjacent to narrow (5-foot wide) sidewalk will result in conflicts between sidewalk users and people entering/exiting parked vehicles. This narrow sidewalk would vary from City Standards and create possible access challenges to fronting land uses.
- The Fire Department has indicated that the combined width of the side street vehicle lane and the contra-flow bicycle lane is adequate for emergency response vehicles.



MEMORANDUM

To: Carol Adams
Sam Assefa
Bill Cowern

From: Bill Fox and Steve Tuttle

Date: September 22, 2011

Project: Junction Place Design

Subject: Summary of "Shared Street" research and Junction Place shared street design efforts

This memorandum is intended to provide context to the on-going discussion, evaluation, and design process related to the implementation of the shared street concept on Junction Place in the block between the bus drive to the underground bus depot (Spruce Street) and the bridge over Goose Creek. As you know, it has been projected as part of the Transit Village area planning efforts that this block will likely have a daily traffic volume between 2,500 vpd and 5,000 vpd depending on the land uses and travel mode split that are ultimately realized in the area. To help the conversation we have conducted a literature search and a series of telephone interviews in an effort to find examples of "shared streets" that serve a through traffic volume in the range of 2,500 to 5,000 vehicles per day. We have also participated in a series of staff design workshops on the Junction Place shared street. These efforts are summarized as follows:

Shared Street Research Summary

- Shared streets, also called shared space, living streets, green streets, woonerfs etc. all imply a common space to be shared by various travel modes. The most common trait is the lack of curb & gutter at the edges of the automobile travel way, but from there they vary greatly in design based on functionality of the road, modal volumes and the balance of ped/bike/transit and automobile volumes, the range of uses in the shared space, etc. This wide range of characteristics make "apples to apples" comparisons very difficult when reviewing various projects that have been implemented or are currently being planned.
- Shared streets typically work by using social controls (eye contact, desire to avoid conflict, etc) vs. signing & marking (traffic) controls to govern the interaction between users of the shared space. For the social controls to work, the vehicular travel speeds must be slow (typically less than 20 mph).
- They have been used in Europe (primarily Holland, Denmark, Germany, Sweden, and UK) with a high variability in automobile volume.
- Limited (mostly low-volume) use in the United States (see list below); volumes are not readily available for many of the examples below but most are self-described as low-volume roads.

Volume Thresholds:

- City of Ashland white paper states "as a rule of thumb, the Netherlands and UK recommend that streets with greater than 100 vehicles per hour during the afternoon peak should not be considered for Shared Street treatment".
http://ashlandtsp.com/system/datas/98/original/AshlandTSP_SharedStreetsWP_020211.pdf
- Shared -Use Streets - An Application of "Shared Space" to an American Small Town suggests use for only "very low traffic volumes" and lists 120 vph as upper threshold based on the assumption that vehicles should pass no more frequently than every 30 seconds on average, though recognizes effective European examples with much higher vehicular volumes.
http://www.bfbc.org/?q=system/files/blog_files/node_7425_user_51_Shared-Use%20Streets.pdf
- Per <http://streetswiki.wikispaces.com/Shared+SpaceHamilton-Bailie>, Hamilton-Baillie of the UK, has shown that shared space principles can work on roads with 20,000 vehicles/day – a moderately large arterial street. More recently, it has been successfully applied to Kensington High Street in the Borough of Kensington, with a traffic volume exceeding 40,000 vehicles/day." (see resource list below for article)

Examples in US (with descriptive notes and contacts as available):

Cambridge, MA contact: Cathy Watkins

- Winthrop Street – less than 1,000 vehicles per day – open in the AM to vehicles but closed in the afternoon and evening to become a pedestrian space, restaurants, etc.
- Palmer Street, Cambridge Mass. – closed to all except loading/unloading vehicles for most of the day

