



West LRT Alignment Assessment

2008 May 21

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1.0 Foreword

On 2007 November 20, Council approved the alignment and capital budget for the West LRT. At the Regular Meeting of Council on 2008 February 25, Council directed Administration to review an alternative alignment between 10 Street S.W. and 26 Street S.W. and to report back to Council prior to 2008 March 18.

On 2008 March 17, Administration provided its review of an alternate alignment, brought forward by community representatives in Ward 8. Administration's report was referred back to the SPC on Land Use, Planning and Transportation and was directed to report back no later than 2008 May 31 regarding an assessment of alignments for the West LRT to ensure consistency with the following Council policies:

1. Triple Bottom Line;
2. Transit Oriented Development;
3. Plan It Calgary;
4. Imagine Calgary;
5. Centre City Plan; and
6. Crime Prevention Through Environmental Design.

As per Council's 2007 November 20 approval of the West LRT, Administration presented a status report to the SPC on Land Use, Planning and Transportation on 2008 March 19. This status report was also referred to report back before the end of 2008 May with the exception of the Mount Royal College Transit Service Plan which was received for information.

2.0 Background

High quality transit service is an important building block in creating attractive, economically competitive and sustainable cities. Public transit service helps make cities more livable and healthy for everyone by:

- ensuring equitable and affordable mobility options to enable all people to participate in the social and economic life of the community;
- supporting economic vitality and competitiveness by increasing access to jobs, education and other community resources;
- reducing the need to spend public tax dollars on expanding and maintaining road and parking infrastructure;
- providing public health benefits by reducing transportation noise levels and improving air quality; and

- ensuring long term economic and environmental sustainability by reducing emissions.

To make public transit the preferred travel mode of more people it is important that transit services offer competitive travel times, good frequency, reliability, safety and comfort. As cities grow the speed, convenience and comfort of travel become particularly important considerations in the design of a transit network. People are more likely to choose transit as their preferred mode of travel if these attributes are at least comparable to driving a personal automobile or other modes of travel.

The first 27 years of operation has demonstrated that CTrain service provides the travel time savings, reliability and other benefits necessary to entice Calgarians to change their mode of travel to public transit. LRT has become the backbone of the transit system and daily ridership has grown significantly over the past decade to over 270,000 boarding passengers, which ranks as the highest among North American LRT systems. LRT has been a significant contributing factor to the relatively high modal share for transit travel to the Centre City (currently 45 percent). Continued expansion of the LRT network and investment in other transit improvements is required to achieve the future strategic goal of increasing transit's share to greater than 60 percent for travel to the Centre City and to increase city-wide use of transit service.

The effectiveness and efficiency of Calgary's LRT system is the result of the consistent application of key planning, design and operating principles. In most cases, the location and design of the LRT route, stations, park and ride and feeder bus facilities have been planned many years in advance of construction to enable strategic land acquisition and to provide the most convenient and efficient transit service to the greatest number of residents and employees in the area. The recommended West LRT route is centrally located within the service area and the route and station locations have been chosen to provide the most convenient and shortest access to existing population and employment as well as realize transit oriented development opportunities along the corridor.

Wherever possible, the LRT system has been designed to operate within an at grade environment, with a protected right-of-way, to optimize the development of the system with available funding, and to maximize operating speed, accessibility and public safety. Tunnels and elevated guideways have been used sparingly and only where necessary to grade separate the LRT line when crossing high volume roadways, rail lines and major natural features (e.g., river valleys and creeks). As a result of these practices, Calgary is recognized as a leader in the transit industry for the efficiency of our LRT system. A recent paper entitled *Calgary's CTrain, Effective Capital Utilization*, published by the Transportation Research Board, places Calgary in the top third of all LRT systems with respect to having the lowest capital costs per kilometre and as the top performer with respect to daily ridership.

Implementation of the West LRT line represents a significant investment to improve the quality of public transit service in West Calgary and create a premium city-wide transit network which will reduce auto dependency and stimulate more compact, pedestrian-friendly developments within walking distance of transit. The projected daily ridership for the West LRT is estimated at 37,000 to 44,000 customers, of which, at least 20 percent is expected to be from people who shift their mode of travel from private auto. The following environmental and economic benefits will result from this investment:

- There will be approximately 1.8 million fewer vehicle trips annually and a reduction of 12.5 million annual vehicle kilometres traveled. This will reduce annual CO₂ emissions by 3,250 tonnes, CO emissions by 189 tonnes, NO_x emissions by 12 tonnes and Volatile Organic Compounds (VOC) by 25 tonnes.
- The West LRT line will reduce peak hour roadway infrastructure requirements by the equivalent of one inbound and one outbound traffic lane.
- The demand for parking will be reduced at various destinations across the city to accommodate people who would have otherwise driven their private auto to work, school or for other purposes.

3.0 Council Policies

As per Council direction, Administration has reviewed alignments for the West LRT in relation to several Council approved policies, namely:

1. Triple Bottom Line;
2. Transit Oriented Development;
3. Plan It Calgary;
4. Imagine Calgary;
5. Centre City Plan; and
6. Crime Prevention through Environmental Design.

A summary of these policies is provided in Appendix 1.

4.0 West LRT Alignment Assessment

Council approved the West LRT Functional Study in 1988 which established a recommended corridor from downtown to 69 Street S.W. The approved corridor started on 7 Avenue at 11 Street S.W., passed adjacent to the Planetarium (currently Telus World of Science) and through the Mewata Stadium (currently Shaw Millennium Park) lands and entered the median of Bow Trail then proceeded westerly to 33 Street S.W. This portion of the alignment was predominately at-grade (ground level) with bridges to cross over 14 Street S.W. and the CPR right-of-way. Between 33 Street and 37 Street S.W. the LRT corridor traversed the Westbrook Mall lands underground and re-surfaced

in the median of 17 Avenue west of 37 Street and continued at-grade to 69 Street S.W. including a grade-separated crossing over Sarcee Trail.

During the almost 20 years that passed since this alignment was approved, Calgary has changed. Some of the road network changes contemplated back in the 1980's that enable the LRT alignment to make its way from the downtown to 33 Street S.W., particularly along Bow Trail between 11 Street S.W. and Crowchild Trail, are no longer envisioned with initiatives such as the Centre City Plan.

The West LRT alignment approved by Council in 2007 November modified the previously approved alignment to allow the LRT to be constructed in a way that would minimize changes to the existing road network while allowing flexibility for future road network expansions.

Since 2007 November, and in consultation with various West LRT stakeholders, several alternative alignments were considered given the following objectives:

- The alignment is to be centrally located within the West LRT service area as defined in the 2007 November Council report (C2007-78) and will follow the CPR corridor from 14 Street to Crowchild Trail, the Bow Trail corridor from Crowchild Trail to Westbrook and then the 17 Avenue corridor to a terminus located at 69 Street S.W.
- LRT Stations are to be located at the following locations:
 - 11 Street S.W.
 - 16 Street S.W.
 - 26 Street S.W.
 - Westbrook
 - 45 Street S.W.
 - Sirocco Drive S.W.
 - 69 Street S.W.
- Optimize LRT alignment and station locations to maximize Transit Oriented Development opportunities.
- To locate the 69 Street Station on the south side of 17 Avenue and west of 69 Street to best serve the educational campuses in the southwest quadrant of this intersection.

