



Appendix A:

Public and Stakeholder Feedback

Jasper Transportation Master Plan

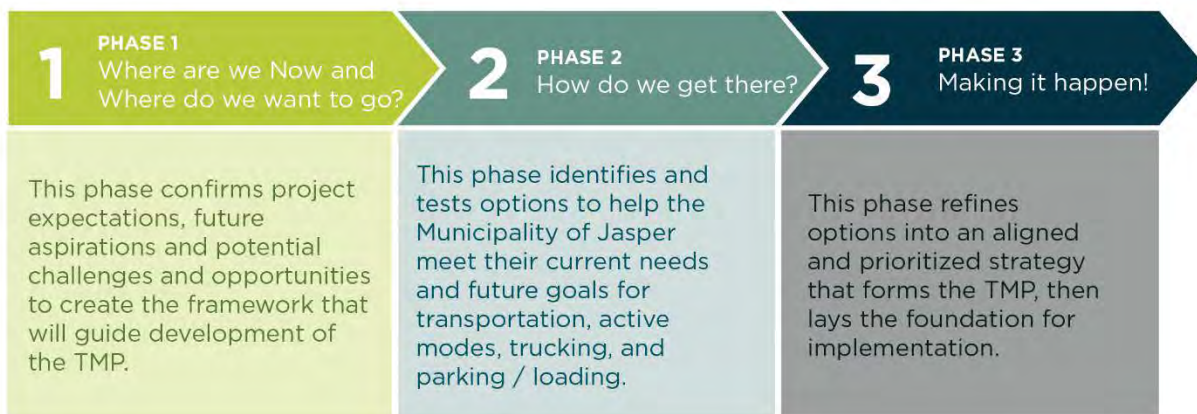
Study Overview

The study will provide future recommendations that will:

- Promote walking and cycling in Jasper;
- Manage vehicle traffic and parking efficiently; and
- Provide affordable and accessible alternatives to the private automobile for local travel in Jasper

Project Engagement

We are currently in phase 1 of the study. This phase confirms project expectations, future aspirations and potential challenges, and opportunities to create the framework that will guide development of the TMP.



Scope of the TMP

- Assess existing conditions
- Conduct public and stakeholder consultation
- Complete safety assessments at two intersections
- Identify potential immediate and future modifications for parking
- Select options to address identified issue

Survey Questions

Please fill out this survey to help us understand what's important to you. Your feedback will help inform the issues and recommendations of the Transportation Master Plan

1. Are you a resident of the Town of Jasper?

Full time resident

- Part time resident
 - Frequent visitor
 - Infrequent / occasional visitor
- If not a resident, please identify where you live _____

2. What transportation priorities are most important to you for the Town of Jasper? Please select your top 3 in order of preference

- Better urban character / aesthetics
- Reduced vehicle delay at intersections
- Improved pedestrian accommodation
- Improved bicycle accommodation
- Introduction of transit (local or regional)
- More parking spaces
- Lower speeds within the Town
- Safer intersection crossings
- Other (please specify) _____

3. How do you normally travel to your workplace / school? Please select your primary mode of travel

- Walk
- Bike
- Drive alone
- Carpool
- Wheelchair / electric scooter / skateboard
- Other (please specify) _____

4. Do you feel comfortable cycling in Jasper right now?

- Yes
- Somewhat
- no

Additional comments: _____

5. Do you feel comfortable walking in Jasper right now?

- Yes
- Somewhat
- no

Additional comments: _____

6. What is the biggest barrier that keeps you from walking or cycling in Jasper?

7. What would encourage you to use active modes of transportation (eg. Walking, biking, transit, etc) more often? Please select up to 3.

- Improved pedestrian crossings
- Better treatment at intersections
- Designated bike lanes
- Secure bike parking
- Adding more multi-use trails
- Wider sidewalks
- Wayfinding / signage on active transportation routes
- Other (please specify) _____

8. Do you find it difficult to find parking throughout the Town?

- Yes
- Only in the tourist peak season (June – September)
- no

9. Would you be willing to pay for parking in the Business District to encourage short term stay and increase availability at the existing parking locations?

