

GREEN LINE NORTH LRT CORRIDOR FUNCTIONAL PLANNING STUDY

5.3.3 - STATION AREA CHARRETTES - OUTCOMES REPORT

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Green Line North Light Rail Transit Corridor Functional Planning Study

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1 EXECUTIVE SUMMARY

1.1 ROLE OF IBI GROUP

IBI Group is leading the Transit Oriented Development (TOD) master planning for the City of Calgary's Green Line LRT program, including TOD transit village station selection, interactive public design charrettes, identification of key catalyst sites and nodes near to station areas, and the production of station area TOD Concept Plans incorporating public engagement (local knowledge), City policy and subject matter expertise, and professional best practices.

1.2 TOD TRANSIT VILLAGE STATION SELECTION

The analysis of Green Line stations, and the selection of stations that were most promising for TOD, was completed in earlier phases of work and incorporated a variety of factors, including:

- Market analysis criteria (proximity to downtown, attractiveness for various types of development, the likelihood of financial viability of redevelopment, etc.);
- Geospatial criteria (street connectivity, underutilized/vacant land, public land ownership, presence of community facilities and services, land value, presence of developable parcels, residential and employment density, etc.);
- Stakeholder criteria (support for implementation from the City of Calgary, developers, and the community, etc.); and
- Area-specific opportunities (e.g. Innovation District, Aerotropolis, and prominent sites or specific local priorities).

1.3 TOD CHARRETTE PROCESS

IBI Group utilized a number of methods to transform conventional public events into a dynamic, fun, and gamified public design charrette experience. The charrette sessions, held on separate days, were as follows:

 Day 1: "Issues" Session – Participants were asked to play the "Gains & Pains" exercise, where they split into breakout tables to discuss what they valued today (Gains Now), what they were concerned about today and into the future (Pains Now & Next), and their needs and aspirations for the future (Gains Next). After participants wrote their ideas on Post-It notes, facilitators consolidated and sorted the notes into broad categories for 'dot voting' by participants – akin to indicating their priorities.

- 2. Day 2: "Ideas" Session Charrette facilitators played back the previous session's Gains & Pains exercise, provided an analysis of participants' responses, and presented the fundamentals of TOD. Having been reminded of their ideas from the previous session, and armed with knowledge of what sort of ideas may be viable, participants were asked to have fun, get creative, and create their own TOD Concept Plan proposal. Participants were grouped at tables and played the "TOD Board Game", a hands-on exercise in which residents were provided with a game board (the site) and lay out a series of playing pieces transportation elements such as streetscape improvements, new streets or lanes, transit service, etc. (the "T" of TOD); parks and plazas, public art, etc., and other "Open Space" attributes (the "O" in TOD; and townhouses, apartments, retail shops, offices, schools, and all manner of other types of development (the "D" of TOD), into a series of community generated concept plans. A facilitator was placed at each table to assist with any questions and to help residents successfully resolve any difference of opinions in their shared concept plan.
- **3.** Day 3: Work The TOD Planning team set to work carefully analyzing the ideas within each game board and grouped them with thematically or spatially similar ideas from other game boards. This ensured that each game board did not represent an all-or-nothing, complete proposal for the site. Each area of spatial or thematic commonality, and the various approaches to it, were then visually recreated for presenting back to participants at the next day's session.
- 4. Day 4: "Concepts" Session The different community-generated approaches to each focus area were presented back to the participants so that they could select their preferences using live, interactive "clickers". In this way, participants could see immediate visual feedback on the preferences of fellow residents within the room. Following this, participants were invited to sketch stations where artists illustrated their ideas for key spaces within each station area.
- 5. Day 5: Work Having benefited from the local knowledge, wisdom, and preference selections expressed at the previous sessions, the charrette team develops a final TOD Concept Plan for the next day's session.
- **6.** Day 6: "Solutions" Session The community-generated TOD Concept Plan is presented back to the public and stakeholders for their review.

Each session built upon the strength of the previous. In this way, the public and stakeholders could see real and satisfying use of their ideas in (near) real-time – a rare and unique public consultation experience.

1.4 OUTCOMES

The outcome of each station area TOD Charrette was a community-generated TOD Concept Plan that spoke to:

- an overall unifying vision or theme for the station area, including a description of key differentiators or advantages for that station area;
- proposed transportation ("T") elements, including enhanced walking and cycling routes, greenways, etc.;
- proposed open space ("O") elements, including new and enhanced parks and community gathering spaces;
- proposed development ("D") elements such as the general land uses, densities, and building forms within a 600-metre radius of the station;
- catalyst sites and nodes appropriate to each station;
- estimated development yield (units and population) and phasing; and
- a description of the public process for each station area.

The TOD Concept Plans are provided to the City of Calgary for their further review and action.

Working with Calgary Recreation and other City departments through this process, it was understood that if activities and investments in facility renewal are consolidated around transit plazas in a transit-supportive manner, that they can contribute to and provide the nucleus of the transit villages along the Green Line.

1.4.1 Huntington Hills | Thorncliffe Charrette (64 Ave N)



FIGURE 1: FUTURE VISION FOR THE "COMMUNITY HEART" AROUND THE 64 AVE N STATION

The **transportation** ("T") components of the TOD Concept Plan include:

- extending a fine grain street network into areas of new development;
- enhancing bike and pedestrian connections throughout the area and, in particular, across Centre St;
- creating a transit exchange that allows for easy movement between the Green Line and buses while also providing connections into the community by bike and by foot, opportunities for future mobility options such as car share and bike share, and an active plaza that can become an integral part of the Community Heart; and
- numerous intersection improvements to enhance safety and comfort.

The **open space** ("O") components of the TOD Concept Plan include:

- a multi-use transit plaza that is framed by a new public library, a new street grid with active uses (retail, community health, gymnasium, aquatic centre, and twin arena), and Centre Street and the Green Line North station;
- versatile uses for the plaza throughout the year, such as day-to-day casual seating and food trucks, concerts, ice skating, farmers markets, and so on;
- enhanced streetscape on Centre Street and other key movement corridors leading into the Community Heart;
- enhanced open space throughout (i.e. providing uses such as playgrounds, fields, community gardens, dog parks, and so on); and
- completely renewed recreation facilities including a new community gymnasium, a twin arena, and an aquatic centre.

The **development** ("D") components of the TOD Concept Plan include:

- the Community Heart, which consists predominantly of community and recreation facilities with some affordable and seniors housing (approximately 180 units) and streetfront retail;
- the Village North, which provides for approximately 900 units of apartment housing on the new, interconnected street grid;
- the School Campus, which apart from the potential for some shared community park uses at the perimeter (community garden, etc.), is unchanged;
- Huntington Hills, which provides for retail on Centre Street, and a significant number of residential units (730 units provided predominantly in apartments, with intensity decreasing as new development tapers into the neighbourhood);
- Thorncliffe, with retail uses and a significant number of residential units (approximately 2,200 units, predominantly apartments); and,
- post-2045, the 4 Street NE and Superstore areas, which would provide mixed-use redevelopments potentially including up to 1,900 additional residential units.

The proposed critical mass of investment in and improvements to the Huntington Hills | Thorncliffe "Community Heart" by way Community Services' articulating the need for a new library, community gymnasium, arena, and aquatic centre, is exciting and should serve as a catalyst to implementing the vision of the TOD Concept Plan to the benefit of residents.

1.4.2 Crescent Heights | Tuxedo Park Charrette (9-16-28 Ave N)



FIGURE 2: FUTURE VISION FOR THE 16 AVE N STATION AREA



FIGURE 3: FUTURE VISION FOR THE 28 AVE N STATION AREA

The **transportation** ("T") components of the TOD Concept Plan include:

- a change in street classification north of 16 Ave from Urban Boulevard to Neighborhood Boulevard, with a corresponding reduction in anticipated vehicle volumes, and a reduction in travel lanes from 2 to 1 (each way);
- an emphasis on pedestrian and bike connections across Centre St and throughout the community;
- improvements to the public realm on Centre St to make walking safe and pleasant, and to foster local small business activity; and
- angled parking on side streets in the half-block adjacent to Centre Street.

The **open space** ("O") components of the TOD Concept Plan include:

- enhancements to Tuxedo Park;
- public open space and a plaza above the tunnel portal (near 17 Ave);
- a strategy to identify portions of residential side streets that could be reallocated to create new neighbourhood pocket parks (and in conjunction with traffic calming); and
- a series of neighborhood greenways that act as connections to Centre Street.

The **development** ("D") components of the TOD Concept Plan include:

- a comprehensive future vision for the Tuxedo Park (28 Ave) Station including: station plaza, recreation and community facilities, 4- to 6-storey mixed use development (retail and residential) adjacent to the station, and 2- to 4-storey townhouses and stacked townhouses adjacent to Tuxedo Park;
- a future vision for the Crescent Heights (16 Ave) Station including: station plaza, street trees and plantings, a new library, and 4- to 6- and 8- to 16-storey mixed use development (retail, office, residential);
- up to 6-storey mixed use development along Centre St; and
- potential for 2- to 4-storey townhouse and stacked townhouse development along 12 Ave and surrounding Tuxedo Park Community Association green space.

Development is proposed to be concentrated around the 16 Ave N (Crescent Heights) and 28 Ave N (Tuxedo Park) stations, with civic investment proposed in the station areas by way of a new library integrated into the 16 Ave N station, and a new community recreation centre and community association space integrated into the 28 Ave N (Tuxedo Park) station. These initiatives should represent a catalyst to implementing the vision of the TOD Concept Plan to the benefit of residents.

1.4.3 Highland Park | Greenview Industrial Charrette (40 Ave N)



FIGURE 4: FUTURE VISION FOR THE 40 AVE N STATION AREA

The **transportation** ("T") components of the TOD Concept Plan include:

- an integrated plaza and transit exchange at 40 Ave and Centre St N that allows for easy movement between the Green Line and buses;
- a change in street classification for Centre St N from Urban Boulevard to Neighborhood Boulevard between 16 Ave N and McKnight Blvd, with a corresponding reduction in anticipated vehicle trips, a reduction in travel lanes from 4 to 2, and a greater emphasis on walking, cycling, and transit, to foster a sidewalk culture of small and local businesses;
- enhanced bike and pedestrian connections throughout the area and, in particular, across Centre St N and 40 Ave NW;
- safer intersections on major "through" roads and calmer "to" roads;
- neighbourhood greenways that connect open spaces and prioritize people and bikes; and
- angled parking on side streets near to commercial uses in the vicinity of the station.

The **open space** ("O") components of the TOD Concept Plan include:

- creation of a station block around the 40 Ave N station that integrates the station, transfers to buses, and complementary neighbourhood commercial uses with public space that can be repurposed and programmed as needed by the community.
- a series of "Green Avenues" that act as connections within the community and transitions between existing and new development, including enhanced crossings for Centre St N and 40 Ave and the linking of recreational paths throughout the community;
- improved and accessible green space on the slopes at 40 Ave N and 1 St NE and active space around the edges of the Highland Park Golf Course lands;
- a strategy to identify portions of residential side streets that could be reallocated to create new neighbourhood pocket parks (and in conjunction with traffic calming); and
- significant amount of open park space retained in the Highland Park Golf Course lands, including a contiguous park space to allow for existing mature trees to be preserved, a limited access road through the park, and only minimal regrading of the site so as to maintain the natural terrain.

The **development** ("D") components of the TOD Concept Plan include:

- a future vision for the 40 Ave N Station including: station plaza and 5- to 6-storey mixed use development (retail and residential);
- up to 6-storey residential and mixed use development between 32 Ave and McKnight Blvd;
- a strategy to rejuvenate the Greenview industrial area over time into an "innovation district" with high-tech and knowledge industry, and including public realm improvements such as landscaping, improved lighting, and street trees;
- 4- to 6-storey residential development and townhouses along the western end of 40 Ave N to 3 St NW, and;
- in the Highland Park Golf Course lands, 6- and 12-storey clustered development at the south end of the site, 3-storey townhomes integrated into the slope in a portion of the center of the site, 8-storey residential development west of Centre St N, and 16-storey mixed use development (retail and residential) fronting Centre St N [Note: Subsequent work was undertaken the week immediately following the charrette to refine the concept for the Highland Park Golf Course, specifically, and the sub-report relating to this can be found under separate cover].

The big ideas that came out of the Highland Park charrette were a long-term goal for knowledge worker employment growth and the creation of an Innovation District in the present-day Greenview Industrial Park, the coalescing of the local community in support of a redesign of the approved outline plan for the Highland Park Golf Course, if possible, and the urban transit plaza that runs east-west along 40 Ave N, linking east to a proposed new sloped park space that leads to the Greenview Industrial Park.

2 TOD CHARRETTE PROCESS

2.1 WHAT IS TOD?

Transit Oriented Development (TOD) is best understood as communities where residents can live, work, play, shop, and learn in a pedestrian and cycle-friendly environment, in close proximity to rapid public transit, where the private automobile is an option, not a necessity.

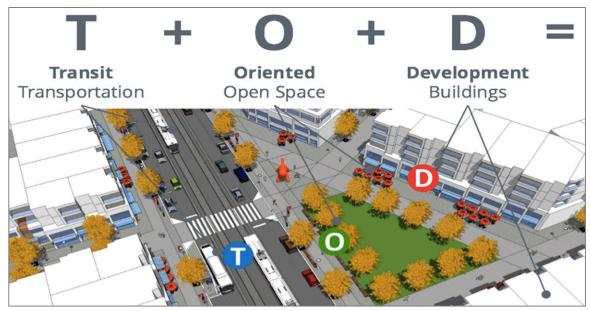


FIGURE 5: TRANSIT ORIENTED DEVELOPMENT FRAMEWORK

"Transit-Oriented Development (TOD): Communities where residents can live, work, play, shop and learn in a pedestrian and cycle-friendly environment, in close proximity to rapid public transit, where the private automobile is an option, not a necessity." – Gary Andrishak

2.2 WHAT IS A CHARRETTE?

A charrette is a multiple-day, collaborative workshop led by a consultant team that brings together residents, developers and policymakers to create a feasible and "85% ready" TOD Concept Plan based on four feedback loops: issues, ideas, concepts, and solutions.

2.3 WHAT WAS THE GOAL OF THE TOD CHARRETTES?

The City of Calgary considers the Green Line to be more than just a train, and is seeking to ensure that the significant investment will have positive impacts on Calgarians' quality of life and the livability of the City. To that end, these TOD charrettes seek to harness the local knowledge and enthusiasm of residents in order to create a TOD Concept Plan for a viable transit village at selected stations.

2.4 TYPICAL PARTICIPANTS

Typical participants included:

- local residents;
- other interested members of the public;
- observers from related local stakeholders such as Community / Business Associations;
- the City of Calgary Green Line project team and Subject Matter Experts (SMEs); and
- the consultant team.

2.5 TYPICAL SCHEDULE

The three TOD Charrettes for the Green Line North were delivered in a one-week format that included four public meetings – three interactive sessions to involve residents and stakeholders directly and to integrate their local knowledge, and a fourth public event at the end of the week to reveal the TOD Concept Plan and provide opportunity for questions and feedback.

The typical week begins with conversations among residents (thinking about today and the future), and progresses over the week to exercises that were tactile, visually interactive, and collaborative.

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Apr 18	Apr 19	Apr 20	Apr 21	Apr 22	Apr 23
Sep 26	Sep 27	Sep 28	Sep 29	Sep 30	Oct 1
Oct 17	Oct 18	Oct 19	Oct 20	Oct 21	Oct 22
"Issues" Session	"Ideas" Session	Work	"Concepts" Session Work		"Solutions" Session
Exercises: Gains & Pains & Prioritization	Exercise: Board Game	Board Game Analysis & Concept Development	Exercise: Preference Selection & Sketch Stations	PreferencePreferredSelection & SketchConceptDevelopment	

FIGURE 6: CHARRETTE SCHEDULES & EXERCISES FOR THE GREEN LINE NORTH TOD PLANNING PROGRAM

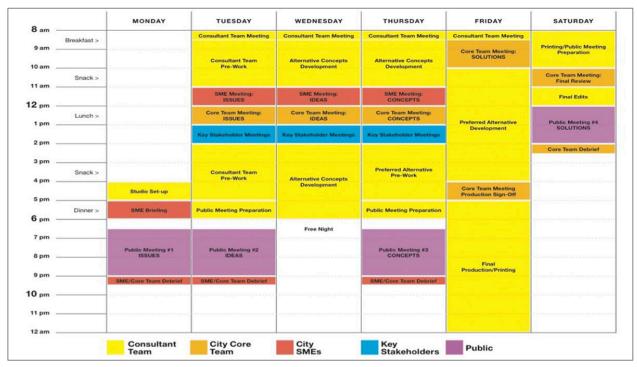


FIGURE 7: TYPICAL CHARRETTE SCHEDULE

2.6 EXERCISES

2.6.1 Day 1: Gains & Pains and Prioritization

The first evening, the "Issues" Session, is conversation and word-based, acts as an ice breaker, and is intended to make participants comfortable with the process and 'pull' them into the week's activities. It also demonstrates that the team begins their work by listening to the local knowledge of residents, first and foremost, and that there are no hidden agendas.

Emphasizing the importance of the assembled residents' and stakeholders' local knowledge, the consultant team asks participants to join in a "Gains and Pains" exercise. Participants are asked to split into groups at tables and discuss what they value in their neighbourhood today (Gains Now), what they are concerned about today and for the future (Pains Now & Next), and what they would like to see improved (Gains Next). Groups then write down their ideas on Post-It notes and place them in the appropriate quadrant of their tables' exercise board.





Following this, some members of the charrette team move the completed "Gains & Pains" boards into another room so that the residents' Post-It notes can be sorted into broad categories. While this takes place, other members of the consultant team present examples of how complete streets and mixed-use buildings can support people connecting in their communities, the history of Centre St, and a photo tour of the 600-metre TOD study radius for that station area.

2.6.2 Day 2: TOD Board Game

On the second evening, the "Ideas" Session, everybody gets to work and the experience shifts to the spatial, tactile, and visually interactive TOD Board Game exercise.



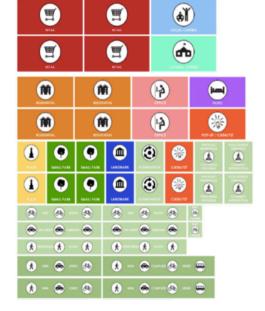


FIGURE 9: TOD GAME BOARD AND PLAYING PIECES

2.6.3 Day 4: Preference Selection (Clickers) & Sketch Stations

The fourth evening truly offers instant gratification for the dedicated participants who have kept pace through the week and committed their time to a vision for community-based TOD.

The participants' work thus far, having been analyzed and summarized by the consultant team, is presented back, and generally three options (no/low, medium, and high levels of change) are presented for each "Focus Area", each of which is distilled directly from the participants' TOD Board Game concepts earlier in the week. Participants are then able to indicate their preferences by way of interactive "clickers". In this way, participants are able to see immediately the sentiment expressed by other participants – did we generally want change, or did we generally want things to remain the same?





Following the participants selecting their preferences for land use scenarios in the identified "Focus Areas" in their community, participants were able to have their vision for specific areas in the TOD study area illustrated live, in front of them, at several sketch stations crewed by urban designers. Having heard the community's direction for the land use scenarios, the sketch station tool helps the consultant team understand the finer-grained, detailed, place-driven desires of participants – what do you want to be doing? Where do you want to be doing it? Who is with you? What does it look like? This brings life to the entire effort, and informs the consultant team's work in completing a final TOD Concept Plan.

HUNTINGTON HILLS/THORNCLIFFE (64th AVE.)

Charrette - April 18 to April 23, 2016 Community Report Back - June 16,2016



3 HUNTINGTON HILLS | THORNCLIFFE CHARRETTE (64 AVE)

3.1 CHARRETTE STUDY AREA & REASON FOR SELECTION

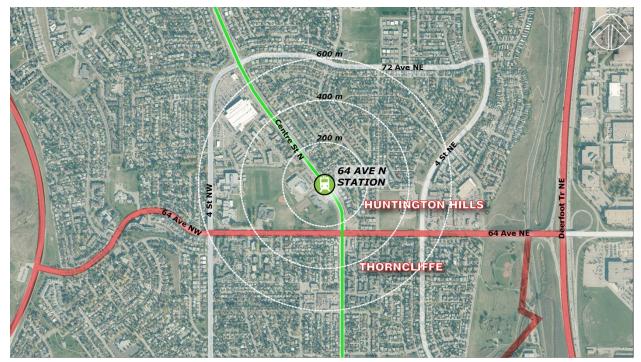


FIGURE 10: 64 AVE STATION TOD CHARRETTE STUDY AREA

Reasons for Selection

- No strong neighbourhood centre at present
- Good location midway along the north segment of the Green Line
- Open space and public sector uses
- Good existing residential population

3.2 DATE & LOCATION

- Monday, April 18 to Saturday, April 23, 2016
- Sheraton Cavalier Calgary hotel (Barlow Trail NE & 32 Ave NE)

The 64 Ave Station TOD charrette for Huntington Hills/Thorncliffe, the first in the series of TOD charrettes for the Green Line North, took place from Monday, April 18 to Saturday, April 23, 2016, at the Sheraton Cavalier Calgary hotel. The week consisted of four public meetings that were attended by between 20 and 50 resident participants per meeting.

3.3 GEOGRAPHIC & SOCIOECONOMIC CONTEXT

Neighbourhood Boundaries

The 64 Ave station area is located near the border of the Huntington Hills and Thorncliffe communities on the north side of Calgary. Huntington Hills extends to 64 Ave in the south, Beddington Blvd in the north, and between Nose Hill Park and Deerfoot Trail to the west and east, respectively. Thorncliffe extends to 64 Ave in the north, McKnight Blvd in the south, and between Nose Hill Park / Egerts Park and Deerfoot Trail to the west and east, respectively.

Travel Distances

The station area is approximately seven kilometres from downtown Calgary via Centre Street, which is a 15-minute drive in free-flow and approximately 30 minutes during normal rush hour conditions. Nose Hill Park is a two-kilometer drive west via 64 Avenue NW, and Deerfoot Trail is one and a half kilometres to the east. The University of Calgary is nine kilometres by car.

Community Profiles

Relevant highlights from the City of Calgary's community profiles are included below. Reference to averages refers to the average for the City of Calgary as a whole.