The corridor for the West LRT poses several challenges in developing an alignment that meet the above objectives, the Council policies described in Section 3.0 and stakeholder interests. Some of these key challenges are: the physical topography of west Calgary, CPR's land and future track requirements, minimizing impacts on existing landowners

and adjacent communities and developing an LRT corridor that maximizes accessibility and encourages Transit Oriented Development (TOD) around stations.

Several alternative alignments have been developed and reviewed and with each one there are benefits and trade-offs. The following is a description of the alternatives that have been considered and discussed with stakeholders.

To explain the alternatives, the overall LRT corridor has been divided into three (3) zones. Zone 1 is from 11 Street S.W. to 33 Street S.W., Zone 2 is from 33 Street S.W. to Glenside Drive S.W. and Zone 3 is from Glenside Drive to 69 Street S.W.

4.1 Zone 1: 11 Street S.W. to 33 Street S.W.

4.1.1 2007 November Council Approved - Blue

11 Street S.W. to 16 Street S.W.:

As a continuation of the 7 Avenue LRT line, this alignment crosses 11 Street S.W. at-grade and continues at-grade along the north side of Millennium Park to a location within the skateboard park where an elevated structure carries the LRT over eastbound Bow Trail, 14 Street S.W. and the CPR mainline tracks.

The 16 Street (Sunalta) LRT station will be constructed on an elevated structure on the south side of the existing CPR mainline tracks, north of 10 Avenue S.W.

16 Street S.W. to 26 Street S.W.:

The alignment continues on an elevated structure within CPR land to 18 Street S.W. then follows the south side of eastbound Bow Trail. The alignment then rises over Crowchild Trail, south of the interchange and continues on an elevated structure over Bow Trail. The alignment returns to ground on the north side of Bow Trail, west of 24 Street and continues at-grade to the station on the west side of 26 Street S.W.

26 Street S.W. to 33 Street S.W.:

The LRT line continues at-grade along the north side of Bow Trail to a portal near 31 Street S.W. where it enters the tunnel to Westbrook Station.

This alignment is shown in Figures 1 and 2: Zone 1 – 2007 November Council Approved (Blue).

4.1.2 Alternative 1 - Orange

11 Street S.W. to 16 Street S.W.:

As a continuation of the 7 Avenue LRT line, this alignment crosses 11 Street S.W. at-grade and continues at-grade along the north side of Millennium Park to a location within the skateboard park where an elevated structure carries the LRT over eastbound Bow Trail, 14 Street S.W. and the CPR mainline tracks.

The 16 Street (Sunalta) LRT station will be constructed on an elevated structure on the south side of the existing CPR mainline tracks north of 10 Avenue S.W.

16 Street S.W. to 26 Street S.W.:

The alignment descends to ground level near 18 Street S.W. where it continues at-grade along the CPR lands, crossing under the Bow Trail eastbound and westbound lanes. The alignment rises as it crosses under Crowchild Trail on an earthworks embankment. The tracks then cross over 10 Avenue S.W. on an elevated structure before entering a tunnel that crosses under 24 Street S.W. The alignment continues west of 24 Street S.W. in a concrete-lined trench and returns to ground surface on the north side of Bow Trail east of 26 Street S.W. The station is at-grade on the west side of 26 Street S.W.

26 Street S.W. to 33 Street S.W.:

The LRT line continues at-grade along the north side of Bow Trail to a portal near 31 Street S.W. where it enters the tunnel to Westbrook Station.

This alignment is shown in Figures 3 and 4: Zone 1 – Alternative 1 (Orange).

4.1.3 Alternative 2 - Yellow

11 Street S.W. to 16 Street S.W.:

As a continuation of the 7 Avenue LRT line, this alignment crosses 11 Street S.W. at-grade and continues at-grade bisecting Shaw Millennium Park. The alignment continues westerly crossing over the existing Bow Trail/14 Street interchange on a bridge returning to ground level for an at-grade station at 16 Street on the north side of the CPR track. Eastbound Bow Trail from 14 Street to the crossing of the CPR tracks would be reconstructed south of the LRT line on CPR lands.

The 16 Street LRT station would be constructed at-grade on the north side of the existing CPR mainline tracks, approximately where the existing eastbound lanes of Bow Trail are located.

16 Street S.W. to 26 Street S.W.:

The alignment continues at-grade in the median Bow Trail where the LRT rises to an elevated structure over the CPR tracks before descending to ground level to cross under Crowchild Trail continuing on in the Bow Trail median until reaching the 26 Street Station. The 26 Street Station will be in the median of Bow Trail.

26 Street S.W. to 33 Street S.W.:

The LRT line continues at-grade along the median of Bow Trail to a portal near 31 Street S.W. where it enters the tunnel to Westbrook Station.

This alignment is shown in Figures 5 and 6: Zone 1 – Alternative 2 (Yellow).

4.1.4 Alternative 3 - Red

11 Street S.W. to 16 Street S.W.:

This section of the LRT alignment is similar to Alternative 2.

16 Street S.W. to 26 Street S.W.:

The alignment continues at-grade into the median Bow Trail where the LRT rises to an elevated structure over the CPR tracks and continues to rise as it crosses over Crowchild Trail, within the Bow Trail median. The alignment returns to ground within the Bow Trail median near Surrey Street, remaining within the median until reaching the 26 Street Station. Similar to Alternative 2, the 26 Street Station will be at-grade in the median of Bow Trail.

26 Street S.W. to 33 Street:

The LRT line continues at-grade along the median of Bow Trail to a portal near 31 Street S.W. where it enters the tunnel to Westbrook Station.

This alignment is shown in Figures 7 and 8: Zone 1 – Alternative 3 (Red).

4.1.4 Alternative 4 - Green

11 Street S.W. to 16 Street S.W.:

This alternative is similar to the 2007 November Council approved alignment.

16 Street S.W. to 26 Street S.W.:

The alignment continues on an elevated structure within the CPR lands to 19 Street S.W. where the elevated structure crosses over the eastbound Bow Trail ramp and into the Bow Trail median on an elevated structure. The alignment continues to rise to cross over Crowchild Trail, within the Bow Trail median, and continuing on an elevated structure over Bow Trail to the north side. The alignment returns to ground on the north side of Bow Trail, west of the 24 Street and continues at-grade to the station on the west side of 26 Street S.W.

26 Street S.W. to 33 Street S.W.:

The LRT line continues at-grade along the north side of Bow Trail to a portal near 31 Street S.W. where it enters the tunnel to Westbrook Station.

This alignment is shown in Figures 9 and 10: Zone 1 – Alternative 4 (Green).