San Francisco, CA contacts: Nelson Nygaard staff, Public Works staff

- Linden Street – "alley like" with very low traffic volume
- "Parklets" – extending curbs into the parking lane to widen sidewalk for restaurant seating, etc., apparently an on-going practice
- Fisherman's Warf redesign project: a significant portion of the busy Jefferson Street is currently being designed into a shared street concept with cable cars, buses, autos, pedestrians, etc.
- Holloway Street near San Francisco State University – wide street with 5,000 ADT and high pedestrian volume – drainage issues compromised some of the raised pavement design

Seattle, WA contact: Marshall Foster

- Pike Place - historic roadway with curb and gutter but has evolved into a shared street by virtue of the high pedestrian volume and vehicle mixing, ADT in the 5,000+ vpd range
- South Lander "Festival Street" - hybrid with single surface, one finish, delineation with bollards and truncated domes, vehicle way is delineated with a paving strip that is mountable by wheelchairs and less than curb and gutter, de-emphasis of signs for traffic control, easily closed for special events, estimated ADT between 3,000 and 5,000 ADT, considered a very big success
- Bell Street Park "Festival Street" – Being planned, similar to South Lander, but includes bus traffic

Boston, MA contact: Peter Gori

- Cross Street Market – design included one-way automobile circulation and parking in a very wide “sidewalk” like area adjacent to a roadway (which also had on-street parking) in a high tourist environment. City transportation staff supports the concept but described this project as a “horrible failure” primarily due to design details which were compromised by historic R.O.W. and other local issues. City had to restrict some of the traffic due to safety concerns.

Others noted in the literature but no successful contact made:

- Longfellow Street, Santa Monica CA
- Cady's Alley, Washington D.C.
- South Main, Buena Vista, CA – very low volume roadway per photographs
- River City, Toronto Canada
- Manhattan - Gansevoort Plaza in Meat Packing District, also have several "de facto" shared streets that weren't necessarily design as a shared street but operate effectively that way (see <http://www.planetizen.com/node/38795>)

Opposition:

- most opposition to shared streets is from ADA advocates, particularly as it relates to blind pedestrians, although it should be noted that Seattle believes it has worked out an acceptable set of treatments to accommodate the blind.
- could be problematic in a transit environment without curbs (loading/unloading)

Other Resources:

- This Ben Hamilton-Baillie (UK) article is often cited as a Shared Street resource
<http://www.hamilton-baillie.co.uk/files/publications/25-1.pdf>
- <http://newurbannetwork.com/article/%E2%80%98shared-space%E2%80%99-streets-cross-atlantic>
- <http://www.engr.uconn.edu/~garrick/articles/Congress%20of%20New%20Urbanism%20-%20New%20England%20Chapter.htm>

Based on the literature and contacts, here are some thoughts relative to the Boulder installation on Junction Place:

It is clear that there is no easy “one size fits all” or even a reasonable “cookbook” for designing a shared street, let alone determining if one is appropriate. Communities that have implemented shared streets have customized them to the local conditions. It is also clear that safety needs to be a primary consideration in the decision to install a shared street and in its effective design. In this context we offer the following thoughts:

- With careful design and consideration for safety, we believe that the shared street concept could have application on Junction Place.
- It appears that Seattle’s “Festival Street” concept may a model to use or consider in the design process.

- We have many of the components of shared streets in place today all over Boulder. Here are a few examples for consideration:
 - Southbound 14th Street crossing the Pearl Street Mall has approximately 2,500 vehicles per day. Yes this is only one way, and yes, it is stop sign controlled, but this is approximately a one directional component of what the interaction between vehicles and pedestrians might feel like on Junction Place. Add the same traffic in the other direction and you have the upper end of what Junction Place would feel like.
 - The section of 29th Street through the new mall area (with the red pavement) feels like a shared street in spots. It is my understanding that this roadway currently has approximately 5,000 vehicles per day. Pedestrians crossing at-will, vehicles accessing parking spaces, 2-way through traffic, etc.
 - The drive aisles in front of Boulder's large format retail stores (Target, Home Depot, King Soopers, etc.) function like shared streets every day. With 200 to 300 parking spaces that require most vehicles to circulate in front of the front door, and a turnover of say once per space per hour during peak times, this would result in the approximate equivalent of 400 to 500 vehicles per hour (2-way traffic) crossing paths with high pedestrian volumes. This is the daily equivalent of 5,000 vehicles per day on Junction Place. Maintaining the slow speed interaction is the key.
 - Boulder drivers are familiar with raised crossings, raised intersections, alternative pavement treatments, and most importantly, the need to yield to pedestrians. This will help the successful "learning curve" on Junction Place.