Huntington Hills

- Population of 13,536 (2014 estimate), with a median age of 41 (versus the average of 36).
- The proportion of residents aged 19 years and younger is lower than average, and the proportion of residents aged 65 years and older is higher than average.
- Household size is 2.8, versus the average of 3.0.
- There are 5,365 dwellings, with a lower proportion than average of both single detached and owner occupied dwellings.
- There are approximately half as many apartment units and twice as many townhouse units, proportionally, than average.
- Median household income is 22% lower than average (\$63,000 vs. \$81,000).

Thorncliffe

- Population of 8,838 (2014 estimate), with a median age of 40 (versus the average of 36).
- The proportion of residents aged 19 years and younger is lower than average, and the proportion of residents aged 65 years and older is higher than average.
- Household size is 2.8, versus the average of 3.0.
- There are 3,678 dwellings, with a lower proportion than average of both single detached and owner occupied dwellings.
- There are approximately half as many apartment units and twice as many townhouse units, proportionally, than average.
- Median household income is 21% lower than average (\$64,000 vs. \$81,000).



FIGURE 11: CHARRETTE CHECK-IN TABLE

3.4 CHARRETTE IN ACTION

3.4.1 Day 1 (Mon, Apr 18, 2016) - "Issues" Session

Approximately 25 residents joined the City and consultant project teams to kick-off the Huntington Hills/Thorncliffe charrette. Presentations addressed the following:

- background on the vision of the Green Line North as an opportunity to positively shape the growth and livability of the City;
- the Green Line North engagement program;
- an explanation of what transit-oriented development (TOD) is and is not;
- examples of best practices;
- the concept of a charrette and its strength at producing rapid, community-based conceptual plans; and,
- the process and resulting concepts from Calgary's Green Line Southeast charrettes.

Exercise: Gains & Pains

The importance of the assembled residents' and stakeholders' local knowledge was emphasized, and they were asked to participate in a "Gains and Pains" exercise led by IBI Group. Participants were asked to split into groups to discuss what they valued in their neighbourhood today (Gains Now), what they were concerned about today and for the future (Pains Now & Next), and what they would like to see improved (Gains Next). Groups then wrote down their ideas on Post-It notes and placed them in the appropriate quadrant of their tables' exercise board.



FIGURE 12: GAINS & PAINS PARTICIPANTS

Exercise: Dot Voting

The Gains & Pains Post-It notes were consolidated and categorized onto a single, large board, and participants were asked to prioritize between issues by using coloured sticker voting dots representing each quadrant of the board.



FIGURE 13: GAINS & PAINS DOT VOTING PARTICIPANTS



FIGURE 14: CONSOLIDATED GAINS & PAINS BOARD WITH DOT VOTING

Y SHAPING Y SHAPING Y of The Building Y of The Building

3.4.2 Day 2 (Tue, Apr 19, 2016) - "Ideas" Session

FIGURE 15: IDEAS SESSION GRAPHIC RECORDING BY SAM HESTER

During the day, the consultant team worked with City Staff and Subject Matter Experts (SMEs) with the express purpose of discovering and developing what might be called a "Big Idea", which could create a focus for and jump start the TOD. In addition, the Big Idea is intended to provide a tangible, long term benefit, which would improve and enrich community life.

Discussions with Calgary Recreation revealed a need to replace the aging library and community sports facilities. The charrette team and relevant City departments worked quickly to calibrate the preliminary facility planning that had already taken place in order to respond to the emerging urban context, and to develop a concept which worked synergistically to support a new TOD and interface appropriately with the Green Line.

Evening Public Meeting

The meeting commenced with a playback of the previous evening's Gains & Pains exercise and an analysis of participants' responses for each of the four quadrants – Gains Now, Pains Now, Gains Next, and Pains Next.

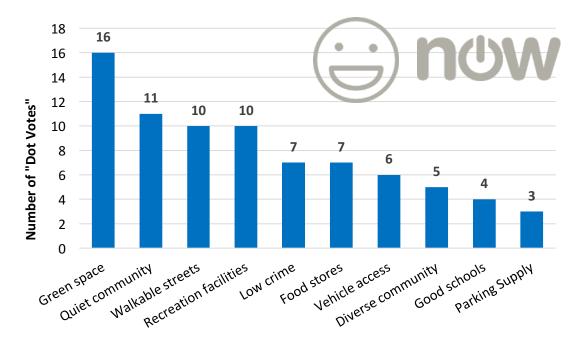
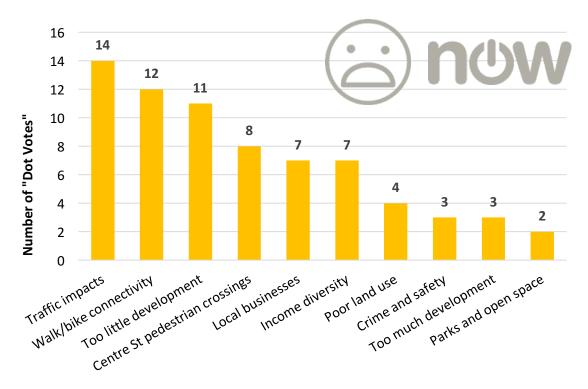


FIGURE 16: NUMBER OF GAINS NOW "DOT VOTES" BY CATEGORY

Gains Now

Gains Now can be understood as what is valued today. During the exercise, residents in Huntington Hills and Thorncliffe demonstrated that they greatly value their neighbourhoods' green space, recreation facilities, quietness, and walkable streets and connections to recreation.

In contrast to previous charrettes for the Green Line Southeast, virtually no comments reflected an attachment to a particular existing identity or character. For example, for the first time that the consultant team can recall, participants had more numerous categories of Post-It notes in the Gains Next quadrant than in the Gains Now quadrant, reflecting perhaps a keen interest in the positive possibilities of change. Less frequent responses included participants' appreciation of their low crime community, the sufficient and appreciated presence of grocery stores, and good vehicle access at present.



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Pains Now

The participants identified **Pains Now** along two key themes: traffic/connectivity, and too little development. The current state of traffic was identified as the single largest category, followed by participants identifying insufficient pedestrian and cycling connectivity within and through neighbourhoods. In addition, the lack of safe and comfortable pedestrian crossings on Centre Street were specifically noted by a significant number of participants, and was apparently troublesome enough to be identified as a separate issue by participants.

Finally, the matter of too little development occurring received a large number of dot votes; it was unclear from the brief text on Post-It notes whether or not participants felt this way because of, for example, a lack of housing choice in the area, or for other reasons. Less frequent responses expressed a disappointment at the lack of local businesses and the need for more income diversity within the community.

FIGURE 17: NUMBER OF PAINS NOW "DOT VOTES" BY CATEGORY

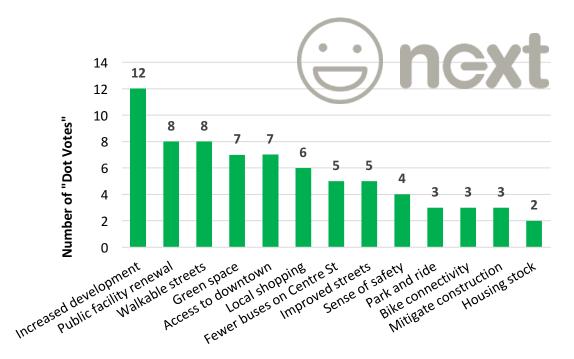


FIGURE 18: NUMBER OF GAINS NEXT "DOT VOTES" BY CATEGORY

Gains Next

Gains Next can be understood as hopes for the future, after the arrival of the Green Line. Participants responded enthusiastically in this part of the pains and gains exercise, perhaps demonstrating that they were looking forward to positive change in their community. The most frequently noted Gains Next was the prospect of increased development. While the Post-It note comments were brief, conversations with participants revealed that they were looking for additional housing choice and commercial services in their community.

Participants also indicated a desire to see their community's public facilities – recreation centre, arena, library, etc. – renewed and expanded. It is clear that these public spaces are highly valued and a critical part of the social fabric of the community, and participants saw these facilities playing a stronger role in the community in the future. In addition, participants indicated that they would like to see their streets improved to be more walkable, and a desire for higher quality and more usable green space to be provided. Less frequent responses included support for easier access to downtown via the Green Line, and a hope for more local businesses and shopping within the community.

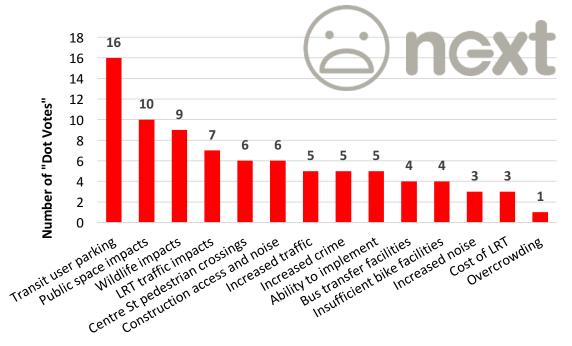


FIGURE 19: NUMBER OF PAINS NEXT "DOT VOTES" BY CATEGORY

Pains Next

Pains Next can be understood as what the participants expressed with respect to fears or anxieties about the future, after the arrival of the Green Line. Participants indicated most prominently that they were concerned about the potential impact of Green Line transit users parking in their community – taking up parking capacity at the community recreation facilities and occupying residential on-street parking as an unregulated park and ride.

In conjunction with participant's desire (Gains Next) for development in the future, they expressed a related worry about impacts to green/open space brought about by the Green Line and any resulting development. Participants also expressed some concerns about the potential for LRT vehicles to impact wildlife. Finally, participants expressed concern that the final operating state of the Green Line would negatively impact traffic circulation (e.g. by restricting certain turn movements across Centre St). Less frequent responses included concerns that Centre St pedestrian crossings would not be adequately improved, and that the construction of the Green Line would be disruptive.

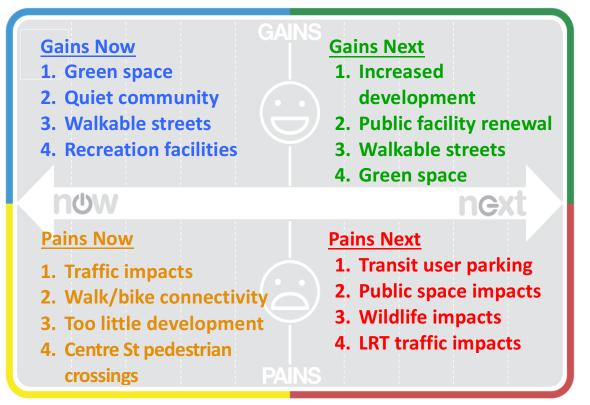


FIGURE 20: GAINS & PAINS RESPONSE SUMMARY GRAPHIC



FIGURE 21: GAINS & PAINS LINK TO TOD

The consultant team further distilled the participants' responses into five broad categories and showed how these, over the course of the week, would be used to guide the work of the team as the TOD concept plan emerged in response to participants' multiple opportunities for feedback (shown above).

Economic Analysis

Coriolis Consulting provided participants with a succinct and accessible analysis of the land economics and development viability within the 600 metre TOD area. Coriolis explained that, between the minimum density (that which is required to make a development viable) and the maximum density (which should not exceed market demand and community acceptance), there is the 'right' density – that which is economically viable and compatible with the community.

Coriolis forecast the estimated number of new multifamily units required within the Green Line North alignment in the period 2015-2045, and found that approximately **2,500 units** would be economically viable within the 64 Avenue station 600 metre TOD area. Redevelopment is a land use that has to compete with existing land uses on urban sites, and to be viable a redevelopment must be able to outbid the existing use of the land in order for the developer to be able to make a sufficient offer to the present landowner.

Stations Between 9 th Avenue and Beddington	Attached Units	Apartment Units	= Total Units
64 th Avenue	1,000 units	1,500 units	2,500 units
9 th , 16 th , 28 th Avenue Stations	1,000 units	2,000 units	3,000 units
Other Stations	1,500 units	500 units	2,000 units
Total	3,500 units	4,000 units	7,500 units

FIGURE 22: SUMMARY TABLE OF CORIOLIS' ESTIMATES

Several economic case studies were performed on sites around the 64 Avenue station area to determine what might or might not be viable. While there were some marginal cases, it was determined that townhouse redevelopment would not generally be economically viable. This is because the residual funds left over to purchase a site, after all other costs were deducted from gross sales, would be less than what an existing use would value the site at. Similarly, concrete construction, whether mid- or high-rise, was determined to be not currently marketable as the higher cost of concrete construction would not be recouped with higher sales values.

Wood-frame construction, in the range of four to six storeys, was identified as the most likely economically viable development form within the 64 Avenue station 600 metre TOD area.

Exercise: Board Game

IBI Group then explained the next exercise: the TOD Board Game. Having been reminded of their Pains & Gains responses from the previous night, and armed with knowledge of what sort of changes may be economically viable (to ensure proposals were 'right-sized'), participants were asked to have fun, get creative, and propose their own TOD within the 600 metre 64 Avenue station radius. After a brief break, participants organized themselves into groups at five tables, each containing a game board, playing pieces representing a wide range of components of a complete community and accompanied by a facilitator to assist with questions.



FIGURE 23: TOD BOARD GAME PARTICIPANTS

3.4.3 Day 3 (Wed, Apr 20, 2016) - Work in Progress

Having carefully moved the game boards from the public meeting room to the working studio the previous night, the consultant team in the morning set to work analyzing participants' placement of pieces in and around the 600 metre station radius. Rather than focusing analysis on each game board in isolation, they were examined for areas of commonality and emerging themes. Unbundling ideas from each game board and grouping them thematically or spatially helped ensure that each game board did not represent an all-or-nothing, complete proposal for the site, but rather a collection of ideas to be examined and compared to the ideas represented on the boards of the other teams.



FIGURE 24: FIVE DISTINCT GAME BOARDS

Seven spatial areas of focus were identified as a result of this analysis, and participants' game boards were closely examined to determine commonalities and differences within those focus areas. From that, three different scenarios, essentially low, medium and high levels of change, were distilled for each focus area based on what was proposed collectively by the five board game participant groups, tidily recreated by the consultant team with playing pieces on a game board, and photographed for use in Day 4.

Work continued on baseline 3D modeling of the TOD area, along with an early exploration of potential concepts that grew out of the analysis of participants' game boards.



FIGURE 25: SEVEN FOCUS AREAS IDENTIFIED FROM THE GAME BOARDS

Subject matter experts from the Calgary Public Library and the City of Calgary's Recreation department noted that, due to the age and unsuitability of the existing community facilities, and on the strength of the participant feedback gathered in the Day 1 Issues session and Day 2 Ideas session, future investment in community facilities would be oriented to and supportive of the 64 Ave TOD. This was recognized immediately as a key form-maker and tremendous opportunity in that City investment into new community facilities could be leveraged into spurring a critical mass of interest for a successful TOD.

The seven focus areas were identified as:

- 1 Community Heart
- 2 Village North
- 3 School Campus
- 4 Huntington Hills
- 5 Thorncliffe
- 6 4th Street NE
- 7 Super Store

3.4.4 Day 4 (Thu, Apr 21, 2016) - "Concepts" Session

The consultant team continued their work from the previous day to analyze and draw conclusions from the participants' game boards.

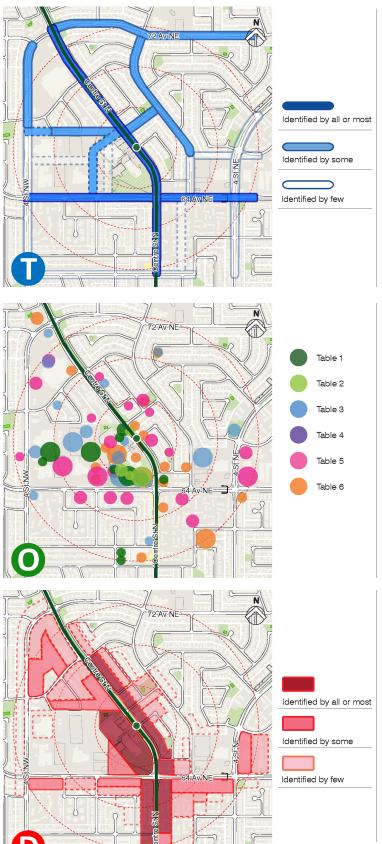


FIGURE 26: CONCEPT DEVELOPMENT

Once finished, the team set about producing T, O, and D maps serving to illustrate the spatial frequency of the different participant group's interventions (as communicated by their game boards), and analyzing how, where, and to what extent the participants had common approaches to ideas within the TOD area.

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For the "T" Map, lines represent an aggregation of participants' spatial preferences for improved mobility. The darker colors indicate a stronger consensus supporting transportation improvements on a particular route, irrespective of mode. Two major routes were emphasized – along Centre St and 64 Ave.

For the "O" Map, dot sizes represent the relative size of open space desired and the colors indicate the ideas of each table of participants. Strong clustering of open space is evident near the station on the site of the current recreation centre and the existing open space. Reconfiguration of the adjacent school grounds as more publicly accessible open space was also indicated.

For the "D" Map, colour intensity represents the strength of the consensus among teams to develop in any given area. Teams consistently proposed higher densities nearest the station and along Centre St, tapering off as they moved outward.

FIGURE 27: COMMUNITY GENERATED T, O, AND D HEATMAPS

3.4.4.1 Focus Area 1 - Community Heart



FIGURE 28: COMMUNITY HEART FOCUS AREA

The Community Heart focus area consists of the City-owned land immediately west of the planned 64 Avenue station on the Green Line North. This area today encompasses the Thornhill Community Health Centre, the Judith Umbach Library and attached daycare, the Thornhill Aquatic & Recreation Centre, the Murray Copot Arena, the associated parking lots that front Centre Street N, the new Huntington Hills Skatepark, and the landscaped area in the northwest corner of the intersection of Centre Street N and 64 Avenue NW.



FIGURE 29: COMMUNITY HEART FOCUS AREA CONCEPTS

3.4.4.2 Focus Area 2 - Village North



FIGURE 30: VILLAGE NORTH FOCUS AREA

The Village North focus area consists of the lands west of Centre Street, north of the Village Heart and School Campus focus areas, east of 4 Street NW, and south of 68 Avenue NW. This area is presently home to exclusively multifamily housing in the form of townhouses and low-rise, walk-up apartments.



FIGURE 31: VILLAGE NORTH FOCUS AREA CONCEPTS

3.4.4.3 Focus Area 3 - School Campus



FIGURE 32: SCHOOL CAMPUS FOCUS AREA

The School Campus focus area consists of St. Helena School, Sir John A. Macdonald School, and John G. Diefenbaker High School, and their associated landscaping, outbuildings, parking lots, playing fields, and open spaces. The focus area is situated west of the Community Heart focus area, south of the Village North focus area (with Huntsville Crescent NW as a boundary), east of 4 Street NW, and north of 64 Avenue NW.

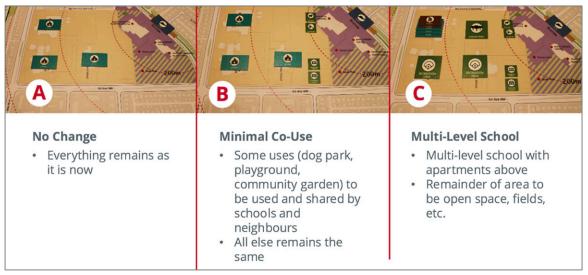


FIGURE 33: SCHOOL CAMPUS FOCUS AREA CONCEPTS

3.4.4.4 Focus Area 4 - Huntington Hills



FIGURE 34: HUNTINGTON HILLS FOCUS AREA

The Huntington Hills focus area consists of the land east of Centre Street, north of 64 Avenue and Catherine Nichols Gunn School, west of 4 Street NE, and south of 72 Avenue NE. The area is today predominantly comprised of single detached dwellings, with duplexes present on Centre Street and townhouses present on 4 Street NE.



FIGURE 35: HUNTINGTON HILLS FOCUS AREA CONCEPTS

3.4.4.5 Focus Area 5 - Thorncliffe



FIGURE 36: THORNCLIFFE FOCUS AREA

The Thorncliffe focus area consists of the land south of 64 Avenue N, between 4 Street NW and 4 Street NE, and extending south to Blackthorn Road. This area today has a variety of land uses including single detached dwellings, duplexes, townhouses, small walk-up apartment buildings, and small-format, neighbourhood-serving retail commercial.



FIGURE 37: THORNCLIFFE FOCUS AREA CONCEPTS

3.4.4.6 Focus Area 6 - 4 Street NE



FIGURE 38: 4 STREET NE FOCUS AREA

The 4 Street NE focus area consists of the commercial centre in the superblock bounded by 64 Avenue N, 4 Street NE, Hunterhorn Drive NE, and Hunterhorn Road NE. Businesses in the centre include numerous restaurants, personal services (optometrist, etc.), two gas stations, grocery, and a Canadian Tire.



FIGURE 39: 4 STREET NE FOCUS AREA CONCEPTS

3.4.4.7 Focus Area 7 - Superstore



FIGURE 40: SUPERSTORE FOCUS AREA

The Superstore focus area consists of the land bordered by Centre Street N, 68 Avenue NW, and 4 Street NW. Businesses in this centre include Superstore, a liquor store, Goodlife Fitness, Starbucks, and a gas station.

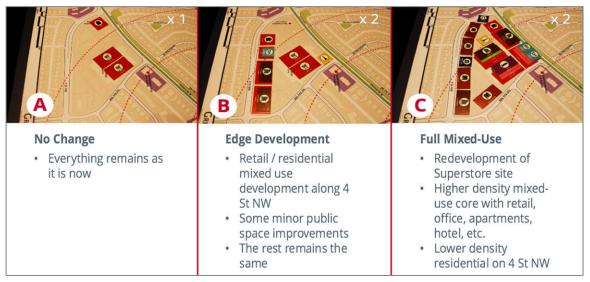


FIGURE 41: SUPERSTORE FOCUS AREA CONCEPTS

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3.4.4.8 Exercise: Community Preference Selection with Clickers



FIGURE 42: INTERACTIVE PREFERENCE SELECTION WITH 'CLICKERS' AND EXAMPLE RESULTS

The next exercise was live preference selection with interactive "clickers". Using two projectors, a slide of each focus area and its three scenario options was shown, with the second projector used for live viewing of clicker results after the polling window had closed. Results for each focus area were only shown once the system counter indicated that all participants had selected a preference. In this way, the participants' expressed preferences are their own and not the result of choosing the most popular scenario. All participants, public and staff, greatly enjoyed the immediacy and interactivity of the clickers.