4.2 Zone 2: 33 Street S.W. to Glenside Drive S.W.

4.2.1 2007 November Council Approved - Blue

Continuing within a tunnel from the Westbrook Station, the alignment rises to ground level on the north side of 17 Avenue S.W. around 41 Street S.W. West of 41 Street S.W. the alignment continues at-grade on the north side of 17 Avenue S.W. to Glenside Drive.

The 45 Street Station will be at-grade on the north side of 17 Avenue S.W., east of 45 Street S.W.

This alignment is shown in Figure 11: Zone 2 – 2007 November Council Approved (Blue).

4.2.2 Alternative 5 – Purple

Continuing within a tunnel from the Westbrook Station, the alignment rises to ground level on the north side of 17 Avenue S.W. west of 45 Street S.W. and continues at-grade on the north side of 17 Avenue S.W. to Glenside Drive S.W.

The 45 Street Station will be constructed underground on the north side of 17 Avenue S.W., east of 45 Street S.W.

This alignment is shown in Figure 12: Zone 2 – Alternative 5 (Purple).

4.2.3 Alternative 6 – Black

Continuing within a tunnel from the Westbrook Station, the alignment rises to ground level within the median of 17 Avenue S.W. west of 41 Street S.W. The westbound lanes of 17 Avenue will be reconstructed to the north to accommodate the LRT in the median. West of 41 Street S.W. the alignment continues at-grade within the median of 17 Avenue S.W. to a location west of 45 Street S.W. where the alignment rises on an elevated structure to Glenside Drive S.W.

The 45 Street Station will be constructed at-grade within the median of 17 Avenue and will be accessed via elevated pedestrian structures over 17 Avenue.

This alignment is shown in Figure 13: Zone 2 – Alternative 6 (Black).

4.2.4 Alternative 7 – Black Dash

Continuing within a tunnel from the Westbrook Station, the alignment daylights west of 37 Street S.W. in a concrete-lined trench within the median of 17 Avenue S.W. to west of 45 Street S.W. Similar to Alternative 6, the westbound lanes of 17 Avenue will be reconstructed to the north to accommodate the LRT in the median. A vehicular bridge across the LRT alignment at 45 Street S.W. will be constructed to allow the LRT to cross underneath 45 Street. West of 45 Street S.W., the alignment will rise on an elevated structure to Glenside Drive S.W.

The 45 Street LRT station will be constructed below grade within a concrete-lined trench in the median of 17 Avenue.

This alignment is shown in Figure 14: Zone 2 – Alternative 7 (Black Dash).

4.3 Zone 3: Glenside Drive S.W. to 69 Street S.W.

4.3.1 2007 November Council Approved – Blue

Continuing at-grade on the north side of 17 Avenue S.W., the alignment begins to rise on an earthworks embankment opposite Wheatland Avenue S.W. where the alignment rises on an elevated structure over Sarcee Trail, north of the existing Sarcee Trail/17 Avenue intersection. West of Sarcee Trail, the alignment returns to grade on an earthworks embankment on the north side of 17 Avenue S.W. The Signal Hill Station will be constructed at-grade east of Sirocco Drive/Costello Boulevard S.W.

The alignment will cross Costello Boulevard at-grade and will continue westward in the existing westbound 17 Avenue carriageway. The westbound carriageway will be reconstructed into the median of 17 Avenue S.W. Crossing Christie Park Gate at-grade,

the alignment will transition to a concrete-lined trench below grade and will cross under 17 Avenue from the north side to the south side. The LRT line continues within a concrete-lined trench to a location west of 69 Street S.W. on the south side of 17 Avenue.

The 69 Street Station will be constructed underneath 69 Street S.W.

This alignment is shown in Figure 15: Zone 3 – 2007 November Council Approved (Blue).

4.3.2 Alternative 6 – Black

Continuing in the median of 17 Avenue S.W. the alignment rises on an elevated structure west of Glenside Drive crossing over the existing eastbound lanes of 17 Avenue S.W. The elevated structure crosses Sarcee Trail at a location south of the existing Sarcee Trail/17 Avenue intersection and will be located in the median of the future Sarcee Trail/17 Avenue interchange. West of Sarcee Trail, the elevated structure transitions to an earthworks embankment within the existing median of 17 Avenue after crossing the eastbound 17 Avenue lanes. The Signal Hill Station will be partially constructed on the earthworks embankment in the median of 17 Avenue east of Sirocco Drive/Costello Boulevard S.W. The alignment will cross Sirocco Drive/Costello Boulevard S.W. at-grade and will continue at-grade in the median. Crossing Christie Park Gate at-grade, the alignment will transition to a concrete-lined trench below grade and will cross under 17 Avenue from the median to the south side. The LRT line continues within a concrete-lined trench to a location west of 69 Street S.W. on the south side of 17 Avenue.

The 69 Street Station will be constructed underneath 69 Street S.W.

This alignment is shown in Figure 16: Zone 3 – Alternative 6 (Black).

4.3.3 Alternative 8 – Green

Continuing at-grade on the north side of 17 Avenue S.W., the alignment begins to rise on an earthworks embankment opposite Wheatland Avenue S.W. where the alignment rises on an elevated structure over Sarcee Trail, north of the existing Sarcee Trail/17 Avenue intersection. West of Sarcee Trail, the alignment continues on an elevated structure and moves into the existing median of 17 Avenue S.W. The Signal Hill Station will be constructed on an elevated structure that crosses above Sirocco Drive/Costello Boulevard S.W.

The alignment will return to ground level in the median of 17 Avenue west of Sirocco Drive/Costello Boulevard S.W. and will continue at-grade in the median to a location west of Christie Park Gate. Crossing Christie Park Gate at-grade, the alignment will

transition to a concrete-lined trench below grade and will cross under 17 Avenue from the median to the south side. The LRT line continues within a concrete-lined trench to a location west of 69 Street S.W. on the south side of 17 Avenue.

The 69 Street Station will be constructed underneath 69 Street S.W.

This alignment is shown in Figure 17: Zone 3 – Alternative 8 (Green).

4.4 Evaluation of Alternatives

The 2007 November Council approved alignment and the above alternatives, have been assessed with respect to the Council policies identified in Section 3. The key points for each alignment and how they relate to the relevant points for each policy is presented below.

4.4.1 Zone 1: 11 Street S.W. to 33 Street S.W.

Triple Bottom Line

2007 November Council Approved (Blue) –

- Economic: The elevated guideway enables the LRT to be constructed and operate with minimal impacts to the existing road network and traffic between downtown and 31 Street S.W. Elevated guideways are more expensive to construct than at-grade sections. The 26 Street Station is a walk-on style station which is the most economical type of station.
- Social: The elevated guideway is more visually intrusive to adjacent communities along the Bow Trail corridor, particularly west of Crowchild Trail. From discussions with CPR, running the LRT at-grade along the south side of their lands is not a viable option and would have a significant impact on the businesses along the north side of 10 Avenue S.W. which lease land from CPR for parking and storage.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint on natural areas and existing communities.