- If the plaza or shared street is raised relative to the approaches on Junction Place, coupled with the streetscape design elements through the shared street area, we anticipate that the necessary slow automobile speed can be achieved.

Summary of Preliminary Junction Place Shared Street Staff Design Efforts

- A team of City staff and consultants (Sam Assefa, Bill Cowern, Marni Ratzel, Carol Adams, and Bill Fox) met for a number of work sessions to begin the design process for the Junction Place shared street. Working sessions included a lively interaction of thoughts, concerns, considerations, and ideas. The process included a fair amount of "outside the box" thinking as the markers, turning templates, scales, and tracing paper were put to the test. The process drew upon examples from across the country, as well as on Boulder's extensive experience providing innovative multi-modal facilities.
- A complex set of key issues considered throughout the design process (not necessarily in order of importance) included:
 - Safety for pedestrians, bicyclists, and motorists
 - Sight distance considerations
 - Maintaining slow automobile travel speed through the plaza area
 - ADA considerations
 - Form and function of the park and plaza areas

- Raising the plaza and shared street area relative to the approaches on Junction Place to the north and south
- Defining key pedestrian crossing areas (even though the entire shared street is designed to allow pedestrian crossings anywhere along its length)
- Using landscaping and bike parking placement to help define desirable bicycle access routes (even though the entire shared street is designed to allow flexible bicycle circulation)
- Relationship between the shared street and the adjacent land uses, including Goose Creek, residential to the west, the park and plaza area, the depot, the transit facility, etc.
- How can adjacent land uses help “activate” the shared street
- Transitions to the more typical street sections at the Spruce street intersection and the Goose Creek bridge
- Pedestrian crossings at the southern end of the shared street at the Spruce Street intersection
- Inclusion (or not) of on-street parking in the shared street area
- The ability for “kiss and ride” pick-up and drop-off activity and appropriate vehicular turn around space
- Pavement treatments, materials, etc.
- The use of street furniture such as planters, bollards, paving treatments, etc. to delineate automobile travel paths through the plaza area
- Appropriate design vehicle and service vehicle access
- Accommodating future small format transit vehicles through the shared street
- Storm drainage issues relative to the edges of the shared street and the adjacent plaza
- Traffic operational concerns, regulations, motorist understanding, enforcement issues, legal issues, etc.
- The design process considered two significant variations on alignment of the shared street. One included an orthogonal or rectangular alignment that oriented the street along the west edge of the park area adjacent to the future residential area, and then along the southern edge of Goose Creek before turning north to cross the Goose Creek bridge. The other alignment was more diagonal between the Junction Place/Spruce Street intersection and the Goose Creek bridge. While both alternatives had pros and cons, ultimately the diagonal alignment was selected (for a number of traffic and urban design issues) and the rectangular alignment was abandoned.
- A number of common themes surfaced and helped guide the design process, including:
 - The design must be “self enforcing” from the perspective of slow traffic speed and the need for automobiles to yield to pedestrians and bicycles.
 - Streetscape elements would be used to define the automobile traveled way rather than curb and gutter.
 - The design would focus on maintaining good sight distance between motorists and bikes/peds. to maximize safety
- It was acknowledged that the shared street environment would be implemented and “activated” over time as the adjacent land uses and activity in the plaza area intensify. In this context, the design must be self-enforcing from “day one” when intense activity would likely not

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be present yet. There would be a learning curve over time for all users of the area, but the design of the facility will allow it to occur safely and efficiently.

- There was general agreement and excitement that the shared street concept could work in the Junction Place environment, and that this is an appropriate place for Boulder's first "shared street".

I hope this information is helpful. Please let us know if you have any questions.