3.4.4.9 Exercise Outcomes

Each focus area had three scenarios distilled from the game boards, and the scenarios coalesced into what can be generally understood as low (A), medium (B), and high (C) options with respect to level of change / level of intensity. In every case, a majority of participants selected scenarios B or C (medium or high level of change) as their preference.

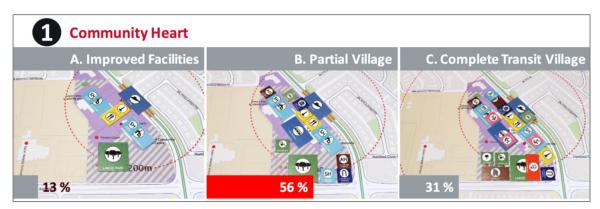


FIGURE 43: COMMUNITY HEART CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for the Partial Village scenario, featuring:

- Replacement of existing community facilities.
- Some new community facilities, amenities, and public spaces.
- Some affordable / seniors housing near transit.

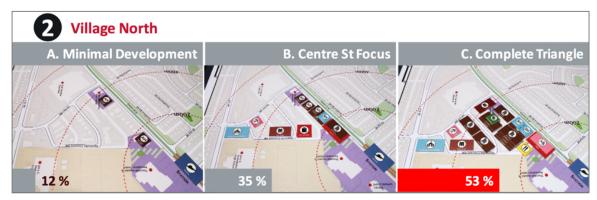


FIGURE 44: VILLAGE NORTH CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a complete renewal of the Village North focus area, featuring:

- Higher density housing fronting on Centre Street.
- Lower density market housing in the middle.
- Affordable / seniors housing interspersed.
- Some retail and office; some community facilities.

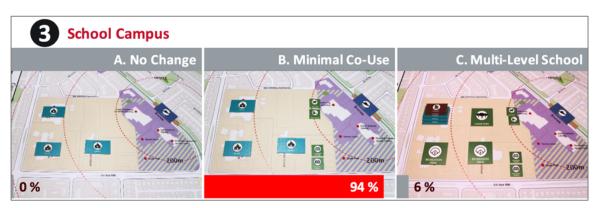


FIGURE 45: SCHOOL CAMPUS CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed an overwhelming preference for minimal co-use in the School Campus focus area, featuring:

- Dog park, playground, community garden, etc. to be used and shared by schools and neighbours.
- All else remains the same.

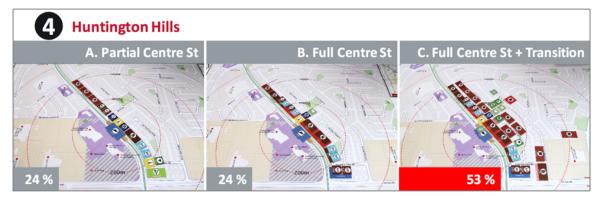


FIGURE 46: HUNTINGTON HILLS CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a high level of change in the Huntington Hills focus area, to include:

- Medium height apartments.
- At-grade retail near station.
- Affordable / seniors housing interspersed.
- Focus on NE corner of 64 Ave intersection.
- Lower density housing tapering down into neighbourhood.
- Some community amenities / facilities within neighbourhood.

5 Thorncliffe A. Centre St 64 Avenue N 8 % 64 Åvenue N

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FIGURE 47: THORNCLIFFE CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a high level of change in the Thorncliffe focus area, to include:

- Apartments and town homes along Centre Street.
- Some local retail at Blackthorn Road.
- Housing and commercial uses along 64 Avenue.
- Higher density along major roads.
- Lower density residential tapering into neighbourhood.
- New amenities and public spaces

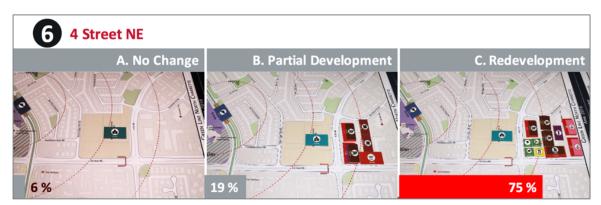


FIGURE 48: 4 STREET NE CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed an overwhelming preference for redevelopment of this focus area, featuring:

- Complete mixed-use redevelopment with retail, grocery, housing, office, restaurants, etc.
- New public spaces as part of new development.

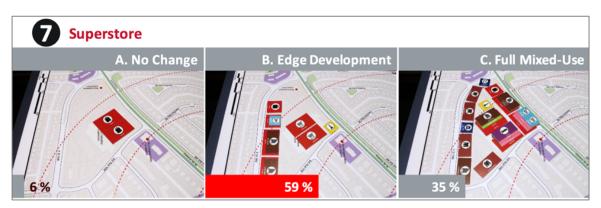


FIGURE 49: SUPERSTORE CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for the Edge Development scenario in the Superstore focus area, featuring:

- Retail / residential mixed use development along 4 Street NW.
- Some minor public space improvements.
- The rest remaining the same.

3.4.4.10 Exercise: Sketch Stations

Participants next visited two sketch stations where, working with urban designers, their ideas and vision for their community were translated into annotated sketch drawings.



FIGURE 50: SKETCH SESSION IN ACTION



FIGURE 51: COMMUNITY-DRIVEN SKETCH CONCEPTS

3.4.4.11 TED Talk

Following the break and sketch station exercise, participants were shown a TED Talk by Janette Sadik-Khan (former commissioner of the New York City Department of Transportation) with respect to the power of small, direct changes to transform communities for the better.



FIGURE 52: TED TALK BY JANETTE SADIK-KHAN

Attendees were thanked for their time and reminded to attend Saturday to see the final concept distilled from the excitement and local knowledge of the participants through the week.

3.4.5 Day 5 (Fri, Apr 22, 2016) - Work in Progress

With the community's preferences in hand from the previous night, the consultant team set to work developing a single, cohesive, and well-detailed transit oriented development concept for the 64 Ave station area



FIGURE 53: WORK IN PROGRESS

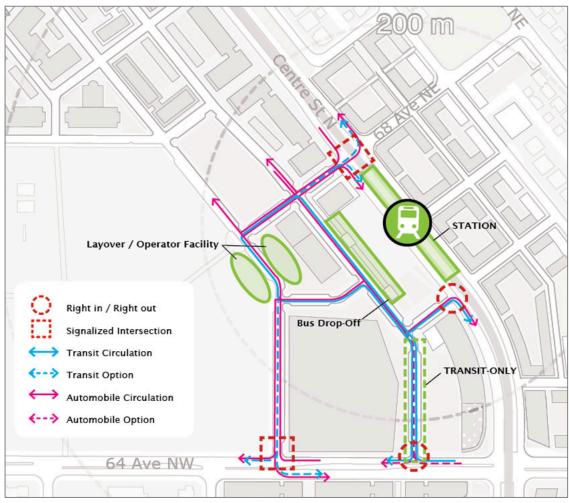


FIGURE 54: PROPOSED MOBILITY AND CIRCULATION CONCEPT PLAN FOR THE COMMUNITY HEART (TAKING INTO ACCOUNT NEW CIVIC USES, TRANSIT PLAZA, BUS EXCHANGE, AND RELATED DROP-OFF FACILITIES)



FIGURE 55: SKETCH CONCEPT PLAN IN ACTION

3.4.6 Day 6 (Sat, Apr 23, 2016) - "Solutions" Session

The presentation opened with a refresher of the process over the week and how community members contributed and shaped the final TOD Concept Plan, including the Issues session and its Gains & Pains exercise, the Ideas session and the board game, and the Concepts session with the interactive clickers and sketching stations.



FIGURE 56: CHARRETTE SESSIONS & EXERCISES REVIEW

It was noted that a TOD Concept Plan is the product of many aligned inputs – community preferences, market viability, professional expertise, and City goals.

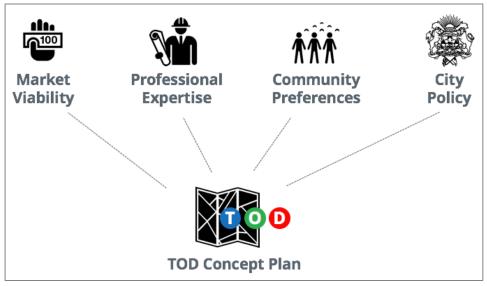


FIGURE 57: INPUTS INTO A TOD CONCEPT PLAN

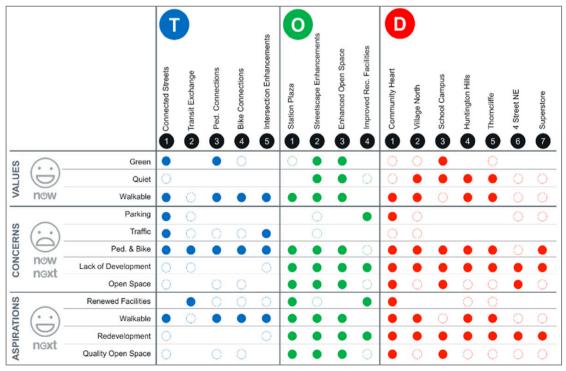
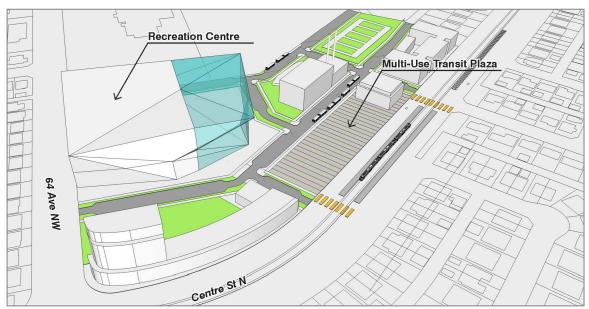


FIGURE 58: TOD MATRIX

The TOD matrix shows how the community's values, concerns, and aspirations, as expressed through the weeklong charrette, guided the development of the TOD Concept Plan.



FIGURE 59: TOD CONCEPT 3D MODEL, LOOKING NORTH



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FIGURE 60: TOD CONCEPT 3D MODEL, COMMUNITY HEART

The Community Heart includes a new street network, bus exchange and transit station plaza, green spaces, a district energy facility, tennis courts and skate park, a new library, streetfront retail with community health clinic above, new twin hockey arena, new aquatic centre, new community gymnasium, and rental and market housing. The multi-use transit plaza is an exciting space that links the Green Line station area with a bus exchange, new public library, underground parking, and a versatile plaza that can be utilized casually every day and for farmers' markets, concerts, skating, etc.

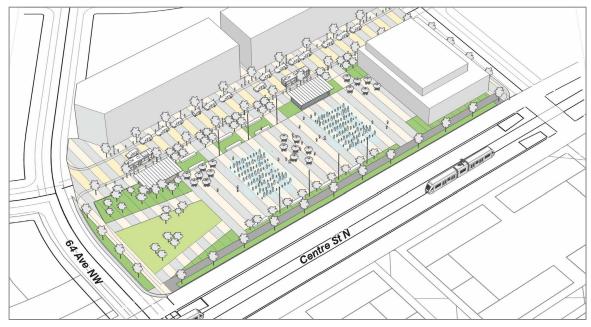
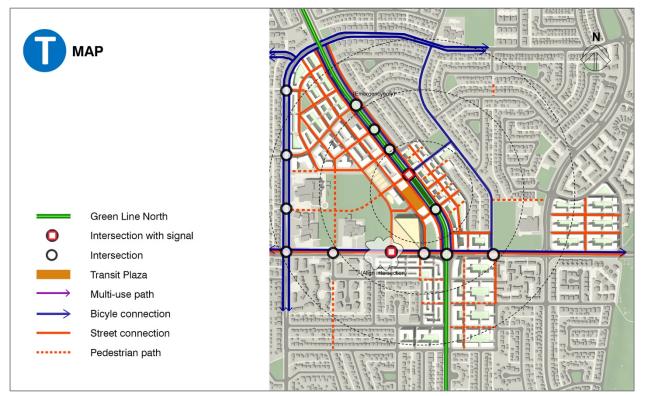


FIGURE 61: MULTI-USE TRANSIT PLAZA



Transportation

FIGURE 62: "T" MAP – TRANSPORTATION

The transportation components of the TOD Concept Plan include:

- extending a fine grain street network into areas of new development;
- enhancing bike and pedestrian connections throughout the area and, in particular, across Centre St;
- creating a transit exchange that allows for easy movement between the Green Line and buses while also providing connections into the community by bike and by foot, opportunities for future mobility options such as car share and bike share, and an active plaza that can become an integral part of the Community Heart; and
- numerous intersection improvements to enhance safety and comfort.

Open Space

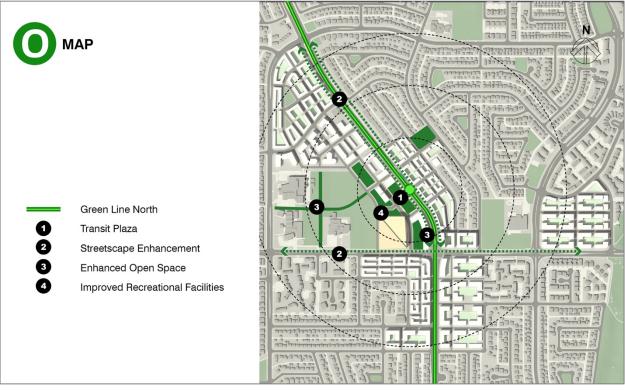


FIGURE 63: "O" MAP - OPEN SPACE

The open space components of the TOD Concept Plan include:

- a multi-use transit plaza that is framed by a new public library, a new street grid with active uses (retail, community health, gymnasium, aquatic centre, and twin arena), and Centre Street and the Green Line North station;
- versatile uses for the plaza throughout the year, such as day-to-day casual seating and food trucks, concerts, ice skating, farmers markets, and so on;
- enhanced streetscape on Centre Street and other key movement corridors leading into the Community Heart;
- enhanced open space throughout (i.e. providing uses such as playgrounds, fields, community gardens, dog parks, and so on);
- completely renewed recreation facilities including a new community gymnasium, a twin arena, and an aquatic centre.

Development

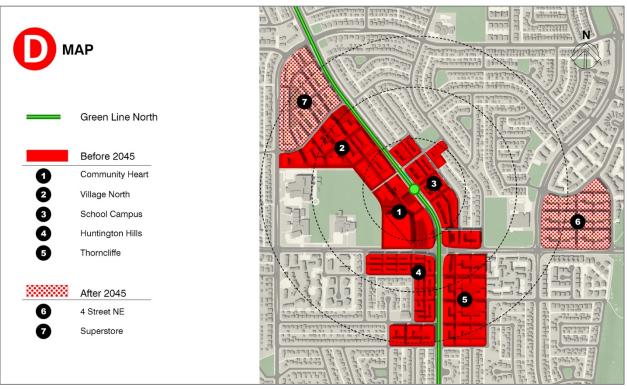


FIGURE 64: "D" MAP – DEVELOPMENT

The development components of the TOD Concept Plan include:

- the Community Heart, which consists predominantly of community and recreation facilities with some affordable and seniors housing (approximately 180 units) and streetfront retail;
- the Village North, which provides for approximately 900 units of apartment housing on the new, interconnected street grid;
- the School Campus, which apart from the potential for some shared community park uses at the perimeter (community garden, etc.), is unchanged;
- Huntington Hills, which provides for retail on Centre Street, and a significant number of residential units (730 units provided predominantly in apartments, with intensity decreasing as new development tapers into the neighbourhood);
- Thorncliffe, with retail uses and a significant number of residential units (approximately 2,200 units, predominantly apartments); and,
- post-2045, the 4 Street NE and Superstore areas, which would provide mixed-use redevelopments potentially including up to 1,900 additional residential units.

Phasing

Building upon data from the Market Study, this drawing series illustrates one of many possible ways in which development might proceed over time.

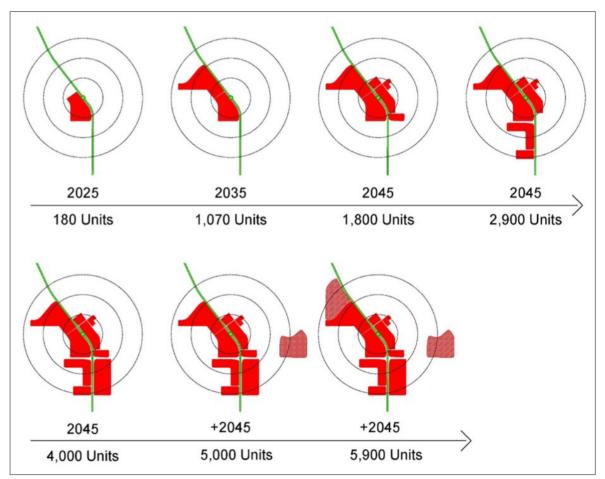


FIGURE 65: PHASING DIAGRAM

Design details and illustrations

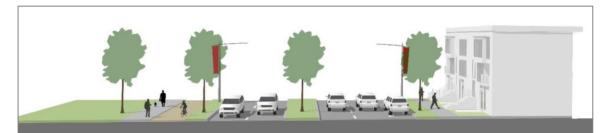


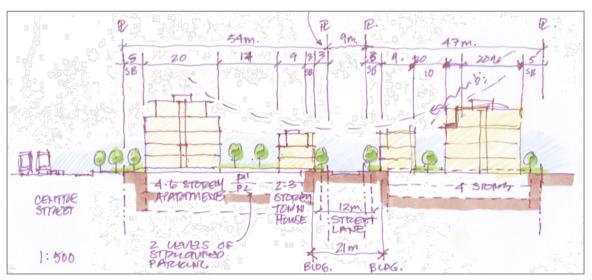
FIGURE 66: 64 AVE SECTION



FIGURE 67: CENTRE ST SECTION



FIGURE 68: COMMUNITY HEART STREET SECTION



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FIGURE 69: DEVELOPMENT MASSING STUDY



FIGURE 70: STREET SECTION STUDY

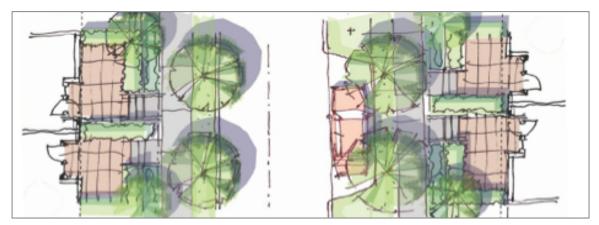


FIGURE 71: STREET PLAN STUDY

Photo simulation

This photo simulation represents one way in which the station area may transition over time from its present condition into the future vision.



FIGURE 72: TRANSIT PLAZA AND COMMUNITY HEART PHOTO SIMULATION (NOW)



FIGURE 73: TRANSIT PLAZA AND COMMUNITY HEART PHOTO SIMULATION (FUTURE VISION)

Illustrated above are a new multi-functional transit plaza, with a proposed new library at the north end, new medium-scale mixed use development to the west, and multi-story residential development on the east side of the station, fronting on Centre St.

Graphic recording

Sam Hester, a graphic recording artist, was engaged through the week to produce a visual record of the charrette process and the conversations, participants, discoveries, and outcomes.

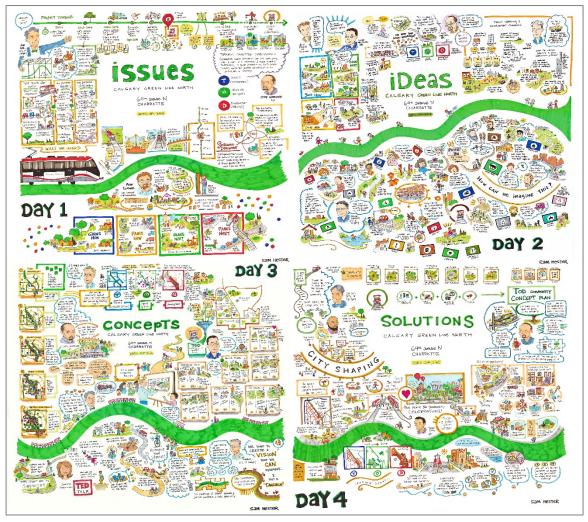


FIGURE 74: GRAPHIC RECORDING BY LOCAL ARTIST SAM HESTER

3.5 CONCLUSION & THE "BIG IDEA"

The Green Line represents a substantial expansion of Calgary's LRT system – adding 40 km of track and approximately 26 stations, bringing the network from 59 km today to 99 km once the Green Line is complete. More than simply improving mobility options, the Green Line is an opportunity to shape the growth and development of Calgary so as to provide additional choices to residents with respect to housing, employment opportunities, and access to higher quality urban environments, open space, and recreation facilities.

Working with Calgary Recreation and other City departments through this process, they have come to the understanding that if they consolidate activities around the transit plaza, and consolidate investment and facility renewal in a transit supportive manner, they can contribute to and provide the nucleus of the transit village.

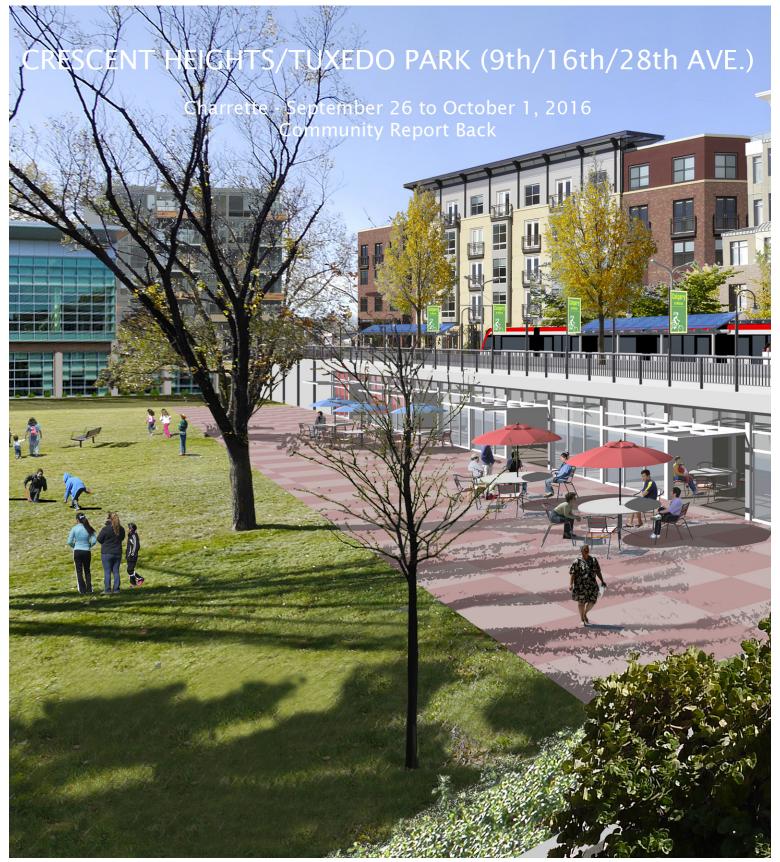
The proposed investment in and improvements to the Community Heart by way of a new library, community gymnasium, arena, and aquatic centre, are exciting and will serve as a catalyst to implementing the vision of the TOD Concept Plan.