Alternative 1 (Orange) –

- Economic: The alignment reduces the amount of elevated guideway but includes a section of underground which increases the capital costs by \$64 million relative to the 2007 November Council approved alignment. This alternative has the LRT at-grade along the south side of the CPR lands east of 18 Street to west of

Crowchild Trail which CPR can not accommodate due to their future track requirements.

- Social: The alignment is further away from the communities when crossing Crowchild Trail and more of it is underground thereby reducing visual intrusion.
- Environmental: This alignment deviates from established transportation corridors by climbing from the CPR lands to Bow Trail via an escarpment along the Bow River and thus increases the environmental footprint on the current landscape. It also places the alignment, although underground, through the existing residential community of Sunalta West before returning to the Bow Trail corridor west of 24 Street S.W.

Alternative 2 (Yellow) –

- Economic: The alignment reduces the amount of elevated guideway but requires extensive modifications to the Bow Trail road network between 14 Street S.W. and 33 Street S.W. The estimated costs of this option are less than the 2007 November Council approved alignment by \$4 million. This alternative does require land from CPR on the north side of their track. Further work with CPR to determine their future track requirements on the north side of their lands would be required and could eliminate any estimated cost savings. This alignment will impact three (3) more residential properties on the north side of Bow Trail, west of Crowchild Trail than the 2007 November Council approved alignment.
- Social: This alignment reduces the visual and noise intrusion to adjacent communities along Bow Trail but will be more disruptive to traffic on the Bow Trail during construction. While this LRT alignment was approved in 1988, it will have a greater impact on the Shaw Millennium Park than the 2007 November Council approved alignment.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint. It also has a greater impact on the open space in Shaw Millennium Park.

Alternative 3 (Red) –

- Economic: The alignment reduces the amount of elevated guideway but still requires a section to cross over Crowchild Trail into the median of Bow Trail. This alternative is estimated to cost an additional \$37 million relative to the 2007 November Council approved alignment. Similar to Alternative 2 (Yellow) this alignment will impact three (3) more residential properties on the north side of Bow Trail, west of Crowchild Trail than the 2007 November Council approved alignment.

- Social: The amount of elevated guideway is less than the 2007 November Council approved alignment and the portion of elevated guideway crossing over Crowchild Trail is further away from residential development along Bow Trail. There is still visual intrusion to portions of the communities adjacent to Bow Trail west of Crowchild Trail.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint. It also has a greater impact on the open space in Shaw Millennium Park.

Alternative 4 (Green) –

- Economic: The alignment has the same capital costs as the 2007 November Council approved alignment.
- Social: A portion of elevated guideway is moved further away from residential development along the south side of Bow Trail west of Crowchild Trail but there is still visual intrusion to portions of the communities adjacent to Bow Trail west of Crowchild Trail.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Transit Oriented Development (TOD)

2007 November Council Approved (Blue) –

- Locating the 16 Street Station on the south side of the CPR places it close to the existing community of Sunalta to encourage TOD. The current work on amending the Sunalta Area Redevelopment Plan (ARP) will facilitate the types of land uses to encourage TOD on both sides of the CPR corridor. By placing this station close to 10 Avenue will encourage redevelopment to occur sooner than if the station was located north of the CPR and further away from the existing community.

Alternative 1 (Orange) –

- The stations are located in the same locations as the 2007 November Council approved alignment so there is no further advantage in regards to TOD opportunities. Because the alignment traverses the site on the north side of Bow Trail and west of 24 Street S.W., it could constrain some of the redevelopment options for this site from a TOD perspective.

Alternative 2 (Yellow) –

- The location of the 16 Street Station is further away from the existing community of Sunalta. Lands to the north of the eastbound lanes of Bow Trail may eventually redevelop however it is expected to be a long term aspiration. Locating the station on the south side of the CPR right-of-way could encourage TOD to occur along 10 Avenue sooner than redevelopment of lands to the north of CPR and eastbound Bow Trail.

Alternative 3 (Red) –

- This alternative has similar TOD implications as Alternative 2.

Alternative 4 (Green) –

- This alternative has similar TOD implications as the 2007 November approved alignment.

Plan It Calgary

2007 November Council Approved (Blue) –

- The location of the 16 and 26 Street Stations are supported by several of the Council approved principles of Plan It Calgary including: creating walkable communities by locating the station closer to the existing community, supports compact development and can be used to strategically direct and manage redevelopment opportunities in the existing communities.

Alternative 1 (Orange) –

- Because the location of the stations are the same as the 2007 November Council approved alignment there is no differentiation with this alternative.

Alternative 2 (Yellow) –

- The location of the 16 Station is less supportive of several Plan It Calgary principles such as walkable communities and being located to encourage redevelopment opportunities.

Alternative 3 (Red) –

- This is similar to the implications of Alternative 2.

Alternative 4 (Green) –

- This alternative has similar implications as the 2007 November Council approved alignment.

Imagine Calgary

2007 November Council Approved (Blue) –

- The location of the 16 Station supports transportation targets of increasing the population and employment density within 600 metres of LRT stations. The location of 26 Street Station is not as supportive of these targets being situated on the north side of Bow Trail where there is less density within 600 meters of the station. For social targets, the elevated guideway is not as supportive of the aesthetic appeal of a beautiful city for some stakeholders.

Alternative 1 (Orange) –

- Similar to the 2007 November Council approved alignment the stations are the same but the aesthetic appeal is improved as the alignment is further away from existing residential development and with a portion of it underground.

Alternative 2 (Yellow) –

- The location of the 16 Station is not as supportive of the transportation targets of increasing the population and employment density within 600 metres of LRT stations. However, the location of 26 Street Station is more supportive of these targets as it is closer to the area of the community that has more density. For social targets, reducing the elevated guideway and having more of the alignment at-grade supports the visually aesthetic appeal of a beautiful city.

Alternative 3 (Red) –

- From a LRT station perspective this alternative is similar to Alternative 2 however the elevated guideway over Crowchild Trail is not as supportive of the aesthetic appeal of a beautiful city for some stakeholders.

Alternative 4 (Green) –

- This alignment is similar to the 2007 November Council approved alignment.

Centre City Plan

All of the alternatives provide for some unique opportunities for design and quality of public spaces to the south of the CPR right-of-way. All alternatives will provide for an elevated pedestrian crossing of the CPR right-of-way to connect the lands to the north with the existing community of Sunalta to the south of CPR.