3.6 PARTICIPANT EVALUATION SUMMARY

A follow-up workshop was held by the City of Calgary in the community on June 16, 2016 to ensure the TOD Concept Plan received broader exposure and to provide opportunity for valued feedback from residents. A summary of this follow-up workshop is available directly from the City of Calgary.

PUD2017-0471 ATTACHMENT 2

Green Line North Light Rail Transit Corridor Functional Planning Study



4 CRESCENT HEIGHTS | TUXEDO PARK CHARRETTE (9-16-28 AVE)

16 Ave NV Is Ave NV

4.1 CHARRETTE STUDY AREA & REASON FOR SELECTION

FIGURE 75: CRESCENT HEIGHTS | TUXEDO PARK TOD CHARRETTE STUDY AREA

Reasons for Selection

- Proximity to downtown and associated employment and services
- Two established, strong, and involved communities
- Linear transit corridor ripe for a new vision and redevelopment

4.2 DATE & LOCATION

- Monday, September 26 to Saturday, October 1, 2016
- Sheraton Cavalier Calgary hotel (Barlow Trail NE & 32 Ave NE)

The 9, 16, and 28 Avenue station area transit oriented development (TOD) charrette for Crescent Heights/Tuxedo Park, the second in the series of station area charrettes for the Green Line North, took place from Monday, September 26 to Saturday, October 1, 2016, at the Crescent Heights Community Association at 1101 2 Street N.W. The week consisted of four public meetings that were attended by between 40 and 60 resident participants per meeting.

4.3 GEOGRAPHIC & SOCIOECONOMIC CONTEXT

Neighbourhood Boundaries

The 9 Ave station area is located within the Crescent Heights community on the north side of Calgary; the 16 Ave station is located between the Crescent Heights and Tuxedo Park Community; and the 28 Ave station is located within the Tuxedo Park community.

Crescent Heights extends from Memorial Drive / the Bow River on the south to 16 Ave on the north, and between 4 St NW in the west and Edmonton Trail in the east. Tuxedo Park extends from 16 Ave in the south to 32 Ave in the north and from 2 St in the west to Edmonton Trail in the east.

Travel Distances

The furthest station at 28 Ave is approximately three kilometres from downtown Calgary via Centre Street, which is an 8-minute drive in free-flow and approximately 12 minutes during normal rush hour conditions. Deerfoot Trail is only a few kilometers to the east, and the University of Calgary is only 4 kilometres away by car via 16 Ave.

Relevant highlights from the City of Calgary's community profiles are included below. Comparisons to averages refers to the average statistic across the City of Calgary.

Crescent Heights

- Population of 6,235 (2014 estimate).
- The proportion of residents aged 0-19 years is lower than average, and the proportion of residents aged 20-64 years and older is higher than average.
- 28% of the population live alone compared to the Calgary average of 10%.
- The largest age group is between 25-29 years of age (Census of Canada, 2011).
- 24% of people are 85 years an older compared to the Calgary average of 13%.
- Household size is 2.5, versus the average of 3.0.

- There are 3,370 dwellings.
- The majority of the housing type are apartments at 61% compared to the Calgary average of 22%.
- The community has a lower proportion of single-detached homes at 29% compared to the City average of 59%.
- Median household income of \$59,914, versus Calgary average of \$81,256 (2011 National Household Survey).

Tuxedo Park

- Population of 4,878 (2014 estimate).
- The proportion of residents aged 19 64 years is above average.
- Median age is 38, versus the average of 36.
- Household size is 2.6, versus the average of 3.0.
- 22% of people live alone compared to the Calgary average of 10%.
- There are 2,398 dwellings, with a lower proportion than average of both single detached and a higher than average for converted structures.
- Median household income of \$64,614, versus Calgary average of \$81,256.



FIGURE 76: PARTICIPANTS ARRIVING AT CHARRETTE

4.4 CHARRETTE IN ACTION

4.4.1 Day 1 (Mon, Sep 26, 2016) - "Issues" Session

Approximately 50 residents joined the City and consultant project teams to kick-off the Crescent Heights/Tuxedo Park charrette. Presentations addressed the following:

- background on the vision of the Green Line North as an opportunity to positively shape the growth and livability of the City;
- the Green Line North engagement program;
- an explanation of what transit-oriented development (TOD) is and is not;
- examples of best practices;
- the concept of a charrette and its strength at producing rapid, community-based conceptual plans; and,
- the process and resulting concepts from Calgary's Green Line Southeast charrettes.

Exercise: Gains & Pains

The importance of the assembled residents' and stakeholders' local knowledge was emphasized, and they were asked to participate in a "Gains and Pains" exercise led by IBI Group. Participants were asked to split into to discuss what they valued in their neighbourhood today (Gains Now), what they were concerned about today and for the future (Pains Now & Next), and what they would like to see improved (Gains Next). Groups then wrote down their ideas on Post-It notes and placed them in the appropriate quadrant of their tables' exercise board.



FIGURE 77: PAINS & GAINS GROUP TABLE

Exercise: Dot Voting

The Gains & Pains Post-It notes were consolidated and categorized onto a single, large board, and participants were asked to prioritize between issues by using coloured sticker voting dots representing each quadrant of the board.



FIGURE 78: DOT VOTING BY CHARRETTE PARTICIPANTS

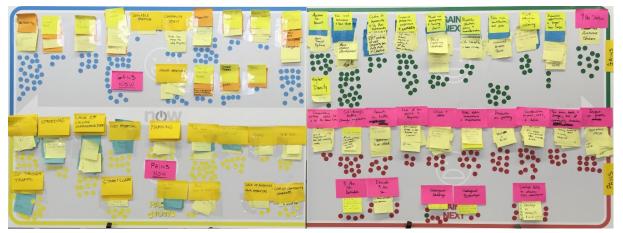


FIGURE 79: CONSOLIDATED GAINS & PAINS BOARD WITH DOT VOTING

4.4.2 Day 2 (Tue, Sep 27, 2016) - "Ideas" Session

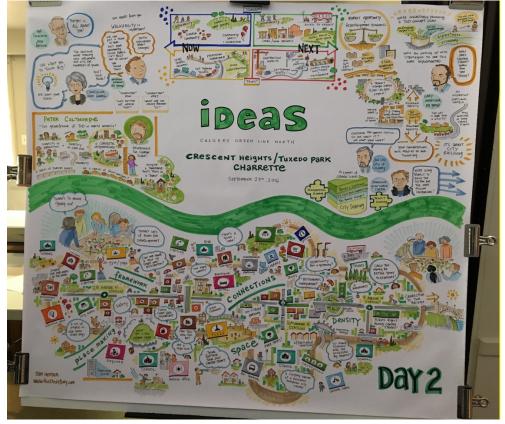


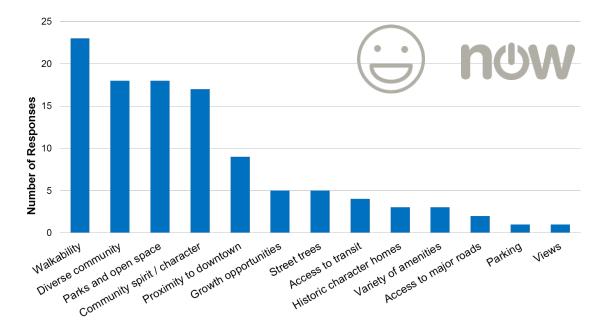
FIGURE 80: IDEAS SESSION GRAPHIC RECORDING BY SAM HESTER

During the day, the consultant team worked with City Staff and Subject Matter Experts (SMEs) with the express purpose of discovering and developing what might be called a "Big Idea", which could create a focus for and jump start the TOD. In addition, the Big Idea is intended to provide a tangible, long term benefit, which would improve and enrich community life.

Discussions with Calgary Recreation and the Calgary Public Library System revealed a need for a new community association facility and a new recreation centre in the vicinity of Tuxedo Park and the 28 Ave station area, and a new library in the vicinity of the 16 Ave station area. The charrette team and relevant City departments worked to rationalize these potential civic investments as central catalyst projects serving to, in part, anchor the station area concepts.

Evening Public Meeting

The meeting commenced with a playback of the previous evening's Gains & Pains exercise and an analysis of participants' responses for each of the four quadrants – Gains Now, Pains Now, Gains Next, and Pains Next.

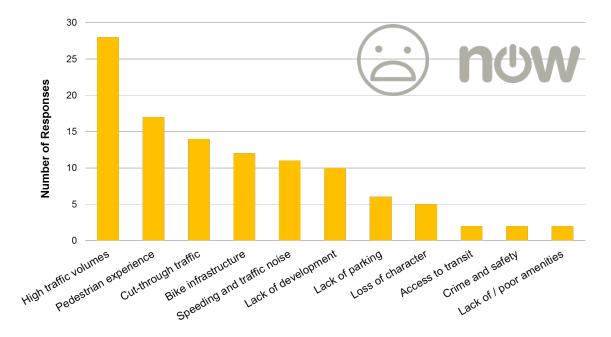




Gains Now

Gains Now can be understood as what is valued today. During the exercise, residents in Crescent Heights/Tuxedo Park demonstrated that they greatly value their walkability, diverse communities, parks and open space, community spirit / character and proximity to downtown.

Participants noted their appreciation of their walkable, diverse community and its spirit and character, and the value they placed on existing parks and open space. Also noted were the appreciation of being close to downtown and the opportunities for growth and development in the community. Less frequent responses included participants' appreciation of their low crime community, the sufficient and appreciated presence of grocery stores, and good vehicle access at present.



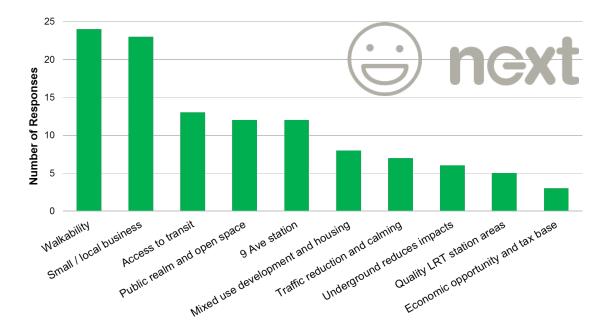
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Pains Now

The participants identified **Pains Now** along two key themes: traffic/connectivity (including pedestrian), and too little development. The current state of traffic with high volumes was identified as the single largest category, followed by participants identifying poor pedestrian experience, cut-through traffic, lack of bike infrastructure, and speeding traffic and noise.

Too little development occurring and loss of character received a moderate number of dot votes. Less frequent responses expressed poor access to transit, concerns with crime and safety, and a lack of amenities within the community.

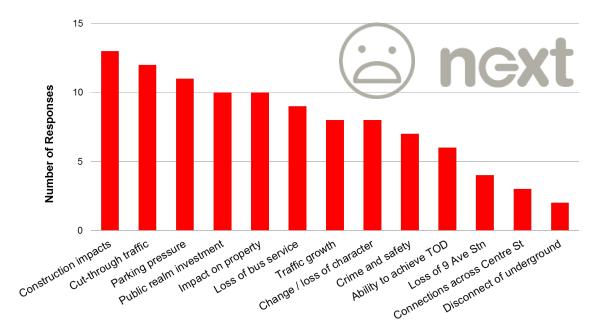




Gains Next

Gains Next can be understood as hopes for the future, after the arrival of the Green Line. The most frequently noted Gains Next was walkability and the fostering of small and local businesses. Also important to the community were access to transit, improvements to public realm and open space, and that the 9 Ave station remain within the scope of the project. During the Crescent Heights | Tuxedo Park charrette the City noted that the 9 Ave station was under review due to cost and proximity to the 16 Ave station.

In addition, participants also indicated that they would like to see more mixed use development and housing choice in their community. Less frequent responses included traffic reduction and calming, quality LRT station areas, and the economic opportunity and tax base that comes with new development (which is also related to the fostering of small and local businesses, noted as one of the top responses).





Pains Next

Pains Next can be understood as what the participants expressed with respect to fears or anxieties about the future, after the arrival of the Green Line. Interestingly, this category indicated more of a generalized anxiety over a variety of potential issues, rather than a few core points of consensus as with Gains Now & Next and Pains Now.

Participants indicated most prominently that they were concerned about the short-term construction impacts of the LRT and the resulting land development, cut-through traffic, parking pressure, and the extent to which investment in the public realm will actually occur. Other prominent concerns for the future include: impact on property by the LRT and future development; loss of bus service as transit service reconfigures upon arrival of the Green Line; and traffic growth. Furthermore, residents were concerned with loss of community character with new development, the potential for crime and impact on safety via the LRT, and the ability to achieve a TOD. Less frequent responses included the potential loss of the 9 Ave station, concerns that Centre St pedestrian crossings would not be adequately improved, and the disconnect of an underground station (vs. at-grade).



FIGURE 85: GAINS & PAINS RESPONSE SUMMARY GRAPHIC



FIGURE 86: GAINS & PAINS LINK TO TOD

The consultant team further distilled the participants' responses into five broad categories and showed how these, over the course of the week, would be used to guide the work of the team as the TOD concept plan emerged in response to participants' multiple opportunities for feedback (shown above).

Economic Analysis

Coriolis Consulting provided participants with a succinct and accessible analysis of the land economics and development viability within the 600 metre TOD area. Coriolis explained that, between the minimum density (that which is required to make a development viable) and the maximum density (which should not exceed market demand and community acceptance), there is the 'right' density – that which is economically viable and compatible with the community.

Coriolis forecast the estimated number of new multifamily units required within the Green Line North alignment in the period 2015-2045, and found that approximately **2,500 units** would be economically viable within the 64 Avenue station 600 metre TOD area. Redevelopment is a land use that has to compete with existing land uses on urban sites, and to be viable a redevelopment must be able to outbid the existing use of the land in order for the developer to be able to make a sufficient offer to the present landowner.

Stations Between 9 th Avenue and Beddington	Attached Units	Apartment Units	= Total Units
64 Avenue Station	1,000	1,500	2,500
40 Avenue Station	500	1,500	2,000
9, 16, 28 Avenue Stations	500	2,500	3,000
Total	2,000 units	5,500 units	7,500 units

FIGURE 87: SUMMARY TABLE OF CORIOLIS' ESTIMATES

Several economic case studies were performed on sites in the TOD study area to determine what might or might not be viable. While there were some marginal cases, it was determined that townhouse redevelopment would not generally be economically viable. This is because the residual funds left over to purchase a site, after all other costs were deducted from gross sales, would be less than what an existing use would value the site at. The most likely viable forms of development include 4-6 storey wood-frame construction, with or without a commercial ground floor depending on context, and mid- or high-rise concrete mixed use buildings. To be financially viable, concrete apartment units need a relatively high price per sq ft in comparison to woodframe apartment units. The station areas with the strongest prospect for concrete apartment units are located near the southern end of the GLN (such as 9, 16, and 28 Ave stations).

Exercise: Board Game

IBI Group then explained the next exercise: the TOD Board Game. Having been reminded of their Pains & Gains responses from the previous night, and armed with knowledge of what sort of changes may be economically viable (to ensure proposals were 'right-sized'), participants were asked to have fun, get creative, and propose their own TOD within the 600 metre 9, 16, and 28 Ave station radii. After a brief break, participants organized themselves into groups at five tables, each containing a game board, playing pieces representing a wide range of components of a complete community and accompanied by a facilitator to assist with questions. There were two sets of boards, one each for Crescent Heights and Tuxedo Park. The number of boards per area was determined by the interest of the participants that evening – there were four tables for Crescent Heights and two for Tuxedo Park.



FIGURE 88: TOD BOARD GAME PARTICIPANTS

4.4.3 Day 3 (Wed, Sep 28, 2016) - Work in Progress

Having carefully preserved the game boards from the public meeting the previous night, the consultant team in the morning set to work analyzing participants' placement of pieces in and around the TOD study areas. Rather than focusing analysis on each game board in isolation, they were examined for areas of commonality and emerging themes. Unbundling ideas from each game board and grouping them thematically or spatially helped ensure that each game board did not represent an all-or-nothing, complete proposal for the site, but rather a collection of ideas to be examined and compared to the ideas represented on the boards of the other teams.

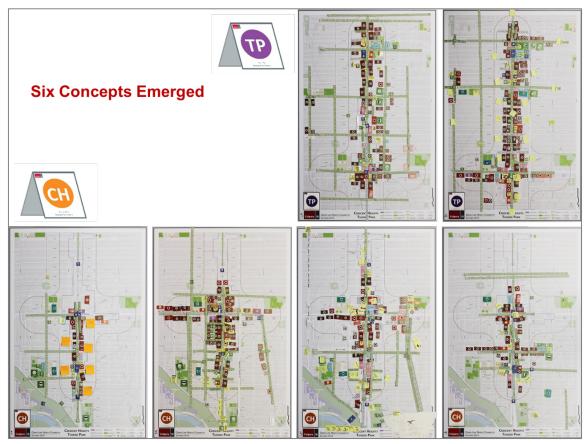


FIGURE 89: SIX DISTINCT GAME BOARDS

Five spatial areas of focus were identified as a result of this analysis, along with three outlier areas, and participants' game boards were closely examined to determine commonalities and differences within those focus areas. From that, three different scenarios, essentially low, medium and high levels of change, were distilled for each focus area based on what was proposed collectively by the five board game participant groups, tidily recreated by the consultant team with playing pieces on a game board, and photographed for use in Day 4.

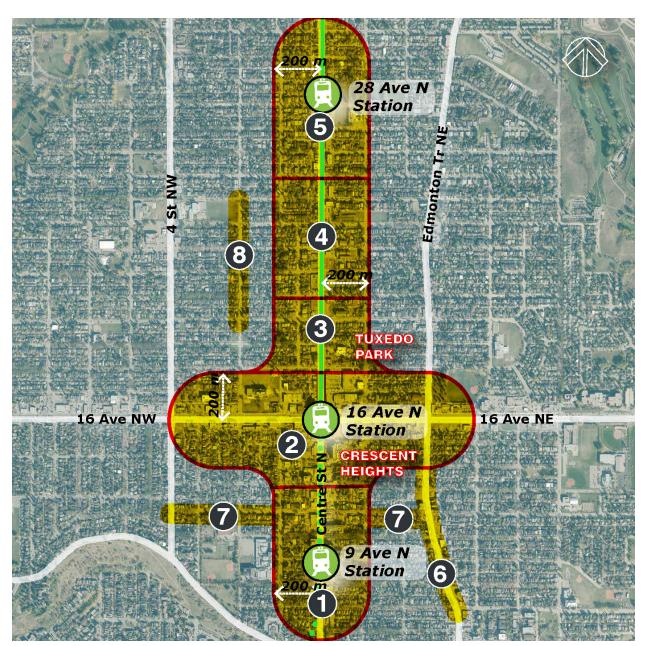


FIGURE 90: SIX FOCUS AREAS AND THREE OUTLIER AREAS IDENTIFIED FROM THE GAME BOARDS

The six focus areas were identified as:

- 1 9 Ave Station Area
- 2 16 Ave Station Area
- 3 Gateway
- 4 24 Ave
- 5 28 Ave Station Area

The three outlier areas were identified as:

- 6 Outlier: Edmonton Trail
- 7 Outlier: 12 Ave
- 8 Outlier: 4 St

Subject matter experts from the Calgary Public Library and the City of Calgary's Recreation department noted the need for new facilities at 16 Ave and 28 Ave, respectively, and on the strength of the participant feedback gathered in the Day 1 Issues session and Day 2 Ideas session, future investment in community facilities would be oriented to and supportive of TOD. This was recognized immediately as a key form-maker and tremendous opportunity in that City investment into new community facilities could be leveraged into spurring a critical mass of interest for a successful TOD.

Work continued with exploration of potential concepts that grew out of the analysis of participants' game boards.



FIGURE 91: CONCEPT DEVELOPMENT

4.4.4 Day 4 (Thu, Sep 29, 2016) - "Concepts" Session

The consultant team continued their work from the previous day to analyze and draw conclusions from the participants' game boards.

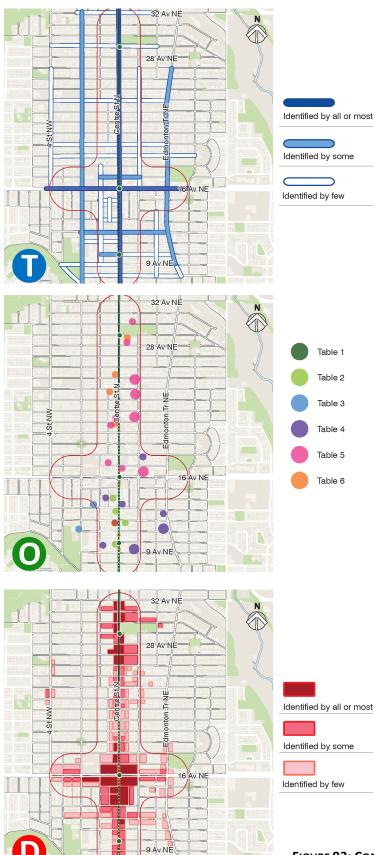


FIGURE 92: CHARRETTE TEAM MEETING

Once finished, the team set about producing T, O, and D maps serving to illustrate the spatial frequency of the different participant group's interventions (as communicated by their game boards), and analyzing how, where, and to what extent the participants had common approaches to ideas within the TOD area.

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For the "T" Map, lines represent an aggregation of participants' spatial preferences for improved mobility. The darker colors indicate a stronger consensus supporting transportation improvements on a particular route, irrespective of mode. Two major routes were emphasized (along Centre St and 16 Ave) and two parallel, north-south routes (4 St NW and Edmonton Trail). 12 Ave was also identified as a key nonautomobile movement corridor.