4.4.2 Zone 2: 33 Street S.W. to Glenside Drive S.W.

Triple Bottom Line

2007 November Council Approved (Blue) –

- Economic: The underground section of the LRT between 33 Street and 41 Street S.W. are the most expensive from a capital cost perspective. However, the underground portion through the Westbrook area provides the most flexibility for to maximize TOD opportunities. The remainder of this alignment from 41 Street to Glenside Drive S.W. is at-grade which has the lowest capital cost. The 45 Street Station is a walk-on style station which is the most economical type of station.
- Social: The underground section does not have any visual or noise impact once constructed.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Alternative 5 (Purple) –

- Economic: The underground section of the LRT is extended from 33 Street to west of 45 Street with an underground station at 45 Street. This alternative is \$85 million more than the 2007 November Council approved alignment. The remainder of this alignment west of 45 Street to Glenside Drive is at-grade which has the lowest capital cost.
- Social: The underground section does not have any visual or noise impact once constructed.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Alternative 6 (Black) –

- Economic: This alternative brings the LRT into the median of 17 Avenue west of 37 Street and returns to grade from 41 Street to 45 Street where it transitions to an elevated guideway to cross Sarcee Trail. This alternative is estimated to cost \$33 million more than the 2007 November Council approved alignment. The 45 Street Station is located in the median of 17 Avenue and will have a higher capital cost than if it was located on the north side of 17 Avenue.
- Social: Constructing the LRT in the median will be more disruptive to traffic. Visual impacts are greater with the elevated guideway on adjacent residential development along the 17 Avenue corridor west of 45 Street.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Alternative 7 (Black Dash) –

- Economic: This alternative brings the LRT into the median of 17 Avenue west of 37 Street but keeps it depressed in a trench to west of 45 Street where it transitions to an elevated guideway to cross Sarcee Trail. This alternative is estimated to cost \$68 million more than the 2007 November Council approved alignment. The 45 Street Station is in the median of 17 Avenue and is more expensive to construct than if it was located on the north side.
- Social: Constructing the LRT in the median will be more disruptive to traffic. Visual impacts on adjacent residential development are less than the 2007 November Council approved alignment east of 45 Street but are greater with the elevated guideway west of 45 Street.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Transit Oriented Development

2007 November Council Approved (Blue) –

- The underground station at Westbrook provides the most flexibility for TOD opportunities and has the most potential for TOD along the whole West LRT line. Smaller scale TOD opportunities could be realized with the at-grade LRT station at 45 Street on the north side of 17 Avenue.

Alternative 5 (Purple) –

- This alternative is similar to the 2007 November Council approved alignment in the Westbrook area. Having the line underground further along 17 Avenue could provide more TOD opportunities along the north side of 17 Avenue between 37 Street and 45 Street.

Alternative 6 (Black) –

- This alternative is similar to the 2007 November Council approved alignment in the Westbrook area. With the alignment in the median of 17 Avenue west of 37 Street the potential for TOD opportunities at 45 Street is less in comparison to the 2007 November Council approved alignment.

Alternative 7 (Black Dash) –

- This alternative is similar to Alternative 6.

Plan It Calgary

2007 November Council Approved (Blue) –

- The location of the Westbrook and 45 Street Stations are supported by several of the Council approved principles of Plan It Calgary including: creating walkable communities by locating the station closer to the existing community, supports compact development and can be used to strategically direct and manage redevelopment opportunities in the existing communities.

Alternative 5 (Purple) –

- This alternative is similar to the 2007 November Council approved alignment.

Alternative 6 (Black) –

- This alternative is similar to the 2007 November Council approved alignment.

Alternative 7 (Black Dash) –

- This alternative is similar to Alternative 6.

Imagine Calgary

2007 November Council Approved (Blue) –

- The location of the Westbrook and 45 Street Stations support the transportation targets of increasing the population and employment density within 600 metres of LRT stations. For social targets, the underground section supports the visually aesthetic appeal of a beautiful city for some stakeholders.

Alternative 5 (Purple) –

- This alternative is similar to the 2007 November Council approved alignment and increases the amount of underground section to further supports the visually aesthetic appeal of a beautiful city for some stakeholders.

Alternative 6 (Black) –

- This alternative is similar to the 2007 November Council approved alignment.

Alternative 7 (Black Dash) –

- This alternative is similar to Alternative 6.

4.4.3 Zone 3: Glenside Drive S.W. to 69 Street S.W.

Triple Bottom Line

2007 November Council Approved (Blue) –

- Economic: The alignment is elevated over Sarcee Trail returning to grade on the west side with an at-grade station located east of Sirocco Drive/Costello Boulevard S.W. and continues at-grade to west of Christie Park Gate S.W. has the lowest capital cost. The transition from the north side to south side of 17 Avenue via a below grade trench has a higher capital cost than at-grade.
- Social: The alignment is predominately at-grade until west of Christie Park Gate where it transitions to below grade and further away from the existing residential development and has the least visual impact on the adjacent communities.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Alternative 6 (Black) –

- Economic: This alignment is a continuation of Alternative 6 in Zone 2 but transitions from the north side of 17 Avenue into the median of 17 Avenue after crossing over Sarcee Trail. There is an elevated station east of Sirocco Drive/Costello Boulevard S.W. and the alignment returns to grade in the median of 17 Avenue east of Sirocco Drive/Costello Boulevard S.W. and continues in the median to west of Christie Park Gate where it transitions to a trenched section to cross under 17 Avenue to the south side with a station below grade at 69 Street S.W. The estimated capital cost of this alternative is \$29 million more than the 2007 November Council approved alignment.
- Social: The alignment is predominately in the median of 17 Avenue but is elevated in the vicinity of the Sirocco Drive/Costello Boulevard S.W. having a greater visual impact on the adjacent communities.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Alternative 8 (Green) –

- Economic: The alignment is elevated over Sarcee Trail and remains elevated as it transitions into the median of 17 Avenue with an elevated station east of Sirocco Drive/Costello Boulevard S.W. The alignment returns to grade in the median of 17 Avenue west of Sirocco Drive/Costello Boulevard S.W. and continues in the median to west of Christie Park Gate where it transitions to a trenched section to cross under 17 Avenue to the south side with a station below grade at 69 Street S.W. The estimated capital cost of this alternative is \$33 million more than the 2007 November Council approved alignment.
- Social: The alignment is predominately in the median of 17 Avenue but is elevated in the vicinity of the Sirocco Drive/Costello Boulevard S.W. having a greater visual impact on the adjacent communities.
- Environmental: This alignment travels along established transportation corridors and thus minimizes the environmental footprint.

Transit Oriented Development

2007 November Council Approved (Blue) –

- Locating the Signal Hill Station on the north side of 17 Avenue is the least desirable location for encouraging TOD opportunities for the lands on the south side of 17 Avenue at Sirocco Drive S.W.

Alternative 6 (Black) –

- Locating the Signal Hill station in the median places the station closer to the south side where TOD opportunities may be encouraged.

Alternative 8 (Green) –

- The implications for TOD opportunities are similar to Alternative 6.

Plan It Calgary

2007 November Council Approved (Blue) –

- The location of the Signal Hill and 69 Street Stations are supported by several of the Council approved principles of Plan It Calgary including: creating walkable communities by locating the station closer to the existing community and supports compact development. The Signal Hill Station can be used to strategically direct and manage redevelopment opportunities in the existing community.

Alternative 6 (Black) –

- This alternative is similar to the 2007 November Council approved alignment.

Alternative 8 (Green) –

- This alternative is similar to the 2007 November Council approved alignment.