For the "O" Map, dot sizes represent the relative size of open space desired and the colors indicate the ideas of each table of participants. Desire for open space was relatively evenly distributed along the corridor, with a mix of open space both fronting Centre St as well as one or several blocks back, into the single family neighbourhoods.

For the "D" Map, colour intensity represents the strength of the consensus among teams to develop in any given area. Teams consistently proposed higher densities nearest the 16 and 28 Ave stations, with moderate but consistent density south of 12 Ave, lower density in the area between 18 and 25 Ave, and some density east and west along 16 Ave.

FIGURE 93: COMMUNITY GENERATED T, O, AND D HEATMAPS

4.4.4.1 Focus Area 1 - 9 Ave Station Area

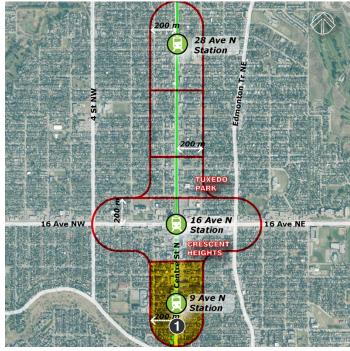


FIGURE 94: 9 AVE STATION FOCUS AREA

The 9 Ave Station focus area consists of the lands one block on each side of Centre St, from approximately 7 Ave to 13 Ave. Office and commercial development line Centre Street with single and multi-family residential development in behind.



FIGURE 95: 9 AVE STATION FOCUS AREA CONCEPTS

4.4.4.2 Focus Area 2 - 16 Ave Station Area

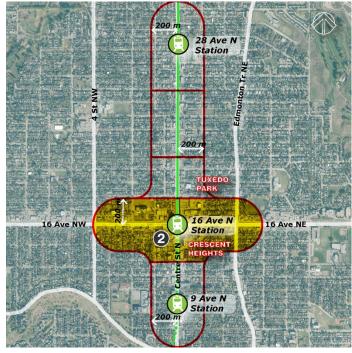


FIGURE 96: 16 AVE STATION FOCUS AREA

The 16 Ave focus area consists of the lands three to four blocks east and west along 16 Ave, with 18 Ave and 13 Ave the north and south boundaries respectively. Land uses include taller office buildings, low- to mid-rise apartment buildings, one- and two-storey commercial buildings, surface parking lots, single-family homes, Balmoral School, Unitarian Church, and Munro Park.



FIGURE 97: 16 AVE STATION FOCUS AREA CONCEPTS

4.4.4.3 Focus Area 3 - Gateway

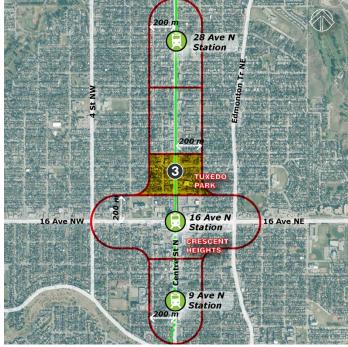


FIGURE 98: GATEWAY FOCUS AREA

The Gateway focus area consists of lands between 18 and 21 Ave and one long block on either side of Centre St. This area is home to various restaurants, medical centers, a liquor store, a church and various other commercial uses along with multi-residential buildings along Centre St. A mix of multi-residential buildings, townhouses, and single family homes exist one block on each side of Centre St.



FIGURE 99: GATEWAY FOCUS AREA CONCEPTS

4.4.4.4 Focus Area 4 - 24 Ave



FIGURE 100: 24 AVE FOCUS AREA

The 24 Ave focus area consists of the land between 21 and 26 Ave including one long block on either side of Centre St. The first half block on either side of Centre St is composed of a mix of commercial uses including restaurants, Lina's Italian Market and Sports Bar, a gas station, CIBC Bank, a registry; St. Paul's School; and multi-family and single-family residential uses on the north portion towards 26 Ave and beyond the half block on each side of Centre St.



FIGURE 101: 24 AVE FOCUS AREA CONCEPTS

4.4.4.5 Focus Area 5 - 28 Ave Station Area

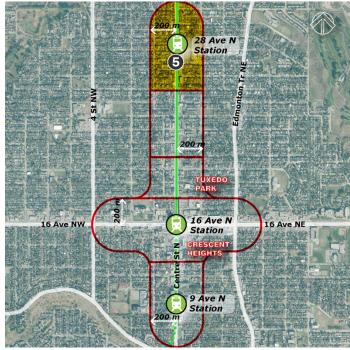


FIGURE 102: 28 AVE STATION FOCUS AREA

The 28 Ave Station Area focus area consists of the land between 26 and 32 Ave including one block on either side of Centre St. Current land uses along Centre St transition from dominantly commercial to more residential as you move north. The south side of the area consists of various restaurants and offices, with Tuxedo Park / Community Centre and Tuxedo Park School to the north. There are also some empty lots and parking lots along Centre St.



FIGURE 103: 28 AVE STATION FOCUS AREA CONCEPTS

4.4.4.6 Focus Area 6 - Outlier: Edmonton Trail

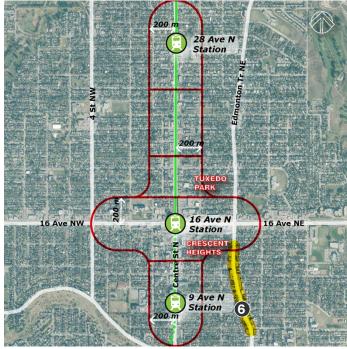


FIGURE 104: EDMONTON TRAIL OUTLIER FOCUS AREA

The Edmonton Trail focus area was considered an outlier because it was only identified by team's game boards. Only the far south portion of Edmonton Trail, between 8 and 14 Ave, was identified by those game boards. Edmonton Trail is another major road in Calgary that consists of a mix of commercial uses such as restaurants and shops, and a mix of multi-family and single family homes.



FIGURE 105: EDMONTON TRAIL OUTLIER FOCUS AREA CONCEPTS

4.4.4.7 Focus Area 7 - Outlier: 12 Ave

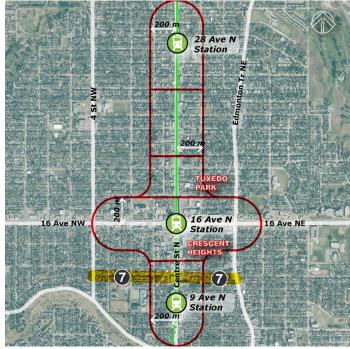


FIGURE 106: 12 AVE OUTLIER FOCUS AREA

The 12 Ave focus area was considered an outlier because it was only identified by one team's game board. This focus area spans 12 Ave from 4 St to Edmonton Tail, two major roads in the community. This area consists of mainly multi-family and single-family residential structures.

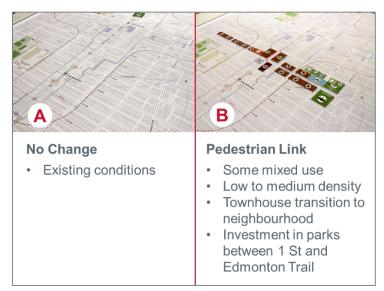


FIGURE 107: 12 AVE OUTLIER FOCUS AREA CONCEPTS

4.4.4.8 Focus Area 8 - Outlier: 4 St

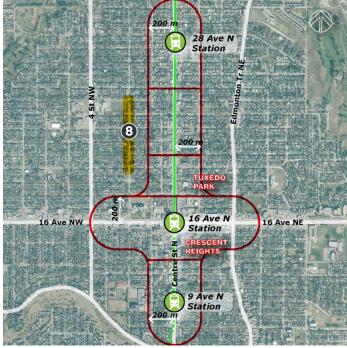


FIGURE 108: 4 ST OUTLIER FOCUS AREA

The 4 St focus area was considered an outlier because it was only identified by two team's game boards. It spans from 20 to 25 Ave. This area consists of a pocket of commercial use along 4 St and 24 Ave, which includes restaurants, an office building, greenhouse, auto service, St. Josephs Elementary School, and École de la Rose Sauvage. The rest of the area is a mix of multi-family and single-family residential.



FIGURE 109: 4 ST OUTLIER FOCUS AREA CONCEPTS

4.4.4.9 Exercise: Community Preference Selection with Clickers

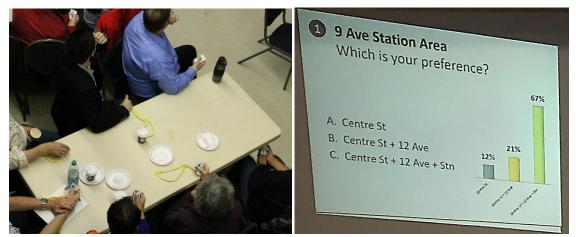


FIGURE 110: INTERACTIVE PREFERENCE SELECTION WITH 'CLICKERS' AND EXAMPLE RESULTS

The next exercise was live preference selection with interactive "clickers". Using two projectors, a slide of each focus area and its three scenario options was shown, with the second projector used for live viewing of clicker results after the polling window had closed. Results for each focus area were only shown once the system indicated that all participants had selected a preference. In this way, the participants' expressed preferences are their own and not the result of choosing the most popular scenario. All participants, public and staff, greatly enjoyed the immediacy and interactivity of the clickers.

4.4.4.10 Exercise Outcomes

Each focus area had two or three scenarios distilled from the game boards, and the scenarios coalesced into what can be generally understood as low (A), medium (B), and high (C) options with respect to level of change / level of redevelopment. In every case participants selected scenarios B or C (medium or high level of change) as their preference.



FIGURE 111: 9 AVE STATION FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for the Centre St + 12 Ave + Station scenario, featuring:

- Mixed use;
- Higher density;
- 4 to 6 storeys; and
- Pocket parks & plazas.

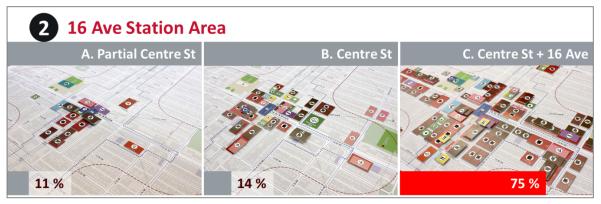


FIGURE 112: 16 AVE STATION FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a Centre St and 16 Ave focus area, featuring:

- Mixed use;
- Higher density;
- Concentration at Munro Park; and
- Blended development into neighbourhoods.

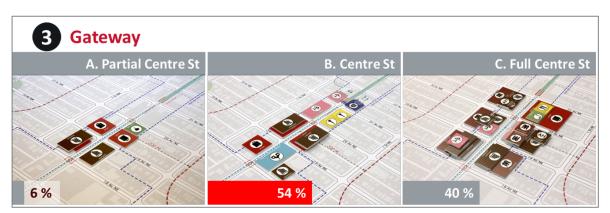


FIGURE 113: GATEWAY FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a relatively close preference between moderate development on Centre St and Full Centre St development., although the moderate Centre St was preferred, featuring:

- Mixed use;
- Medium density; and
- A plaza at the tunnel portal.



FIGURE 114: 24 AVE FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed no preference between the moderate to high development for the 24 Ave focus area, to include:

- Mixed use;
- Medium Higher density;
- Blend development into neighbourhoods;
- New parks; and
- Secondary suites.



FIGURE 115: 28 AVE STATION FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for Centre St development with emphasis on Tuxedo Park in the 28 Ave focus area, to include:

- Mixed use;
- Higher density;
- Extends development east on 30 Ave; and
- Townhouse transition to neighbourhood.



FIGURE 116: EDMONTON TRAIL OUTLIER FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a neighbourhood node in the Edmonton Trail focus area, featuring:

- Mixed use development; and
- Low to medium density development.



FIGURE 117: 12 AVE OUTLIER FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a pedestrian link in the 12 Ave focus area, featuring:

- Some mixed use;
- Low to medium density;
- Townhouses transition to neighbouhood; and
- Investment in parks between 1 St and Edmonton Tail.



FIGURE 118: 4 ST OUTLIER FOCUS AREA CONCEPT PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a neighbourhood node in the 4 Ave focus area, featuring:

- Some mixed use;
- Low to medium density; and
- Townhouse transition to neighbourhood.

4.4.4.11 Exercise: Sketch Stations



FIGURE 119: SKETCH STATION IN ACTION

Following the interactive preference selection, a break was taken. Participants were encouraged to visit two sketch stations where urban designers could put to images the words and vision residents had for their community.



FIGURE 120: COMMUNITY GENERATED SKETCH CONCEPT

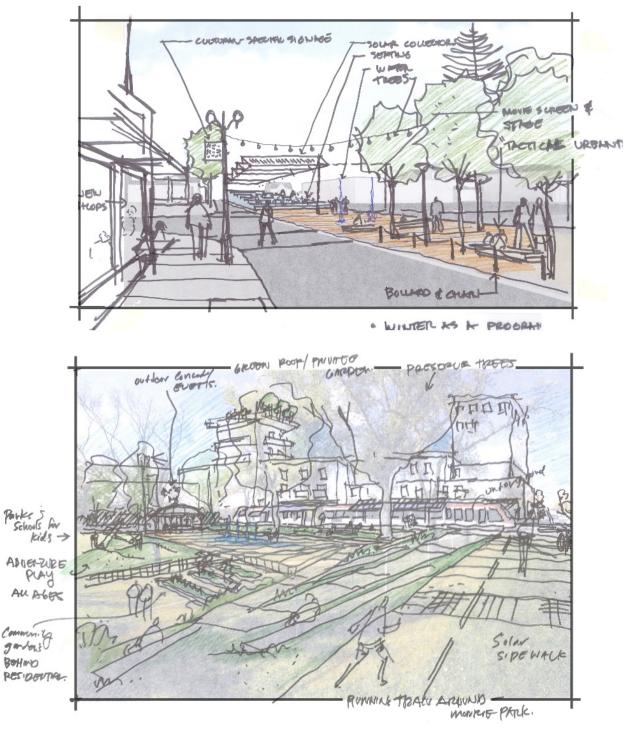


FIGURE 121: COMMUNITY GENERATED SKETCH CONCEPTS

4.4.4.12 TED Talk

Following the break and sketch station exercise, participants were shown a TED Talk by Janette Sadik-Khan (former commissioner of the New York City Department of Transportation) with respect to the power of small, direct changes to transform communities for the better.



FIGURE 122: TED TALK BY JANETTE SADIK-KHAN

Attendees were thanked for their time and reminded to attend Saturday to see the final concept distilled from the excitement and local knowledge of the participants through the week.

4.4.5 Day 5 (Fri, Sep 30, 2016) - Work in Progress

With the community's preferences in hand from the previous night, the consultant team set to work developing a cohesive and well-detailed TOD concept for the Crescent Heights | Tuxedo Park corridor centering on the 9, 16, and 28 Ave station areas.

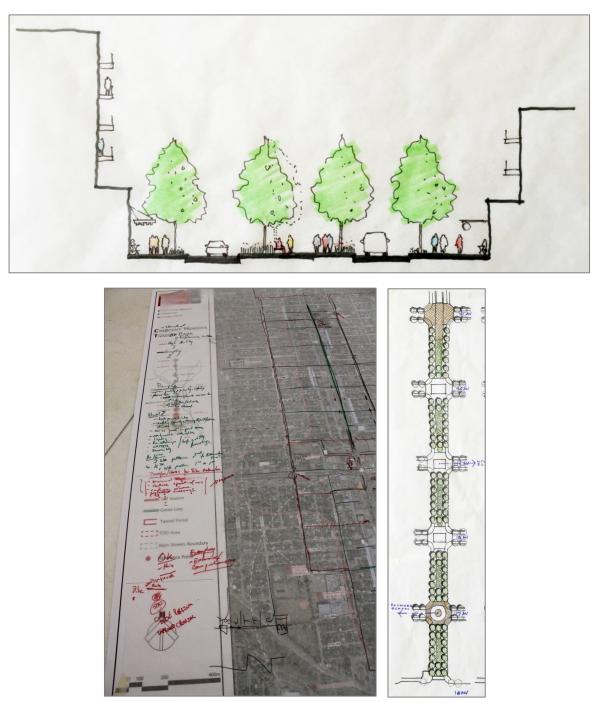


FIGURE 123: WORK IN PROGRESS

4.4.6 Day 6 (Sat, Oct 1, 2016) - "Solutions" Session

The presentation opened with a refresher of the process over the week and how community members contributed and shaped the final TOD Concept Plan, including the Issues session and its Gains & Pains exercise, the Ideas session and the board game, and the Concepts session with the interactive clickers and sketching stations.



FIGURE 124: CHARRETTE SESSIONS & EXERCISES REVIEW

It was noted that a TOD Concept Plan is the product of many aligned inputs – community preferences, market viability, professional expertise, and City goals.

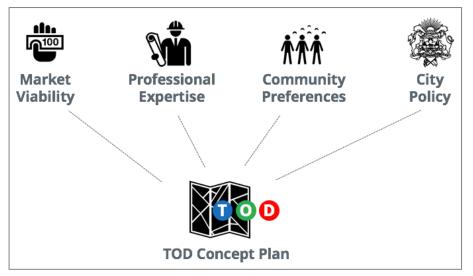


FIGURE 125: INPUTS INTO A TOD CONCEPT PLAN

		Connected Streets	Transit Connectivity	Dedestrian Connections	Bike Connections	1 Intersection Enhancements	E Station Plazas	5 Streetscape Enhancements	B Enhanced & New Open Space	b Ave Station Area	2 16 Ave Station Area	00 16 Ave / Tuxedo Park Gateway	4 28 Ave Station Area	New Community Facilities
S O M	Walkability & Connectivity		0				0		0					•
	Community Identity	0			0	0			0	0	0			0
is uon ≥	Mixed Uses & Housing		0						0					
S C	Traffic		0					0				0		
ER	Parking		0	0	0			0						0
concerns	Fublic Realiti investment			•		•		•	•	0	0	0	0	0
	Walkability & Connectivity		0				0			0	0	0	0	0
	Public Realm Investment		0											0
					0									
	New Public Facilities		0	0	0			0	0		0		•	•

FIGURE 126: TOD MATRIX

The TOD matrix shows how the community's values, concerns, and aspirations, as expressed through the weeklong charrette, guided the development of the TOD Concept Plan.



FIGURE 127: TOD CONCEPT 3D MODEL

	/IAP	
	Green Line North Neighbourhood Boulevard Urban Boulevard Pedestrian Connections Neighbourhood Greenway Station Plaza Neighbourhood Gateway New/Enhanced Intersection BRT Station Angled Parking	
P	Tunnel Portal Angled Parking	

FIGURE 128: "T" MAP – TRANSPORTATION

The transportation components of the TOD Concept Plan include:

- a change in street classification north of 16 Ave from Urban Boulevard to Neighborhood Boulevard, with a corresponding reduction in anticipated vehicle volumes, and a reduction in travel lanes from 2 to 1 (each way);
- an emphasis on pedestrian and bike connections across Centre St and throughout the community;
- improvements to the public realm on Centre St to make walking safe and pleasant, and to foster local small business activity; and
- angled parking on side streets in the half-block adjacent to Centre Street.

The reclassification of Centre St from an Urban Boulevard to a Neighbourhood Boulevard from 16 Ave to McKnight means that Centre St will in future have fewer vehicular lanes (2 instead of 4), fewer vehicle trips per day, and a greater emphasis on walking, cycling, transit, and a sidewalk culture of small and local businesses, as envisioned by participants.



Livable Streets		
Urban Boulevard		
Daily Traffic Volume (vehicles)	Number of Lanes	Right-of-way Requirement
17,500 - 25,000	4	36.0, 42.6 m



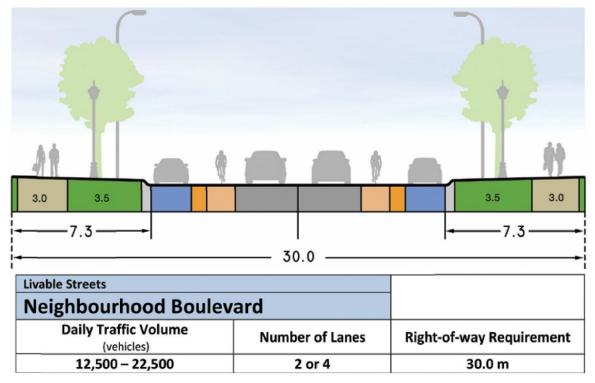


FIGURE 130: NEIGHBOURHOOD BOULEVARD SECTION

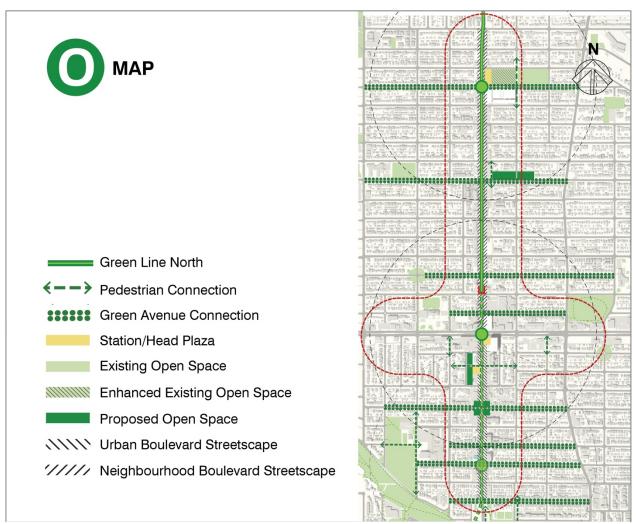


FIGURE 131: "O" MAP – OPEN SPACE

The open space components of the TOD Concept Plan include:

- enhancements to Tuxedo Park;
- public open space and a plaza above the tunnel portal (near 17 Ave);
- a strategy to identify portions of residential side streets that could be reallocated to create new neighbourhood pocket parks (and in conjunction with traffic calming); and
- a series of neighborhood greenways that act as connections to Centre Street.

МАР					
Green Line North					
Public Facilities					
Town Houses (2-4 Storeys)					
Apartments (5-6 Storeys)					
Apartments (7-15 Storeys)					

FIGURE 132: "D" MAP - DEVELOPMENT

The development components of the TOD Concept Plan include:

- a comprehensive future vision for the Tuxedo Park (28 Ave) Station including: station plaza, recreation and community facilities, 4- to 6-storey mixed use development (retail and residential) adjacent to the station, and 2- to 4-storey townhouses and stacked townhouses adjacent to Tuxedo Park;
- a future vision for the Crescent Heights (16 Ave) Station including: station plaza, street trees and plantings, a new library, and 4- to 6- and 8- to 16-storey mixed use development (retail, office, residential);
- up to 6-storey mixed use development along Centre St; and
- potential for 2- to 4-storey townhouse and stacked townhouse development along 12 Ave and surrounding Tuxedo Park Community Association green space.



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FIGURE 133: MASSING TRANSITION - CENTRE ST REDEVELOPMENT TO RESIDENTIAL LANEWAY BEHIND

16 Ave Station Area TOD



FIGURE 134: 16 AVE TOD CONCEPT 3D MODEL



FIGURE 135: 16 AVE TRANSIT PLAZA 3D MODEL

The 16 Ave station area includes a new public library integrated with the station and station plaza, and extensive redevelopment along the important corridors of Centre St and 16 Ave. The tunnel portal on Centre St is to include a reconfigurable multi-use plaza north of 16 Ave.

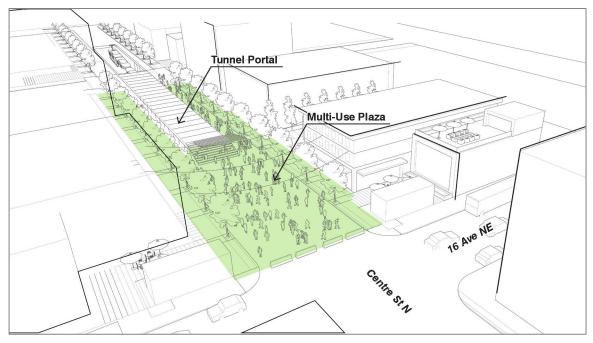


FIGURE 136: 16 AVE MULTI-USE TUNNEL PORTAL PLAZA

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Photo simulations: 16 Ave



FIGURE 137: 16 AVE STATION AREA (NOW)



FIGURE 138: 16 AVE STATION AREA PHOTO SIMULATION (FUTURE VISION)



28 Ave Station Area TOD

FIGURE 139: 28 AVE TOD CONCEPT 3D MODEL

The 28 Ave station area includes a new recreation centre and community association space, a transit plaza, mixed use development on Centre St, and stacked townhouses framing Tuxedo Park.



FIGURE 140: 28 AVE TRANSIT STATION 3D MODEL



Photo simulations: Tuxedo Park

FIGURE 141: 28 AVE STATION AREA (NOW)



FIGURE 142: 28 AVE STATION AREA PHOTO SIMULATION (FUTURE VISION)

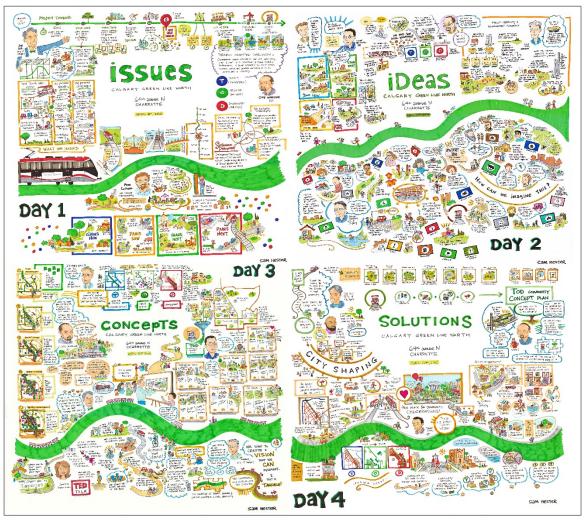


FIGURE 143: GRAPHIC RECORDING BY LOCAL ARTIST SAM HESTER

4.5 CONCLUSION & THE "BIG IDEA"

The Green Line represents a substantial expansion of Calgary's LRT system – adding 40 km of track and approximately 26 stations, bringing the network from 59 km today to 99 km once the Green Line is complete. More than simply improving mobility options, the Green Line is an opportunity to shape the growth and development of Calgary so as to provide additional choices to residents with respect to housing, employment opportunities, and access to higher quality urban environments, open space and recreation facilities.

Working with Calgary Recreation, the Calgary Public Library, and other City departments through this process, they have come to the understanding that if they consolidate activities around the transit plaza, and consolidate investment and facility renewal in a transit supportive manner, they can contribute to and provide the nucleus of the transit village.

The proposed civic investment in the station areas by way of a new library integrated into the 16 Ave N station, and a new community recreation centre and community association space integrated into the 28 Ave N (Tuxedo Park) station, are exciting and will serve as a catalyst to implementing the vision of the TOD Concept Plan.

4.6 PARTICIPANT EVALUATION SUMMARY (BY CITY OF CALGARY)

Crescent Heights / Tuxedo Park Design Charrette

Participant evaluation summary, September 26 - October 1, 2016

About the Data

Feedback forms were collected after three of four events and were filled out on a voluntary basis with optional anonymity. The number of participant feedback forms decreased throughout the week, however, 34 students attended the Thursday (Sept 29) session all of whom completed the evaluation portion of the feedback form. There were no forms collected on Monday (Sept 26).

The evaluation forms were standardized for all events. The front page consisted of five questions where participants were asked to provide a rating and given the option to provide a comment. The back page asked participants to provide contact details should they wish to be added to the Green Line mailing list and give details on how they found out about the event. Lastly there was an open-ended "final comment" not related to a question.

Event Synopsis (week summary)

Positive Themes: Process, facilitation, inclusion,

Negative Themes: Uncertainty around how input will be used, lack of upfront information, missed opportunity of discussion of 9 ave station, suggestion for other areas of focus / stakeholder groups for inclusion

Neutral Themes: Suggestions for improvements

Overall people were pleased to be a part of the process and happy with the facilitation. Tuesday's board game brought a lot of excitement. Participants found this to be a good exercise for visualizing the potential of their neighborhood. There was much hesitation around how all of the feedback would be distilled.

Excitement continued through Thursday, participants enjoyed the process and facilitation. Hesitations around the process began to show through comments on ideas and preferences that were not captured through voting. The students present at Thursday's session commented on the facilitation techniques and made some suggestions to details that could have been a bit more granular. Many commented on not being allowed to participate or speak during the session, a few citizens noted this as well as a missed opportunity for input.

The last day received very little feedback, the majority of which was negative. Those participants felt the solutions were preconceived and had mis-trust for how their feedback was used.

Comments (week summary)

Positive, negative and neutral categories were applied to each comment. Each participant could have provided up to six comments per evaluation form (five related to a question and one open-ended). Participant comments may also contain more than one categorized statement.

Date	Number of evaluations completed	Number of evaluation comments	+	_	N	Number of final comments	+	_	N
27 – Sept	30	32	14	23	2	20	21	7	4
29 – Sept	25	17	12	10	0	13	9	11	9
1 – Oct	3	3	1	3	0	4	0	7	1
Student evaluation	34	8	3	6	1	12	10	6	3
	92	60	31	42	3	49	40	31	14

Questions (week summary)

Statement	Agree	Somewhat Agree	Neither	S omewhat D isagree	Disagree
This session was a good use of my time.	51	11	0	0	0
I am satisfied with the opportunity to participate and provide input.	72	15	4	1	0
I received enough information to provide meaningful input.	61	22	6	2	0
l understand how my input will be used.	50	28	12	2	0
Tonight's format was an effective way for The City to collect input	64	23	5	0	0

Daily Summary

Tuesday September 27, 2016

Statement	Agree	Somewhat Agree	Neither	Somewhat Disagree	Disagree
This session was a good use of my time.	21	8	1	0	0
I am satisfied with the opportunity to participate and provide input.	28	2	0	0	0
I received enough information to provide meaningful input.	21	5	2	1	0
I understand how my input will be used.	21	7	0	2	0
Tonight's format was an effective way for The City to collect input	20	8	2	0	0

Tuesday synopsis

People were generally happy with the board game process, though a few people felt they did not receive enough up front information to make informed decisions. Others felt the environment was too noisy or that they were rushed. Though people were generally positive and constructive with feedback, there was an air of hesitation around how feedback will be used.

Thursday September 29, 2016

Public feedback

Statement	Agree	S omewhat A gree	Neither	S omewhat D isagree	Disagree
This session was a good use of my time.	20	5	0	0	0
I am satisfied with the opportunity to participate and provide input.	18	6	1	0	0
I received enough information to provide meaningful input.	17	8	0	0	0
I understand how my input will be used.	13	9	3	0	0
Tonight's format was an effective way for The City to collect input	19	4	2	0	0

Student feedback

Statement	Agree	S omewhat A gree	Neither	S omewhat D isagree	Disagree	
This session was a good use of my time.	29	5	0	0	0	

I am satisfied with the opportunity to participate and provide input.	24	7	3	0	0
I received enough information to provide meaningful input.	21	8	4	1	0
I understand how my input will be used.	14	12	8	0	0
Tonight's format was an effective way for The City to collect input	24	9	1	0	0

Thursday synopsis

Comments continued to be generally positive, however, there continued to be hesitation on how feedback will be used. Participants made specific mention to desire to maintain bike lanes, walkability, and have the opportunity to give input on the 9th ave station.

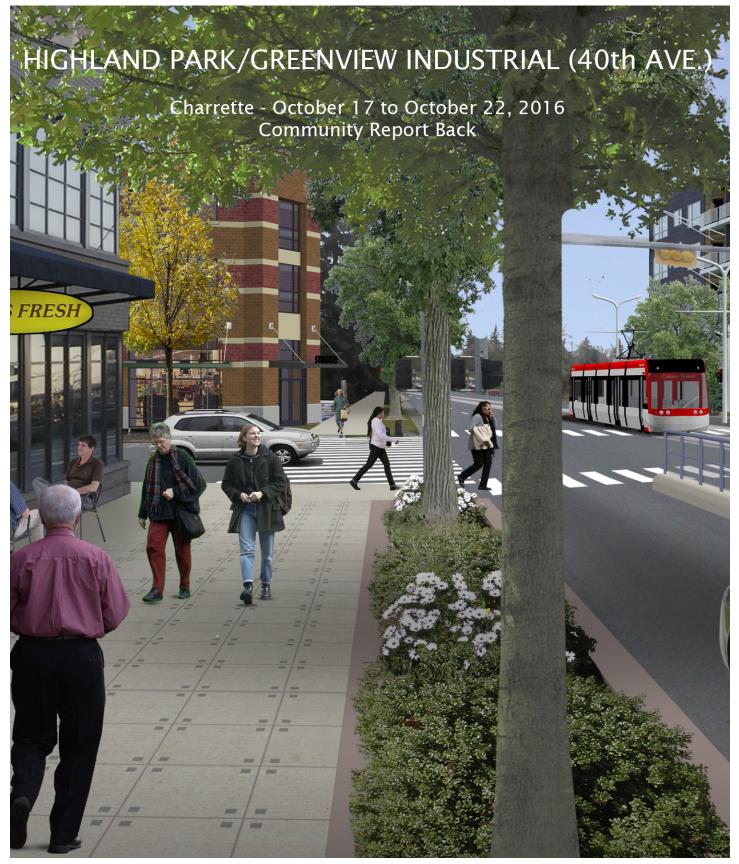
The students attending this session enjoyed the opportunity to see the process, however, many wanted to hear more specific information. Several also expressed frustrations around not being able to participate in the process.

Saturday October 1, 2016

Statement	Agree	S omewhat A gree	Neither	S omewhat D isagree	Disagree
This session was a good use of my time.	2	1	0	0	0
I am satisfied with the opportunity to participate and provide input.	2	0	0	1	0
I received enough information to provide meaningful input.	2	1	0	0	0
I understand how my input will be used.	2	0	1	0	0
Tonight's format was an effective way for The City to collect input	1	2	0	0	0

Saturday synopsis

Although the evaluations were fairly positive, the majority of the written feedback received on Saturday was negative. Those respondents expressed frustration over the results stating that they felt preconceived and did not understand how their input was included. A desire for more online opportunity was also expressed here.



5 HIGHLAND PARK | GREENVIEW INDUSTRIAL CHARRETTE (40 AVE)

5.1 CHARRETTE STUDY AREA & REASON FOR SELECTION

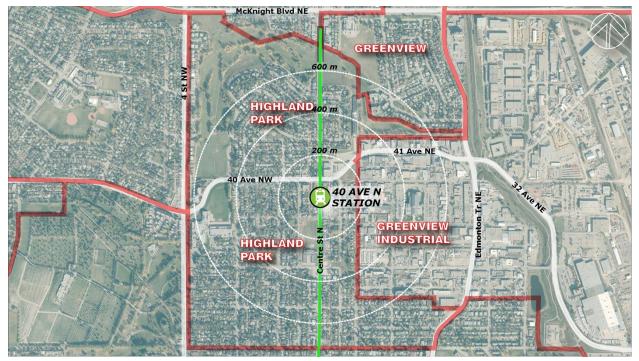


FIGURE 144:40 AVE STATION TOD CHARRETTE STUDY AREA

Reasons for Selection

- Good location along the north segment of the Green Line
- Prospect of the Greenview Industrial Park transforming into an Innovation District over time
- Community interest in the future of the Highland Park Golf Course

5.2 DATE & LOCATION

- Monday, October 17 to Saturday, October 22, 2016
- Centre St Church, West Campus (4120 Centre St NE)

The 40 Ave station area TOD charrette for Highland Park/Greenview Industrial Park, the third in the series of station area charrettes for the Green Line North, took place from Monday, October 17 to Saturday, October 22, 2016, at the Centre Street Church (West Campus) at 4120 Centre St NE. The week consisted of four public meetings that were attended by between 50 and 60 resident participants per meeting.

5.3 GEOGRAPHIC & SOCIOECONOMIC CONTEXT

Neighbourhood Boundaries

The 40 Ave station area is located between the communities of Highland Park and Greenview Industrial Park on the north side of Calgary. Highland Park extends from 32 Ave in the south to McKnight Blvd to the north and between 4 St in the west and Edmonton trail to the east, excepting the Greenview Industrial Park.

Greenview Industrial Park was once considered a part of the Highland Park community, then considered as part of the community of Greenview to the NW, and is now designated as a standalone inner city industrial park. The industrial park extends from 1 St NE in the west to Deerfoot Trail to the east, and between McKnight Blvd to the north ending just before the Fox Hollow Golf Course to the south.

Travel Distances

The 40 Ave station is approximately four kilometres from downtown Calgary via Centre St, which is a 10-minute drive in free-flow and approximately 15 minutes during normal rush hour conditions. Nose Hill Park and Deerfoot Trail are only a few kilometers to the west and east respectively, and the University of Calgary is only 6.5 kilometres away by car.

Community Profiles

Relevant highlights from the City of Calgary's community profiles are included below. Comparisons to averages refers to the average statistic across the City of Calgary.

Highland Park

Population:

- Population of 3,965 (2014 Census estimate).
- The proportion of residents aged 0-19 years is lower than average, and the proportion of residents aged 20-64 years and older is higher than average.
- The medium age of the community is 38.
- The average number of children per census family is 0.8, lower than the City average of 1.1.
- 22% of the population live alone compared to the Calgary average of 10%.
- 18% of the community is 80 years and over compared to the City average of 13%.

Housing:

- Only 30% of the occupied dwellings are owner-occupied compared to the average of 69%.
- Household size is 2.6, versus the average of 3.0.
- There are 1,942 dwellings.
- The majority of dwellings are single family, at 43%, but this is lower than the average of 58%.
- The community has more townhouses than the City average.
- Higher proportion of converted structures at 21% compared to the average of 3%.
- Median household income of \$63,218, versus Calgary average of \$81,256 (2011 National Household Survey).

Greenview Industrial Park

As an industrial park, no population or housing data is available.



FIGURE 145: ABOUT TO OPEN THE CHARRETTE

5.4 CHARRETTE IN ACTION

5.4.1 Day 1 (Mon, Oct 17, 2016) - "Issues" Session

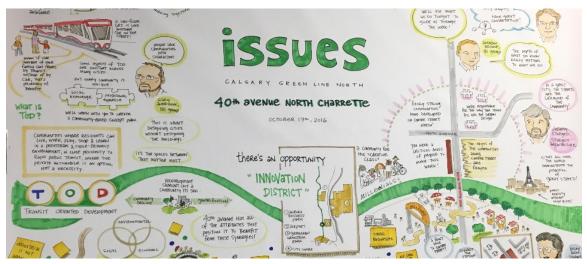


FIGURE 146: DAY 1 GRAPHIC RECORDING BY LOCAL ARTIST SAM HESTER

Approximately 60 residents joined the City and consultant project teams to kick-off the 40 Ave charrette. Presentations addressed the following:

- background on the vision of the Green Line North as an opportunity to positively shape the growth and livability of the City;
- the Green Line North engagement program;
- an explanation of what transit-oriented development (TOD) is and is not;
- examples of best practices;
- the concept of a charrette and its strength at producing rapid, community-based conceptual plans; and,
- the process and resulting concepts from Calgary's Green Line Southeast charrettes.

Exercise: Gains & Pains

The importance of the assembled residents' and stakeholders' local knowledge was emphasized, and they were asked to participate in a "Gains and Pains" exercise led by IBI Group. Participants were asked to split into to discuss what they valued in their neighbourhood today (Gains Now), what they were concerned about today and for the future (Pains Now & Next), and what they would like to see improved (Gains Next). Groups then wrote down their ideas on Post-It notes and placed them in the appropriate quadrant of their tables' exercise board.



FIGURE 147: GAINS & PAINS PARTICIPANTS

Exercise: Dot Voting

The Gains & Pains Post-It notes were consolidated and categorized onto a single, large board, and participants were asked to prioritize between issues by using coloured sticker voting dots representing each quadrant of the board.



FIGURE 148: GAINS & PAINS DOT VOTING PARTICIPANTS



FIGURE 149: CONSOLIDATED GAINS & PAINS BOARD WITH DOT VOTING

5.4.2 Day 2 (Tue, Oct 18, 2016) - "Ideas" Session

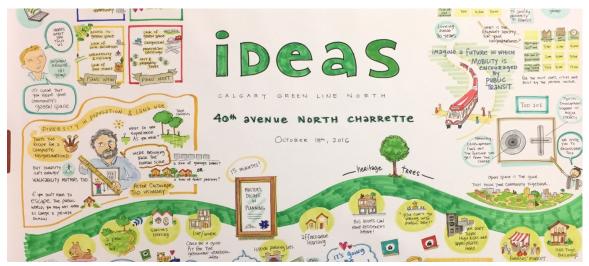
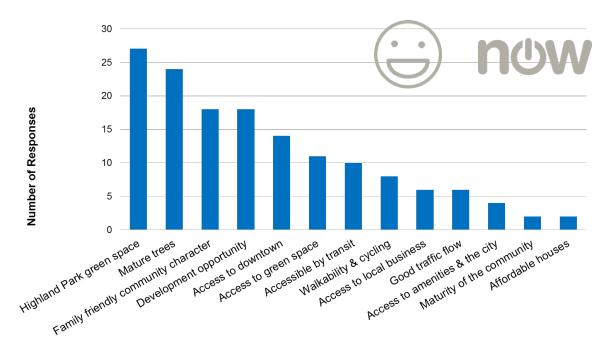


FIGURE 150: IDEAS SESSION GRAPHIC RECORDING BY SAM HESTER

During the day, the consultant team worked with City Staff and Subject Matter Experts (SMEs) with the express purpose of discovering and developing what might be called a "Big Idea", which could create a focus for and jump start the TOD.

Evening Public Meeting

The meeting commenced with a playback of the previous evening's Gains & Pains exercise and an analysis of participants' responses for each of the four quadrants – Gains Now, Pains Now, Gains Next, and Pains Next.

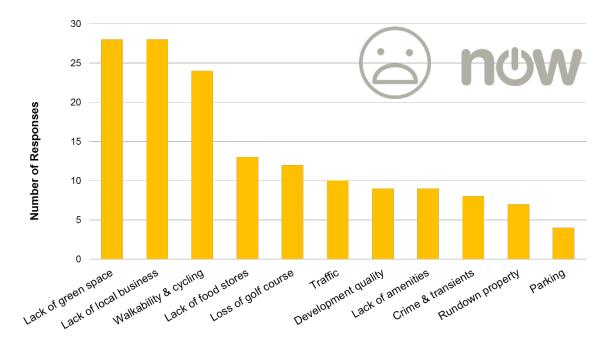






Gains Now

Gains Now can be understood as what is valued today in the existing community. During the exercise, residents demonstrated that they greatly value the green space of the former Highland Park Golf Course, mature trees, family friendly community character, development opportunities, and access to downtown. Residents also value access to green space, generally, accessibility by transit, and walking and cycling. Less frequent responses included access to local businesses, good traffic flow, access to amenities and the City, maturity of the community, and affordable housing.



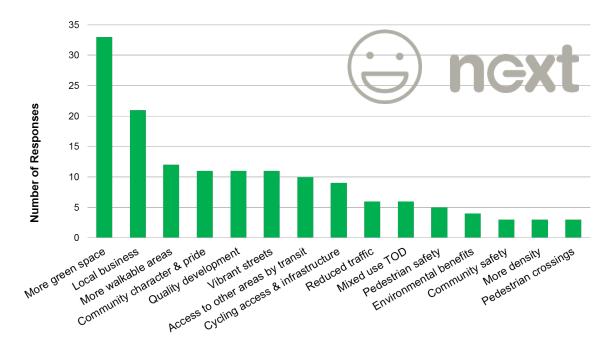
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Pains Now

The participants identified **Pains Now** with the largest categories revolving around a lack of green space, lack of local businesses, and poor walkability and lack of cycling infrastructure. Other categories included a lack of food stores in or near the community; the loss of the golf course green space with the new proposed Highland Village Green redevelopment; traffic congestion, specifically noting issues with the Tim Horton's traffic; poor development quality; and a lack of local amenities.

Residents also noted concerns with crime and transients, specifically referencing a large number of rental properties and transients near the Tim Horton's and along Centre St. Rundown properties was another concern as many properties in the area are nearing the end of their lifecycle and need to be renovated or replaced. Lastly, parking was noted as a pain. Residents commented that many people park along Centre St and take the bus into downtown.