Imagine Calgary

2007 November Council Approved (Blue) –

- The location of the Signal Hill and 69 Street Stations support the transportation targets of increasing the population and employment density within 600 metres of LRT stations. For social targets, the trenched section west of Christie Park Gate supports the aesthetic appeal of a beautiful city for some stakeholders.

Alternative 6 (Black) –

- This alternative is similar to the 2007 November Council approved alignment except that LRT is in the median at-grade around Sirocco Drive/Costello Boulevard S.W.

Alternative 8 (Green) –

- This alternative has the LRT in the median of 17 Avenue with an elevated section and station at Sirocco Drive/Costello Boulevard S.W. This elevated station may not support the visually aesthetic appeal of a beautiful city for some stakeholders.

Crime Prevention Through Environmental Design (CPTED) are design principles normally considered at the detailed design level and will be considered for all of the stations and public spaces constructed for the West LRT. Based on the conceptual level of design for these alternatives, it is felt that CPTED is not an appropriate criteria to consider at this stage of route planning.

5.0 Public Engagement

The following is a summary of meetings held with community stakeholders since 2007 November regarding the West LRT.

- | | | |
|------------------|--|--|
| 2007 November 17 | Sunalta Community Meeting | <ul style="list-style-type: none">• Meeting with Alderman Mar and community “LRT committee” to discuss the West LRT. |
| 2008 January 25 | Meeting with Alderman Mar | <ul style="list-style-type: none">• Meeting to discuss community concerns regarding West LRT and an alternative alignment proposed by community representatives to reduce the amount of elevated guideway between 14 Street and 26 Street S.W. |
| 2008 February 5 | Public Information Session – Sunalta (Attendance approx. 150) | <ul style="list-style-type: none">• Focus on the upcoming Sunalta ARP Amendment process• Displayed the Council Approved West LRT Alignment |
| 2008 February 12 | Public Information Session – Glendale (Attendance approx. 700) | <ul style="list-style-type: none">• First opportunity for the wider public to view the Council Approved Alignment and the proposed timeline for public engagement and the project. |
| 2008 March 4 | Meeting with Alderman Mar | <ul style="list-style-type: none">• Meeting with Alderman Mar and community “LRT committee” to discuss potential alternative alignments between 14 Street and 26 Street S.W. |

- 2008 March 13 Meeting with Alderman Mar
- Meeting with Alderman Mar and community “LRT committee”
 - Presented West LRT Alignment Review Report, prepared by the City’s consultant, on the community’s proposed alternate alignment between 14 Street and 26 Street S.W.
- 2008 April 26 Project Review Workshop (Attendance 82)
- Invited all people who had expressed an interest in participating on the project (approx. 200 names submitted)
 - Presented a full review of the Council Approved Alignment, as well as several alternative alignments
 - Participants provided feedback and opinions on the various alignment options
- 2008 April 29 Public Information Session – Ward 6 (Attendance approx. 250)
2008 May 1 Public Information Session – Ward 8 (Attendance approx. 200)
- Displayed Council Approved Alignment as well as all other alignment options that have been reviewed
 - Gathered input on materials
- 2008 May 13 Meeting with Community Association Representatives
- Presented recommended alignment for information

Meetings with the Station Working Groups are planned to be scheduled the week of 2008 June 09 and continued on through the summer with a public information session regarding the stations slated for the fall of 2008.

Feedback received during the public engagement undertaken for this alignment assessment has been documented and considered. The summary of the stakeholder feedback is provided in Appendix 2.

6.0 Recommendation

There are many considerations in selecting an alignment for the West LRT that will best serve the numerous stakeholders that have an interest in this project. Each alternative has benefits as well as trade-offs. Upon consideration of Council policies, the objectives and stakeholder feedback, Administration recommends the following alignment.

Zone 1: 11 Street S.W. to 33 Street S.W.

The LRT will proceed west from 7 Avenue at 11 Street on ground level crossing 11 Street S.W. into the Shaw Millennium Park and transitioning to an elevated guideway to cross over 14 Street and the CPR right-of-way. The LRT will continue on an elevated guideway along the south side of the CPR right-of-way with a elevated station located at 16 Street S.W. Continuing west on the elevated guideway, the LRT will cross over the eastbound Bow Trail ramp and will transition into the median of Bow Trail at ground level east of Crowchild Trail. The LRT will run at ground level under Crowchild Trail and continue in the median up Bow Trail to the station located on the west side of 26 Street. Continuing at ground level in the median of Bow Trail, the LRT will transition to an underground alignment east of 33 Street.

The Recommended Alignment for Zone 1 is shown in Figures 18 and 19.

This recommended alignment is based on a balance the following considerations:

- It will allow for future Transit Oriented Development along 10 Avenue S.W.
- There will be less impact on Shaw Millennium Park and on the existing road network and traffic on Bow Trail between the bridges over the CPR right-of-way and 14 Street S.W.
- The elevated portion can be accommodated on the south side of CPR's land.
- Locating the 16 Street Station on the south side of the CPR tracks places it closer to the community for better accessibility.
- Community concerns regarding visual impacts of the elevated guideway have been considered and the length of elevated guideway has been reduced.

Zone 2: 33 Street S.W. to Glenside Drive S.W.

Continuing within a tunnel from 33 Street and through the Westbrook Station, the alignment rises to ground level on the north side of 17 Avenue S.W. around 41 Street S.W. West of 41 Street S.W. the alignment continues at-grade on the north side of 17 Avenue S.W. to Glenside Drive. The 45 Street Station will be at-grade on the north side of 17 Avenue S.W., east of 45 Street S.W.

This is the same alignment Council approved on 2007 November 20 and is shown as the Recommended Alignment for Zone 2 in Figure 20.

This recommended alignment is based on a balance the following considerations:

- It will allow for Transit Oriented Development to occur at Westbrook.
- There will be less impact and costs to constructing this alignment on the north side of 17 Avenue S.W.
- Locating the 45 Street Station on the north side of 17 Avenue places it closer to the portion of the community with more existing density and that has the higher potential for future Transit Oriented Development.

Zone 3: Glenside Drive S.W. to 69 Street S.W.

Continuing at-grade on the north side of 17 Avenue S.W., the alignment begins to rise on an earthworks embankment opposite Wheatland Avenue S.W. where the alignment rises on an elevated structure over Sarcee Trail, north of the existing Sarcee Trail/17 Avenue intersection. West of Sarcee Trail, the alignment returns to grade on an earthworks embankment on the north side of 17 Avenue S.W. The Signal Hill Station will be constructed at-grade east of Sirocco Drive/Costello Boulevard S.W.

The alignment will cross Costello Boulevard at-grade and will continue westward in the existing westbound 17 Avenue carriageway. The westbound carriageway will be reconstructed into the median of 17 Avenue S.W. Crossing Christie Park Gate at-grade, the alignment will transition to a concrete-lined trench below grade and will cross under 17 Avenue from the north side to the south side. The LRT line continues within a concrete-lined trench to a location west of 69 Street S.W. on the south side of 17 Avenue. The 69 Street Station will be constructed underneath 69 Street S.W.