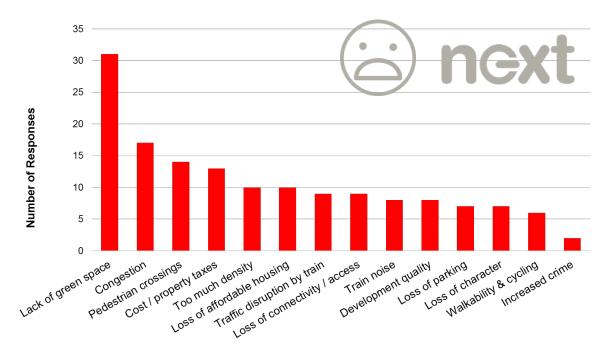




Gains Next

Gains Next can be understood as hopes for the future. The most frequently noted category was, by far, a hope for more green space, with a desire for local businesses as the second most common response. While the Post-It note comments were brief, conversations with participants revealed that they were looking for not only more local businesses but better quality commercial development.

Also important to the community was: more walkable and pedestrian friendly areas; to retain the community character and pride by differentiating Highland Park and making it a destination; good quality development; vibrant streets; access to transit; and cycling access and infrastructure. Less frequent responses included reduced traffic, mixed use TOD, pedestrian safety, environmental benefits, community safety, more density, and pedestrian crossings.



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FIGURE 154: NUMBER OF PAINS NEXT "DOT VOTES" BY CATEGORY

Pains Next

Pains Next can be understood as what the participants expressed with respect to fears or anxieties about the future. Participants indicated most prominently that they were concerned about the lack of green space, especially as related to the former golf course. Other highly rated concerns included traffic congestion, fewer pedestrian crossings and related safety concerns specific to Centre St, and increased property taxes due to increased land values.

Other concerns revolved around too much density, loss of affordable housing, traffic disruption by the train, loss of connectivity and access across Centre St, train noise, development quality, loss of parking, loss of character, poor walkability and cycling, and increased crime.



FIGURE 155: GAINS & PAINS RESPONSE SUMMARY GRAPHIC



FIGURE 156: GAINS & PAINS LINK TO TOD

The consultant team further distilled the participants' responses into four broad categories and showed how these, over the course of the week, would be used to guide the work of the team as the TOD concept plan emerged in response to participants' multiple opportunities for feedback (shown above).

Economic Analysis

Coriolis Consulting provided participants with a succinct and accessible analysis of the land economics and development viability within the 600 metre TOD area. Coriolis explained that, between the minimum density (that which is required to make a development viable) and the maximum density (which should not exceed market demand and community acceptance), there is the 'right' density – that which is economically viable and compatible with the community.

Coriolis forecast the estimated number of new multifamily units required within the Green Line North alignment in the period 2015-2045, and found that approximately **2,000 units** would be attributable to the 40 Ave station TOD area. Redevelopment is a land use that has to compete with existing land uses on urban sites, and to be viable a redevelopment must be able to outbid the existing use of the land in order for the developer to be able to make a sufficient offer to the present landowner.

Stations Between 9 th Avenue and Beddington	Attached Units	Apartment Units	E Total Units
64 Avenue Station	1,000	1,500	2,500
40 Avenue Station	500	1,500	2,000
9, 16, 28 Avenue Stations	500	2,500	3,000
Total	2,000 units	5,500 units	7,500 units

FIGURE 157: SUMMARY TABLE OF CORIOLIS' ESTIMATES

Several economic case studies were performed on sites in the TOD study area to determine what might or might not be viable. While there were some marginal cases, it was determined that townhouse redevelopment would not generally be economically viable. This is because the residual funds left over to purchase a site, after all other costs were deducted from gross sales, would be less than what an existing use would value the site at. The most likely viable forms of development include 4-6 storey wood-frame construction, with or without a commercial ground floor depending on context, and mid- or high-rise concrete mixed use buildings. To be financially viable, concrete apartment units need a relatively high price per sq ft in comparison to woodframe apartment units. The station areas with the strongest prospect for concrete apartment units are located near the southern end of the GLN (such as 9, 16, and 28 Ave stations).

Exercise: Board Game

IBI Group then explained the next exercise: the TOD Board Game. Having been reminded of their Pains & Gains responses from the previous night, and armed with knowledge of what sort of changes may be economically viable (to ensure proposals were 'right-sized'), participants were asked to have fun, get creative, and propose their own TOD within the 600 metre 40 Ave station radius. After a brief break, participants organized themselves into groups at five tables, each containing a game board, playing pieces representing a wide range of components of a complete community and accompanied by a facilitator to assist with questions.





FIGURE 158: TOD BOARD GAME PARTICIPANTS

5.4.3 Day 3 (Wed, Oct 19, 2016) - Work in Progress

Having worked late the night previously to document the participants' game boards, the consultant team in the morning set to work analyzing participants' placement of pieces in and around the 600 metre station radius. Rather than focusing analysis on each game board in isolation, they were examined for areas of commonality and emerging themes. Unbundling ideas from each game board and grouping them thematically or spatially helped ensure that each game board did not represent an all-or-nothing, complete proposal for the site, but rather a collection of ideas to be examined and compared to the ideas represented on the boards of the other teams.



FIGURE 159: EIGHT DISTINCT GAME BOARDS

Ten spatial areas of focus were identified as a result of this analysis; 6 core focus areas and 3 outlier focus areas. Participants' game boards were closely examined to determine commonalities and differences within those focus areas. From that, three different scenarios (essentially low, medium, and high) were distilled for each focus area based on what was proposed collectively by the eight board game participant groups.



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FIGURE 160: FOCUS AREAS IDENTIFIED FROM THE GAME BOARDS

The six focus areas were identified as:

- 1 40 Ave Station Area
- 2 Greenview Industrial
- 3 South Centre St
- 4 West 40th Ave
- 5 Highland Green
- 6 North Centre St

The four outlier areas were identified as:

- 7 Outlier: Edmonton Trail
- 8 Outlier: SW Infill
- 9 Outlier: 4 St NW
- 10 Outlier: 32 Ave

5.4.4 Day 4 (Thu, Oct 20, 2016) - "Concepts" Session

The consultant team continued their work from the previous day to analyze and draw conclusions from the participants' game boards.



FIGURE 161: CONSULTANT TEAM BRIEFING

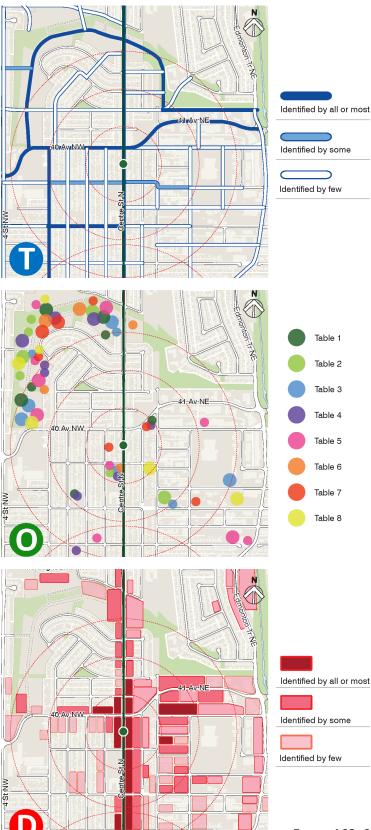
Once finished, the team set about producing T, O, and D maps serving to illustrate the spatial frequency of the different participant group's interventions (as communicated by their game boards), and analyzing how, where, and to what extent the participants had common approaches to ideas within the TOD area.



FIGURE 162: PARTICIPANTS DURING DAY 4 PRESENTATION

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For the "T" Map, lines represent an aggregation of participants' spatial preferences for improved mobility. The darker colors indicate a stronger consensus supporting transportation improvements on a particular route, irrespective of mode. Emphasized routes including Centre St, 40 / 41 Ave, and circulation in parks and the former golf course.

For the "O" Map, dot sizes represent the relative size of open space desired and the colors indicate the ideas of each table of participants. Strong clustering of open space is evident within the former Highland Park Golf Course.

For the "D" Map, colour intensity represents the strength of the consensus among teams to develop in any given area. Teams consistently proposed higher densities along the Centre St corridor, somewhat less along 40 / 41 Ave, and some level of development in the industrial park and the former golf course.

FIGURE 163: COMMUNITY GENERATED T, O, AND D HEATMAPS

5.4.4.1 Focus Area 1 - 40 Ave Station Area



FIGURE 164: 40 AVE STATION FOCUS AREA

The 40 Ave Station focus area consists of lands from 38 to 42 Ave and between 1 St NW in the west to 1 St NE in the east. This area consists of a mix of single-family, multi-family and local commercial business, including Tim Hortons, the west campus of the Centre St Church (also the public meeting venue), and a convenience store, pub, and butcher.



FIGURE 165: 40 AVE STATION FOCUS AREA CONCEPTS



5.4.4.2 Focus Area 2 - Greenview Industrial Area

FIGURE 166: GREENVIEW INDUSTRIAL FOCUS AREA

The Greenview Industrial focus area consists of the lands roughly between 1 St NE and 3 St NE in the east and between 41 Ave in the north to 34 Ave in the south. This area is comprised of mostly light industrial and commercial uses, including the Centre Street Church, and various restaurants. There are a few single-family homes located on the edges of this focus area.

	B	
 Dispersed Industrial innovation Office, retail Some affordable & seniors housing 	 Focused Blocks Industrial and arts innovation Residential infill (townhouse and live/work) 	 Innovation District Industrial and arts innovation Office, retail Affordable housing Mixed use (retail and apartments)

FIGURE 167: GREENVIEW INDUSTRIAL FOCUS AREA CONCEPTS

5.4.4.3 Focus Area 3 - South Centre St



FIGURE 168: SOUTH CENTRE ST FOCUS AREA

The South Centre St focus area consists of lands between 32 and 38 Ave and between 1 St NW and 1 St NE. This area is home to Buchanan Elementary School, convenience retail, Churchill Park Family Care Centre, and some multi-residential buildings, but mostly single-family homes.



FIGURE 169: SOUTH CENTRE ST FOCUS AREA CONCEPTS

5.4.4.4 Focus Area 4 - West 40 Ave



FIGURE 170: WEST 40 AVE FOCUS AREA

The West 40 Ave focus area consists of the land between 4 St NW to 1 St NW and about a half block on the south side of 40 Ave and a full block on the north side. This area consists of wide lot single-family homes.



FIGURE 171: WEST 40 AVE FOCUS AREA CONCEPTS



5.4.4.5 Focus Area 5 - Highland Green

FIGURE 172: HIGHLAND GREEN FOCUS AREA

The Highland Green focus area is the former Highland Park Golf Course, which has become a popular dog park and green space used by the community, and features a ravine and large mature trees. Although the golf course was not a public park it lies at the centre of a network of trails branching to Confederation Park, Nose Hill Park and Nose Creek.

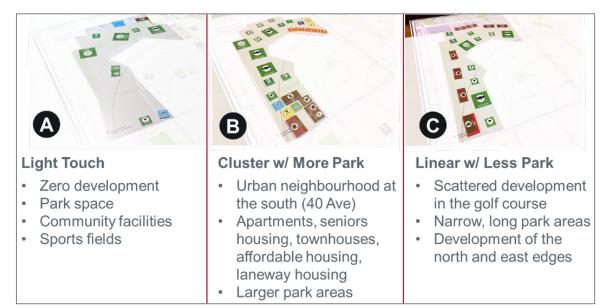


FIGURE 173: HIGHLAND GREEN FOCUS AREA CONCEPTS

5.4.4.6 Focus Area 6 - North Centre St



FIGURE 174: NORTH CENTRE ST FOCUS AREA

The North Centre St focus area includes one block on either side of Centre St between 42 Ave in and McKnight Blvd, and is adjacent to the proposed Highland Village Green. This focus areas consists of primarily single-family homes, green space in the center portion, and commercial uses to the north including restaurants, a liquor store, and two gas stations.



FIGURE 175: NORTH CENTRE ST FOCUS AREA CONCEPTS



5.4.4.7 Focus Area 7 - Outlier: Edmonton Trail

FIGURE 176: EDMONTON TRAIL OUTLIER FOCUS AREA

The Edmonton Trail outlier area was considered an outlier because it was only identified by a few tables' game boards. This outlier area spans half a block on either side of Edmonton Trail from 32 Ave to McKnight Blvd. This area consists of mainly light industrial and commercial uses through the industrial park and adjacent to McKnight, and single-family on the south and north.

	B	
No ChangeExisting conditions	 Scattered Intermittent office, retail, and residential 	 Emphasized Mostly shopping Some residential McKnight to 32 Ave Industrial innovation

FIGURE 177: EDMONTON TRAIL OUTLIER FOCUS AREA CONCEPTS

5.4.4.8 Focus Area 8 - Outlier: SW Infill



FIGURE 178: SW INFILL OUTLIER FOCUS AREA

The SW Infill outlier area was considered an outlier because it was only identified by a few tables' game boards. This focus area spans from 32 to 40 Ave and between 3 St NW to Centre B St NW. This area consists of primarily single-family homes, with some infill development. This focus area also incorporates the Highland Park Community Centre.



FIGURE 179: SW INFILL OUTLIER FOCUS AREA CONCEPTS

5.4.4.9 Focus Area 9 - Outlier: 4 St

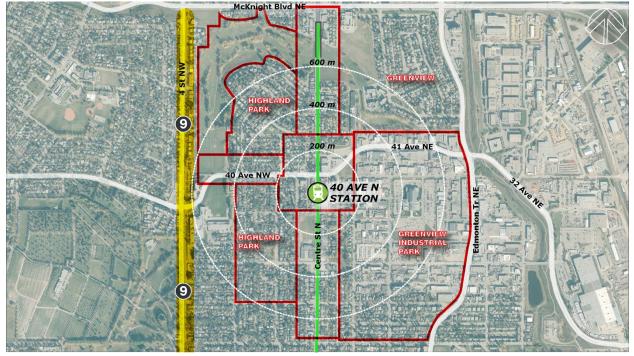


FIGURE 180: 4 ST OUTLIER FOCUS AREA

The 4 St outlier area was considered an outlier because it was only identified by a few tables' game boards. This focus area includes half a block on either side of 4 St and spans from 32 Ave to McKnight Blvd. This area consists of primarily single-family homes, with some multi-family including a seniors apartment, pub and restaurants, and an Alberta Health Services EMS Station.

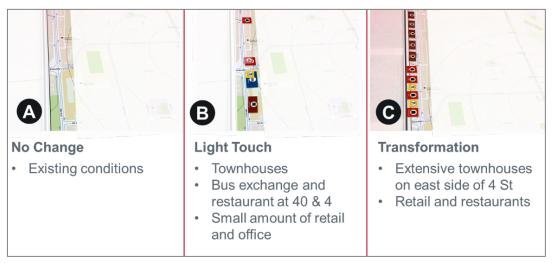


FIGURE 181: 4 ST OUTLIER FOCUS AREA CONCEPTS



5.4.4.10 Focus Area 10 - Outlier: 32 Ave

FIGURE 182: 32 AVE OUTLIER FOCUS AREA

The 32 Ave outlier area was also considered an outlier because it was only identified by a few tables' game boards. This focus area incudes half a block on either side of 32 Ave from 4 St NW to 4 St NE. This area is primarily single-family homes, with some multi-family development.



FIGURE 183: 32 AVE OUTLIER FOCUS AREA CONCEPTS

5.4.4.11 Exercise: Community Preference Selection with Clickers



FIGURE 184: INTERACTIVE PREFERENCE SELECTION WITH 'CLICKERS' AND EXAMPLE RESULTS

The next exercise was live preference selection with interactive "clickers". Using two projectors, a slide of each focus area and its three scenario options was shown, with the second projector used for live viewing of clicker results after the polling window had closed. Results for each focus area were only shown once the system counter indicated that all participants had selected a preference. In this way, the participants' expressed preferences are their own and not the result of choosing the most popular scenario. All participants, public and staff, greatly enjoyed the immediacy and interactivity of the clickers.

5.4.4.12 Exercise Outcomes

Each focus area had three scenarios distilled from the game boards, and the scenarios coalesced into what can be generally understood as low (A), medium (B), and high (C) options with respect to level of change / level of intensity. In every case, a majority of participants selected scenarios B or C (medium or high level of change) as their preference.

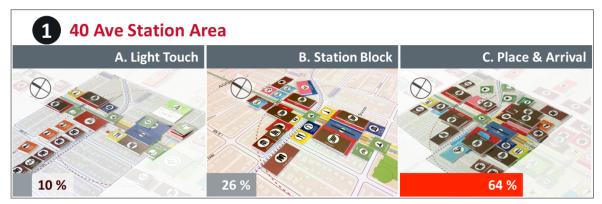


FIGURE 185: 40 AVE STATION FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for the Place & Arrival scenario within the 40 Ave station focus area, featuring:

- Mixed use focused on Centre St & 40 Ave;
- Offices and restaurants; and
- Mostly apartments and some townhouses.

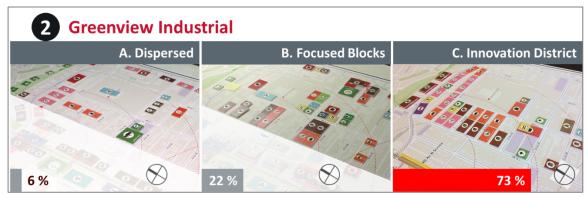


FIGURE 186: GREENVIEW INDUSTRIAL FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for an Innovation District within the Greenview Industrial focus area, featuring:

- Industrial and arts innovation;
- Office and retail;
- Affordable housing; and
- Mixed use (retail and apartments).



FIGURE 187: SOUTH CENTRE ST FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for full development within the South Centre St focus area, featuring:

- Mixed use retail, office, and residential;
- Live/work and affordable housing; and
- Farmers' Market & park at Buchanan School.

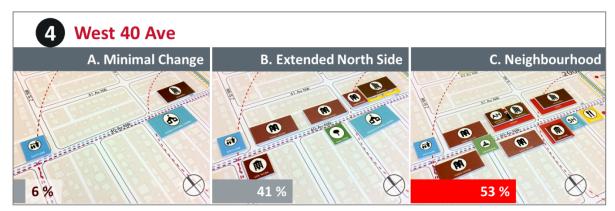


FIGURE 188: WEST 40 AVE FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a close preference between the medium and high level of change scenarios, however the high level of change concept had the edge. The neighborhood concept for the West 40 Ave focus area included:

- Mixed use (shops, apartments, and affordable housing);
- Townhouses along 40 Ave;
- Seniors housing;
- Live / work; and
- Daycare.

5 Highland Park Golf Course / Highland Green A. Light Touch B. Cluster w/ More Park C. Linear w/ Less Park C. Linear w/ Less Park 6 Control of the state of th

Green Line North Light Rail Transit Corridor Functional Planning Study

FIGURE 189: HIGHLAND PARK GOLF COURSE / HIGHLAND GREEN FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a preference for clustered development on the north and south side of the golf course with more open space, to include:

- Urban neighbourhood at the south (40 Ave);
- Apartments, seniors housing, townhouses, affordable housing, laneway housing; and
- Larger park areas in the center.

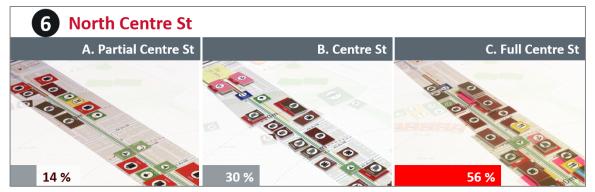


FIGURE 190: NORTH CENTRE ST FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a preference for full development in the North Centre St focus area, featuring:

- Predominantly apartments and townhouses along Centre St; and
- Some mixed use.

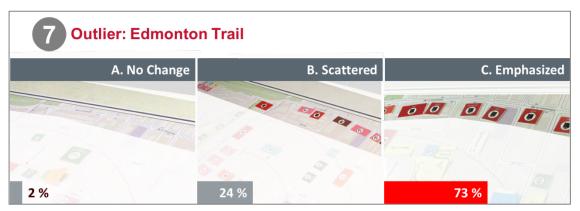


FIGURE 191: EDMONTON TRAIL OUTLIER FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for emphasized development in the Edmonton Trail focus area, featuring:

- Mostly shopping;
- Some residential;
- McKnight to 32 Ave; and
- Industrial innovation.



FIGURE 192: SW INFILL OUTLIER FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a preference for gradual infill development in the SW Infill focus area, featuring:

- Apartments, townhouses, live / work, laneway homes;
- Arts innovation and pop-up project with plaza; and
- Medical clinic.

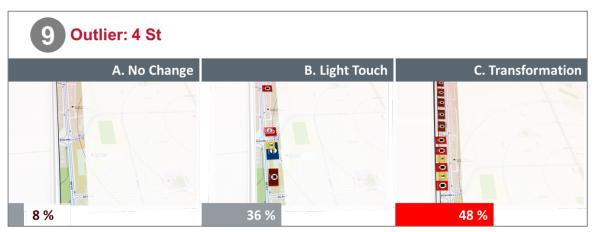


FIGURE 193: 4 ST OUTLIER FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a preference for a transformation of the 4 St focus area, featuring:

- Extensive townhouses on east side of 4 St; and
- Retail and restaurants.

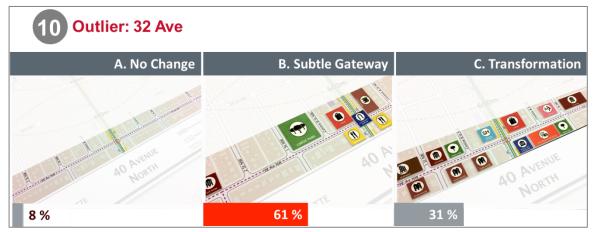


FIGURE 194: 32 AVE OUTLIER FOCUS AREA COMMUNITY PREFERENCE SELECTION RESULTS

Participants expressed a strong preference for a subtle gateway in the 32 Ave focus area, featuring:

- Restaurants;
- Retail;
- Townhouses; and
- Gateway and large park.

5.4.4.13 Exercise: Sketch Stations

Participants next visited two sketch stations where, working with urban designers, their ideas and vision for their community were translated into annotated sketch drawings.