This is the same alignment Council approved on 2007 November 20 and is shown as the Recommended Alignment for Zone 3 in Figure 21.

However, it is now considered appropriate to advance the design and construction of the 17 Avenue/Sarcee Trail interchange. Considering the LRT and interchange design together may create a better design which could move the station closer to the TOD opportunities on the south side of 17 Avenue. The coordinated design would be reported to Council at a later date.

APPENDIX 1 – POLICY SUMMARY

Triple Bottom Line Policy Themes

Economic

- Promoting an environment conducive to attracting, retaining and nurturing businesses.
- Creating a city where citizens want to live and invest.
- Strategically invest in infrastructure.
- Invest and leverage investment in community infrastructure and programs.
- Encouraging a creative city.

Environmental

- Improving air quality.
- Ensuring land stewardship and protection.
- Protecting water resources.
- Reducing energy use and the rate of climate change.
- Reducing Calgary's "footprint" on the environment.

Social

- An inclusive city.
- A safe city.
- A cultural city.
- An active city.
- A city of strong neighbourhoods.

Transit Oriented Development (TOD) Guidelines

The Transit Oriented Development Policy Guidelines were approved by City Council in December 2004 to provide land use and development polices and design guidelines for the development or redevelopment of properties within a Transit Station area. Within the document are six (6) planning objectives that must be achieved in developments and plans in station areas:

- Ensure transit-supportive land uses.
- Increase density.
- Create pedestrian-oriented design.
- Make each station area a "place".
- Manage parking, bus and vehicular traffic.
- Plan in context with local communities.

Plan It Calgary – Integrated Land Use and Mobility Plan

Approved Sustainability Principles for land use and mobility

- Principle 1: Create a range of housing opportunities and choices
- Principle 2: Create walkable environments.
- Principle 3: Foster distinctive, attractive communities with a strong sense of place.
- Principle 4: Provide a variety of transportation options.
- Principle 5: Preserve open space, agricultural land, natural beauty and critical environmental areas.
- Principle 6: Mix land uses.
- Principle 7: Strategically direct and manage redevelopment opportunities within existing areas.
- Principle 8: Support compact development
- Principle 9: Connect people, goods and services locally, regionally and globally.
- Principle 10: Provide transportation services in a safe, effective, affordable and efficient manner that ensures reasonable accessibility to all areas of the city for all citizens.
- Principle 11: Utilize green infrastructure and buildings.

Key Directions for Land Use and Mobility

1. Achieve a balance of growth between established and greenfield communities in order to support enhanced transit service and more cost-effective delivery of municipal infrastructure and services.
2. Provide more choice within complete communities. This includes greater choices in housing, the location of jobs and the availability of goods and services within communities.
3. Direct land use change within a framework of nodes and corridors: intensify jobs and residents within walkable distances to rapid transit.
4. Link land use and transit decisions: intensify land uses to levels that will support primary transit service within compact, mixed-use developments.
5. Increase mobility choices by prioritizing walking, transit and cycling making it easier for people not using a car to reach their destination.
6. Develop a primary transit network in addition to a base network to serve and promote higher residential and job intensities.
7. Create multi-modal roads that interrelate with adjacent land uses: create a new selection of road and street types that incorporate transit, walking and cycling users and that interact to support adjacent land use.
8. Optimize the use of existing infrastructure, including reinvestment in infrastructure that supports intensification; rebalance spending to support the change.

imagineCalgary Long Range Urban Sustainability Plan – Relevant Themes

Built Environment and infrastructure system 100 year goals

Transportation

Calgary is built at a human scale with a transportation system that serves the access and mobility needs of all people through a choice of convenient, comfortable and

efficient transportation modes. The transportation system connects people and goods locally, regionally and globally. Transportation needs are met safely and in a manner supportive of human and ecosystem health.

Targets

- T1 By 2036, we reduce the annual private vehicle kilometres traveled by 20 percent.
- T2 By 2016, we increase the residential population within walking distance (600 meters) of LRT stations and major transit nodes by 100 percent.
- T3 By 2016, we increase the number of jobs within walking distance (600 meters) of LRT stations and major transit nodes by 35 percent.
- T4 By 2036, there is a 50 percent reduction from 1990 levels in the pollution (greenhouse gases) associated with automobiles.
- T5 By 2036, we increase peak period transit, walking and cycling and carpool travel to downtown by 50 percent, 40 percent and 20 percent respectively.
- T6 By 2036, 100 percent of public transit services (buses, CTrains and facilities) are accessible to people with disabilities.

Economic System 100 year goals

Economic Well being

Calgary is a city with a vibrant, resilient, environmentally sound and sustainable Economy that fosters opportunity for individual and economic well-being.

Targets

- T1 By 2036, research and development intensity, both public and private, increases to five percent of Calgary's gross domestic product.
- T2 By 2036, the number of environmentally sustainable and commercially viable value-added products and technologies produced in Calgary increases by 100 percent.
- T3 By 2036, Calgary's non-oil-related industries grow by 50 percent.
- T4 By 2036, Calgary is ranked as the most favourable Canadian city in which to establish businesses that support sustainability practices.
- T5 By 2036, tourist visits and expenditures grow by 90 percent.
- T6 By 2036, alternative ways to measure economic well-being are commonly used to support sustainability principles in decision-making.

Natural System 100 year goals

Air

Calgarians value the quality of clean air, recognizing it as the most basic need for survival. Treasuring clear, bright skies, we steward our air shed and responsibly address climate change. Economic and social activities protect all living things by ensuring healthy air quality indoors and out.

Targets

- T3 By 2012, total community greenhouse gas emissions are reduced by six percent from 1990 levels; by 2036, they're reduced by 50 percent from 1990 levels and criteria air contaminants are also significantly reduced.
- T5 By 2036, Calgary's ecological footprint decreased to below the 2001 Canadian average of 7.25 hectares per capita.

Land and Soil

Fertile soil is vital to maintaining life. Calgarians are responsible stewards of land, maintaining the life-supporting processes integral to healthy, intact ecosystems. We use and share our land wisely and equitably.

Targets

- T1 By 2036, land use efficiency increases by at least 30 percent, as measured by public transit threshold and increased density.
- T4 By 2036, there is zero percent new soil contamination.
- T5 By 2036, at least 30 percent of existing contaminated sites are remediated.

Water

Water is recognized as necessary for life. Calgarians value this precious resource and guarantee equitable access for all living things. We are stewards of water, protecting its quality and maintaining the integrity of the hydrological cycle. Our water supply is sufficiently secure, flexible and adaptable to changing conditions and circumstances.

Targets

- T3 By 2036, effective impervious areas are reduced equal to or below 30 percent to restore natural hydrograph and become less susceptible to flooding.
- T4 By 2036, watershed health – as measured by loss of wetlands, water quality, non-compliance with pollution standards, in-stream flow and groundwater levels – improves.

Social System 100 year goals

Aesthetic Enjoyment

All aspects of life in Calgary provide opportunities for aesthetic enjoyment. We recognize and protect our natural and built environments for their beauty. Our traditions, values and distinctive characteristics are used to enhance physical and human resources. Opportunities for aesthetic enjoyment are accessible to all.

Targets

- T1 By 2036, 90 percent of citizens report that Calgary is a beautiful city.
- T2 By 2036, 95 percent of Calgarians report that they have a range of opportunities for the aesthetic enjoyment of nature, arts and culture.

Sense of Community

We have a sense of belonging, friendship and identity within the context of our groups and neighbourhoods. We honour and celebrate diversity. We act as collective stewards of our values, traditions, institutions and the natural environment.

Targets

- T1 By 2010, 90 percent of Calgarians agree that there is a strong sense of community in Calgary, and at least 80 percent of Calgarians report high levels of satisfaction, sense of belonging, attachment and civic pride.

Centre City Plan

Vision

To make Centre City a livable, caring and thriving place:

- That is a premier urban living environment;
- That is a national and global centre of business;
- That is a centre for the arts, culture, recreation, tourism and entertainment; and
- That welcomes people, in all their diversity, to live, work and visit here.

Key Themes and Ideas

A Call to Action for Design Excellence: The Plan provides a platform for increasing appreciation for the importance of the design and quality of public and private spaces and buildings in creating a beautiful and vital Centre City. This is achieved both through design guidelines as well as through the facilitation of an ongoing community dialogue on achieving excellence in design.

Canadian Pacific Rail (CPR) Corridor Development: A new system is proposed to develop a system of +30 public parks and places that bridge the tracks and are connected along the corridor. Underpasses are enhanced through both redevelopment and improvement projects to make them more pedestrian focused. A new bonus system is proposed to assist in building this new system.

West Park Eco-Neighbourhood: A proposal for a major new park west of 14 Street S.W. and north of the CPR tracks that provides significant open space while integrating residential, cultural and commercial activities using a “model” ecologically sensitive approach.

Crime Prevention Through Environmental Design (CPTED)

The principles in CPTED are aimed at encouraging safe behaviour and reducing opportunities for crime to occur. These principles are intended to encourage interaction and participation of the community with their environment and each other.

The three basic principles are natural access control, natural surveillance and territorial reinforcement.

APPENDIX 2 – SUMMARY OF STAKEHOLDER FEEDBACK



SUMMARY of Preferred vs. 2nd Choice Alignment ZONE 1

Alignment Options – Preferred
 (11 Street S.W. – 31 Street S.W.)

Alignment	Tally
Alignment #2 (Yellow)	22
Alignment #1 (Orange)	12
Preference for Council Approved	3
Alignment #4 (Green)	1
Alignment #3 (Red)	0
No Comment	1

Alignment Options – 2nd Choice
 (11 Street S.W. – 31 Street S.W.)

Alignment	Tally
Alignment #2 (Yellow)	8
Alignment #4 (Green)	5
Alignment #3 (Red)	5
Alignment #1 (Orange)	4
Preference for Council Approved	0
No Comment	20



West LRT Project Review Workshop

April 26, 2008
University of Calgary



SUMMARY of Preferred vs. 2nd Choice Alignment

ZONE 2

Zone 2 Alignment Options – Preferred (31 Street S.W. – Sarcee Trail)

Alignment	Tally
Alignment #5 (Dashed Blue)	26
Preference for Council Approved	1
Alignment #6 (Black)	1
Alignment #7 (Dashed Black)	1
No Comment	11

Zone 2 Alignment Options – 2nd Choice (31 Street S.W. – Sarcee Trail)

Alignment	Tally
Alignment #7 (Dashed Black)	9
Preference for Council Approved	6
Alignment #5 (Dashed Blue)	3
Alignment #6 (Black)	3
No Comment	18



West LRT Project Review Workshop

April 26, 2008
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SUMMARY of Preferred vs. 2nd Choice Alignment

ZONE 3

Zone 3 Alignment Options – Preferred (Sarcee Trail – 73 Street S.W.)

Alignment	Tally
Preference for Council Approved	18
Alignment #8 (Green)	9
Alignment #6 (Black)	4
No Comment	12

Zone 3 Alignment Options – 2nd Choice (Sarcee Trail – 73 Street S.W.)

Alignment	Tally
Preference for Council Approved	5
Alignment #8 (Green)	4
Alignment #6 (Black)	2
No Comment	31



Public Information Session

Strathcona Community Hall
April 29, 2008



Attendance: ~ 250

of Feedback Forms filled out – 140

Strathcona / Coach Hill / Patterson	66	Christie Park	46
Signal Hill	26	Signature Park	16
Rosscarrock	15	Glendale	14
Westgate	14	Scarboro / Sunalta	13
Shaganappi	9	Other	35

SUMMARY of COMMENTS RECEIVED

Following are the comments mentioned most often for each of the Zones.

COMMENT	ZONE 1	ZONE 2	ZONE 3
Preference for Underground	19	17	28
Preference for Council Approved	5	7	7
Alternative # 1 (<i>Tunnel beneath Jacques Lodges</i>)	11		
Alternative # 2 (<i>Bow Trail median at-grade</i>)	10		
Stop the line at Westbrook		4	
No elevated guideway	4		
Alternative # 5 (<i>Tunnel extended to 47 St</i>)		22	
Trench at 45 Street		6	
Alternative # 6 (<i>17 Ave in the median</i>)		2	3
Alternative # 8 (<i>Transition to at grade in 17 Ave median – Signal Hill Station elevated</i>)			15

Other comments included:

- People won't use this line – BRT buses are not well utilized now – 6
- Provide adequate parking – 5
- Take time to do it right – 3
- Requests for budget clarification – 3
- Not in the median of Bow Trail (Zone 2) – 2
- Looks good! Do it! – 2



Public Information Session

Mewata Armoury
May 1, 2008



Attendance: ~ 200

of Feedback Forms filled out – 108

Downtown	48	Scarboro	40
Shaganappi	25	Killarney	13
Sunalta	11	Signal Hill	9
Wildwood	9	Westgate	9
Other	38		

SUMMARY of COMMENTS RECEIVED

Following are the comments mentioned most often for each of the Zones.

COMMENT	ZONE 1	ZONE 2	ZONE 3
Preference for Underground	7	3	1
Preference for Council Approved	7	6	9
Alternative # 1 (<i>Tunnel beneath Jacques Lodges</i>)	17		
Alternative # 2 (<i>Bow Trail median at-grade</i>)	16	4	
No elevated guideway	17		
Alternative # 4 (<i>Modified Council approved – flyover Crowchild in median of Bow Tr</i>)	3		
Alternative # 5 (<i>Tunnel extended to 47 St</i>)		19	
Alternative # 6 (<i>17 Ave in the median</i>)		1	1
Alternative # 8 (<i>Transition to at grade in 17 Ave median – Signal Hill Station elevated</i>)			3

Other comments included:

- Delay Zone 3 – spend \$\$ in other Zones – 4
- Don't put a Station between 10 & 11 Streets – 4
- Go ahead – get it done – 3
- Step Back – take time – 3