FIGURE 195: SKETCH SESSION IN ACTION



FIGURE 196: COMMUNITY-DRIVEN SKETCH CONCEPT – CENTRE ST AT 40 AVE

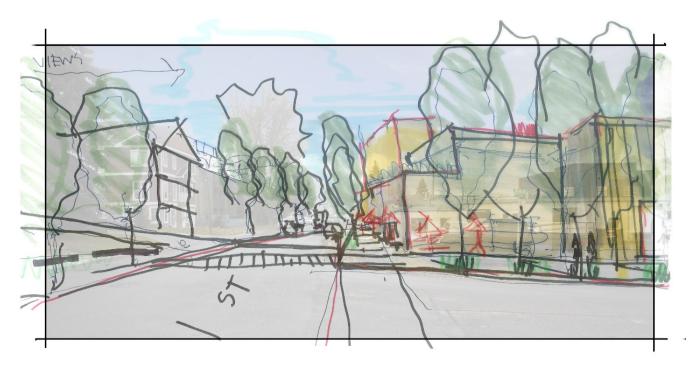


FIGURE 197: COMMUNITY-DRIVEN SKETCH CONCEPT – 1 ST NE AT 38 AVE



FIGURE 198: COMMUNITY-DRIVEN SKETCH CONCEPT – 40 AVE SLOPE PARK & STAIRS

5.4.4.14 TED Talk

Following the break and sketch station exercise, participants were shown a TED Talk by Janette Sadik-Khan (former commissioner of the New York City Department of Transportation) with respect to the power of small, direct changes to transform communities for the better.



FIGURE 199: TED TALK BY JANETTE SADIK-KHAN

Attendees were thanked for their time and reminded to attend Saturday to see the final concept distilled from the excitement and local knowledge of the participants through the week.

5.4.5 Day 5 (Fri, Oct 21, 2016) - Work in Progress



FIGURE 200: REVIEWING PARTICIPANT GAME BOARDS

With the community's preferences in hand from the previous night, the consultant team set to work developing a single, cohesive, and well-detailed transit oriented development concept for the 40th Avenue station area.



FIGURE 201: WORK IN PROGRESS SKETCH

5.4.6 Day 6 (Sat, Oct 22, 2016) - "Solutions" Session

The presentation opened with a refresher of the process over the week and how community members contributed and shaped the final TOD Concept Plan, including the Issues session and its Gains & Pains exercise, the Ideas session and the board game, and the Concepts session with the interactive clickers and sketching stations.

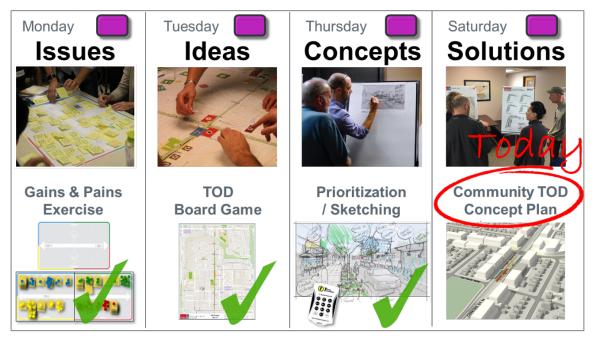


FIGURE 202: CHARRETTE SESSIONS & EXERCISES REVIEW

It was noted that a TOD Concept Plan is the product of many aligned inputs – community preferences, market viability, professional expertise, and City goals.

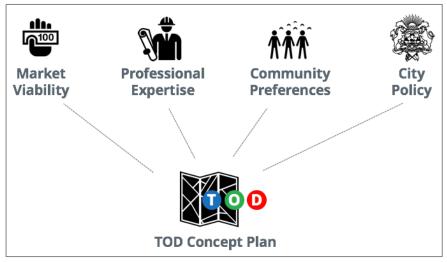


FIGURE 203: INPUTS INTO A TOD CONCEPT PLAN

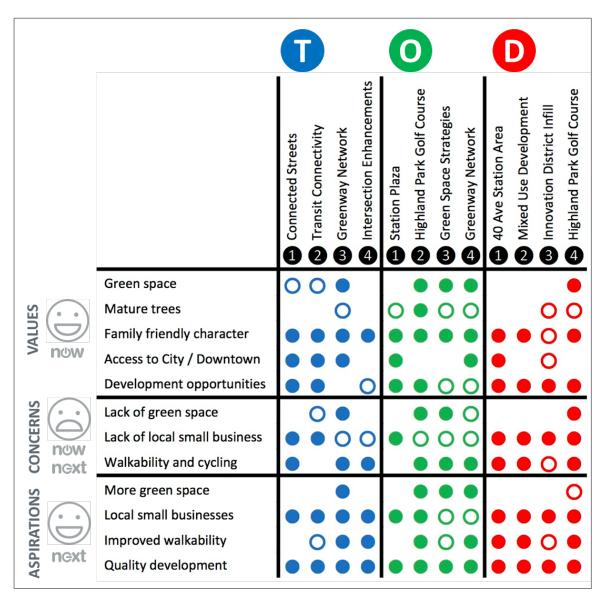


FIGURE 204: TOD MATRIX

The TOD matrix shows how the community's values, concerns, and aspirations, as expressed through the weeklong charrette, guided the development of the TOD Concept Plan.



FIGURE 205: TOD CONCEPT 3D MODEL



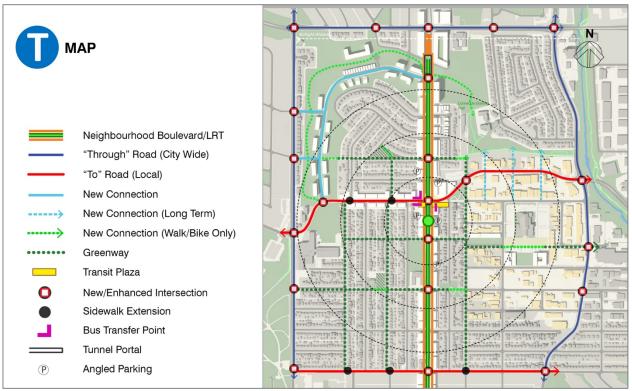
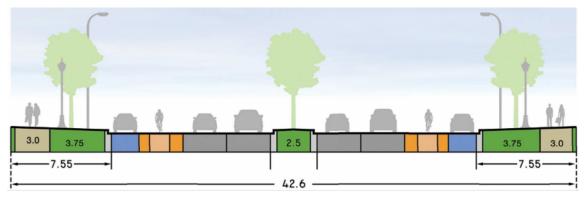


FIGURE 206: "T" MAP - TRANSPORTATION

The transportation components of the TOD Concept Plan include:

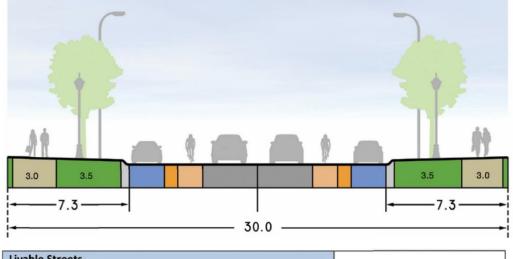
- an integrated plaza and transit exchange at 40 Ave and Centre St N that allows for easy movement between the Green Line and buses;
- a change in street classification for Centre St N from Urban Boulevard to Neighborhood Boulevard between 16 Ave N and McKnight Blvd, with a corresponding reduction in anticipated vehicle trips, a reduction in travel lanes from 4 to 2, and a greater emphasis on walking, cycling, and transit, to foster a sidewalk culture of small and local businesses;
- enhanced bike and pedestrian connections throughout the area and, in particular, across Centre St N and 40 Ave NW;
- safer intersections on major "through" roads and calmer "to" roads;
- neighbourhood greenways that connect open spaces and prioritize people and bikes, and;
- angled parking on side streets near to commercial uses in the vicinity of the station.

The reclassification of Centre St from an Urban Boulevard to a Neighbourhood Boulevard from 16 Ave to McKnight means that Centre St will in future have fewer vehicular lanes (2 instead of 4), fewer vehicle trips per day, and a greater emphasis on walking, cycling, transit, and a sidewalk culture of small and local businesses, as envisioned by participants.



Livable Streets		
Urban Boulevard		
Daily Traffic Volume (vehicles)	Number of Lanes	Right-of-way Requirement
17,500 - 25,000	4	36.0, 42.6 m

FIGURE 207: URBAN BOULEVARD SECTION



Livable Streets		
Neighbourhood Boulev	vard	
Daily Traffic Volume (vehicles)	Number of Lanes	Right-of-way Requirement
12,500 - 22,500	2 or 4	30.0 m

FIGURE 208: NEIGHBORHOOD BOULEVARD SECTION

PUD2017-0471 ATTACHMENT 2



FIGURE 209: SECTION – TYPICAL VIEW LOOKING NORTH (E.G. FROM 34 AVE)



FIGURE 210: SECTION – LOOKING NORTH TO STATION FROM 38 AVE

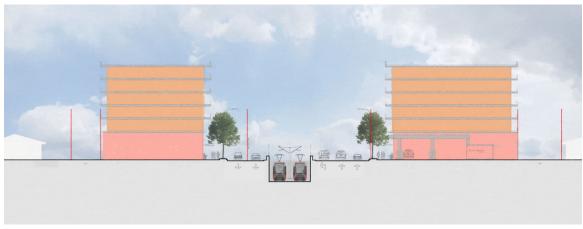


FIGURE 211: SECTION – LOOKING NORTH TO MCKNIGHT TUNNEL FROM LAYCOCK DR

5.4.6.2 Open Space

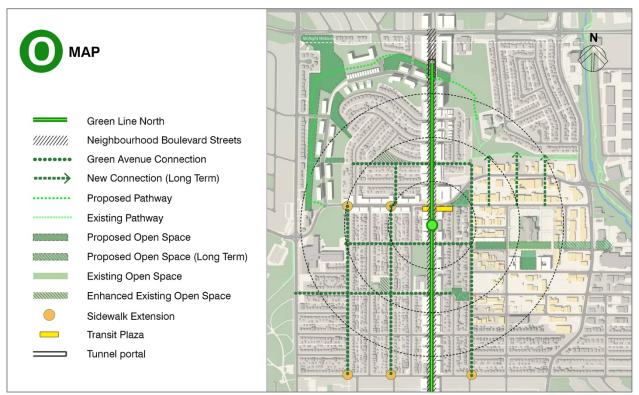


FIGURE 212: "O" MAP – OPEN SPACE

The open space components of the TOD Concept Plan include:

- creation of a station block around the 40 Ave N station that integrates the station, transfers to buses, and complementary neighbourhood commercial uses with public space that can be repurposed and programmed as needed by the community.
- a series of "Green Avenues" that act as connections within the community and transitions between existing and new development, including enhanced crossings for Centre St N and 40 Ave and the linking of recreational paths throughout the community;
- improved and accessible green space on the slopes at 40 Ave N and 1 St NE and active space around the edges of the Highland Park Golf Course lands;
- a strategy to identify portions of residential side streets that could be reallocated to create new neighbourhood pocket parks (and in conjunction with traffic calming); and
- significant amount of open park space retained in the Highland Park Golf Course lands, including a contiguous park space to allow for existing mature trees to be preserved, a limited access road through the park, and only minimal regrading of the site so as to maintain the natural terrain.



FIGURE 213: STATION BLOCK & STATION PLAZA



FIGURE 214: 40 AVE AT 1 ST NE LOOKING WEST TO SLOPE PARK & STAIRS

FIGURE 215: GREENVIEW INDUSTRIAL NORTH

5.4.6.3 Development

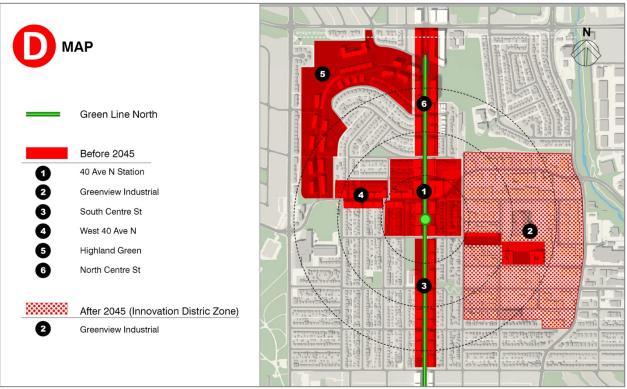


FIGURE 216: "D" MAP - DEVELOPMENT

The development components of the TOD Concept Plan include:

- a future vision for the 40 Ave N Station including: station plaza and 5- to 6-storey mixed use development (retail and residential);
- up to 6-storey residential and mixed use development between 32 Ave and McKnight Blvd;
- a strategy to rejuvenate the Greenview industrial area over time into an "innovation district" with high-tech and knowledge industry, and including public realm improvements such as landscaping, improved lighting, and street trees;
- 4- to 6-storey residential development and townhouses along the western end of 40 Ave N to 3 St NW, and;
- in the Highland Park Golf Course lands, 6- and 12-storey clustered development at the south end of the site, 3-storey townhomes integrated into the slope in a portion of the center of the site, 8-storey residential development west of Centre St N, and 16-storey mixed use development (retail and residential) fronting Centre St N [Note: The Highland Park Golf Course portion of the Concept Plan was subsequently revised by the consultant team – see sub-report under separate cover].



FIGURE 217: 40 AVE STATION AREA

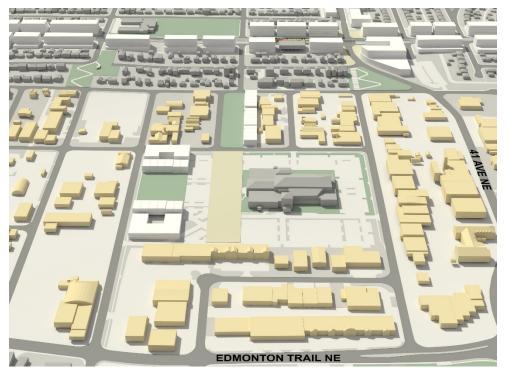


FIGURE 218: GREENVIEW INDUSTRIAL INNOVATION DISTRICT



FIGURE 219: HIGHLAND VILLAGE GREEN

Above is the concept for the Highland Park Golf Course that was developed in the short time frame of the charrette. It represents a modest departure (reduction) from the density of the outline plan previously approved for the lands by the City of Calgary, and includes:

- 6- and 12-storey clustered development at the south end of the site;
- 3-storey townhomes integrated into the slope in a portion of the center of the site;
- 8-storey residential development west of Centre St N; and
- 16-storey mixed use development (retail and residential) fronting Centre St N.

Subsequent work was undertaken the week immediately following the charrette to refine the concept for the Highland Park Golf Course, specifically, and the sub-report relating to this can be found under separate cover.

5.4.6.4 Phasing and Transition



FIGURE 220: MASSING TRANSITION

Stations Between 9 th Avenue and Beddington	Attached Units	Apartment Units	Total Units
64 Avenue Station	1,000	1,500	2,500
40 Avenue Station	500	1,500	2,000
9, 16, 28 Avenue Stations	500	2,500	3,000
Total	2,000 units	5,500 units	7,500 units

FIGURE 221: DEVELOPMENT STATS

PUD2017-0471 ATTACHMENT 2



FIGURE 222: 40 AVE STATION AREA (NOW)



FIGURE 223: 40 AVE STATION AREA PHOTO SIMULATION (FUTURE VISION)

PUD2017-0471 ATTACHMENT 2



FIGURE 224: GREENVIEW INDUSTRIAL AREA (NOW)



FIGURE 225: GREENVIEW INDUSTRIAL AREA PHOTO SIMULATION (FUTURE VISION)

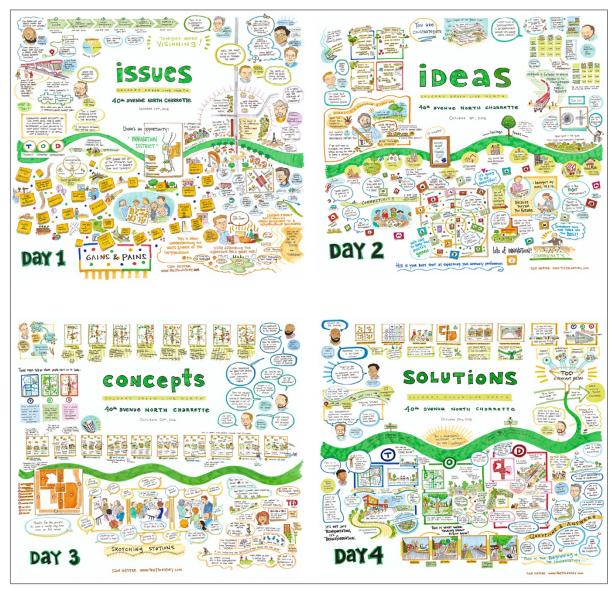


FIGURE 226: GRAPHIC RECORDING BY LOCAL ARTIST SAM HESTER

5.5 CONCLUSION & THE "BIG IDEA"

The Green Line represents a substantial expansion of Calgary's LRT system – adding 40 km of track and approximately 26 stations, bringing the network from 59 km today to 99 km once the Green Line is complete. More than simply improving mobility options, the Green Line is an opportunity to shape the growth and development of Calgary so as to provide additional choices to residents with respect to housing, employment opportunities, and access to higher quality urban environments, open space and recreation facilities.

The big ideas that came out of the Highland Park charrette were a long-term hope for employment growth and the creation of an Innovation District in the present-day Greenview Industrial Park, the redesign of the approved outline plan for the Highland Park Golf Course, if possible, and the urban transit plaza that runs east-west along 40 Ave N, linking east to the new sloped park space that leads to the Greenview Industrial Park (illustrated below).



FIGURE 227: 40 AVE AT 1 ST NE LOOKING WEST TO SLOPE PARK & STAIRS

5.6 PARTICIPANT EVALUATION SUMMARY

40 Avenue North Design Charrette

Participant evaluation summary, October 17 to 22 2016

About the Data

Feedback forms were collected after three of the four events and were filled out on a voluntary basis. The number of forms completed decreased over the course of the week. No forms were collected on Monday.

The evaluation forms were standardized for all events. They consisted of five questions where participants were asked to provide a rating. There was also the opportunity to provide a comment after each question, as well an open-ended "final comment" not related to any question.

Event synopsis (week summary)

Positive themes: Process, instructions, quality facilitation, knowledge of staff **Negative themes:** lack of clarity/ mistrust of how input will be used, missed vision in golf course area, limiting or leading options, other people and locations should be considered in revisions **Neutral themes:** Suggested improvements

Overall people were very pleased with the process. On the Tuesday there was a lot of excitement which resulted in a high number of positive comments. People were impressed by the game board process, the instructions, the facilitators and the knowledge of the staff and consultants.

Some people were unclear how input would be used, or did not trust that input would be used. On the last day people felt the vision was missed in the golf course area. Some people felt the facilitators and/or the presented options were leading or limiting. There were a number of neutral-sentiment suggestions for future improvements.

Comments (week summary)

Positive, negative and neutral categories were applied to each comment. Each participant could have provided up to six comments per evaluation form (five related to a question and one open-ended).

Date	Number of evaluations completed	Number of evaluation comments	+	ļ	N	Number of final comments	+		N
18-Oct	20	24	9	17	1	29	31	7	9
20-Oct	13	15	6	17	0	15	6	13	7
22-Oct	9	23	5	26	2	11	2	14	0
	42	62	20	60	3	55	39	34	16

Questions (week summary)

	Agree	Somewhat Agree	Neither	Somewhat Disagree	Disagree
This session was a good use of my time.	29	6	6	1	0
I am satisfied with the opportunity to participate and provide input.	27	8	3	3	0
I received enough information to provide meaningful input.	17	18	2	4	1
I understand how my input will be used.	13	17	7	3	2
Tonight's format was an effective way for The City to collect input	23	12	4	1	2

Daily Summary

Tuesday, October 18

	Agree	Somewhat Agree	Neither	Somewhat Disagree	Disagree
This session was a good use of my time.	14	4	2	0	0
I am satisfied with the opportunity to participate and provide input.	15	4	0	1	0
I received enough information to provide meaningful input.	9	8	1	1	1
I understand how my input will be used.	7	11	2	0	0
Tonight's format was an effective way for The City to collect input	11	6	2	0	1

Tuesday synopsis

People were generally very happy with the board game process, though a few participants found it noisy and rushed. There was some lack of clarity or mistrust of how the input would be used, though most of this sentiment seemed respectful and constructive in nature.

Thursday, October 20

	Agree	Somewhat Agree	Neither	Somewhat Disagree	Disagree
This session was a good use of my time.	11	0	2	0	0
I am satisfied with the opportunity to participate and provide input.	12	0	1	0	0
I received enough information to provide meaningful input.	6	7	0	0	0
I understand how my input will be used.	5	4	2	1	1
Tonight's format was an effective way for The City to collect input	10	2	0	1	0

Thursday synopsis

Thursday's participants were generally very happy with the process. Comments were overall quite positive in nature. Comments highlighted that there was still some skepticism and lack of understanding how public input will be used. A few participants expressed that they would have liked more background information or explanation of how the options were developed. A few participants felt some of the options were limiting and/or leading.

Saturday, October 22

	Agree	Somewhat Agree	Neither	Somewhat Disagree	Disagree
This session was a good use of my time.	4	2	2	1	0
I am satisfied with the opportunity to participate and provide input.	0	4	2	2	0
I received enough information to provide meaningful input.	2	3	1	3	0
l understand how my input will be used.	1	2	3	2	1
Tonight's format was an effective way for The City to collect input	2	4	2	0	1

Saturday synopsis

Based on the feedback forms the majority of participants were satisfied with Saturday's session; however more of these people "somewhat agreed" while in earlier sessions they tended to "agree" to favourable questions. There were, however, a higher number of undecided and dissatisfied participants compared to other events.

Comments were mostly similar to previous events, however, a number of participants expressed discontent with the 'solution' for the golf course area. Some of those felt that their input was ignored in this area. This resulted in a higher number of people feeling skepticism and distrust of how the city would use public input. Still, some people appreciated the process similar to the previous nights.

6 NEXT STEPS

The three community-driven TOD Concept Plans described in this report – one each for Huntington Hills | Thorncliffe, Crescent Heights | Tuxedo Park, and Highland Park | Greenview Industrial – have been provided to the City of Calgary's Planning Department for review. They will be provided to municipal Council and, ultimately, advanced toward formal regulatory implementation.

Experience has shown that while a skilled consultant team can produce a comprehensive, community-driven, integrated transportation/land use TOD Concept Plan, successful implementation over time is another matter entirely – success is not automatic. Part of the challenge stems from the fact that implementation has a long threshold, commonly understood as a thirty-year horizon, so it is easy to complete the initial plan and 'close the book' on its furtherance.

The challenge for 2017 is to move from TOD Planning to TOD Implementation. Both the City of Calgary and the consultant team have heard from residents that, while they liked their community's TOD Concept Plan, there was a level of uncertainty that the plans would amount to anything. To that end, a number of new initiatives are planned for 2017 with respect to ensuring that the TOD Concept Plans do not sit on a shelf, but rather are put into action sooner rather than later.