- Yes
- No
- In certain locations (please specify) _____

10. How would you like to receive further information about the project?

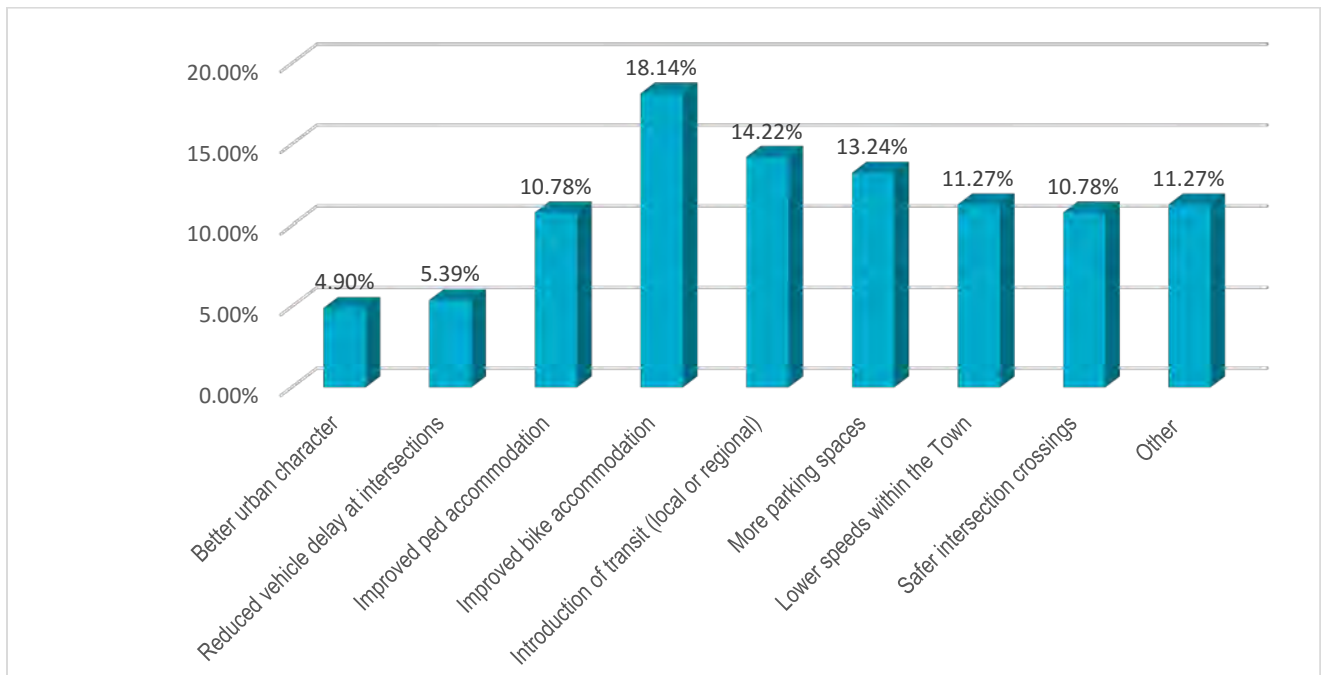
- Social media
- Town website
- Email
- Newsletter

11. Do you have any comments or concerns that you would like to tell us about?

Japser TMP - Open House Comments

	Location	Comment
Pedestrian / Cyclist	Connaught Drive between Miette Ave and Pyramid Lake	Issue for pPedestrian - cyclist interface. <ul style="list-style-type: none"> • "Walk your bike" paint currently on sidewalk which is not obeyed. • Part of Discovery Trail • Identify "lanes", multi-use pathway could be a solution; runners, rollerbladers, skateboards etc.
	Town Trail to Connaught/Pyramid	Improve cyclist flow.
	Patricia St	<ul style="list-style-type: none"> • Patios on sidewalks taking up too much space. • Bikes on Sidewalks in CBD. Solution: temporary patios in parking lane.
Safety		International visitors AND locals not following the rules of the road. Education Required. RCMP concern.
	On Pine Ave at Geikie St, Turret St, and Tonquin St	Crosswalks needed.
	Connaught Drive	Crosswalks are unsafe.
	Pyramid Lake Rd left on to Connaught	Sightlines for vehicles??? (unsafe?)
	Geikie St & Pine Ave Geikie St & Elm Ave	Stopline in front of intersection.
	Pyramid Lake Rd and Bonhomme St	Pedestrian crossing too long/angled.
	Spruce Ave & Patricia St	Stop sign in the trees
Speed		Need signs (VSLs) to change for seasonal speed limits.
	Residential areas with parking on both sides	Rico wants 30 km/hr in these areas.
Parking		NEED SEPERATE SESSION FOR PARKING <ul style="list-style-type: none"> • Parking for tourists. • Parking for locals (RV, Boats etc.) Paid parking <ul style="list-style-type: none"> • Seasonal? • Day vs Night.
	Patricia St (between Hazel Ave and Spruce Ave) and also (between Pyramid Lake Rd and Balsam Ave).	Parking Permits for residents? Need to take tourism growth into account for parking.
	Connaught Drive Periphery	Parking lots here are usually not full.
Access	Corner of Miette Ave on Patricia St. Corner of Pyramid Lake Rd and Patricia St.	Patricia is a one-way street. Vehicles turn on to Patricia the wrong way from the 2 intersections. "Could GPS maps be an issue?"
	Alleys in Downtown	Delivery Trucks in alleys Downtown <ul style="list-style-type: none"> • Impedes with first responder's access. • Conflicts with passenger traffic.
	Alley on Pyramid Lake Rd between Patricia St and Geikie St	Cars parked too close on corner for trucks/RV's to turn, combined with median.

**What transportation priorities are most important to you for the Town of Jasper?
Please select your top 3.**

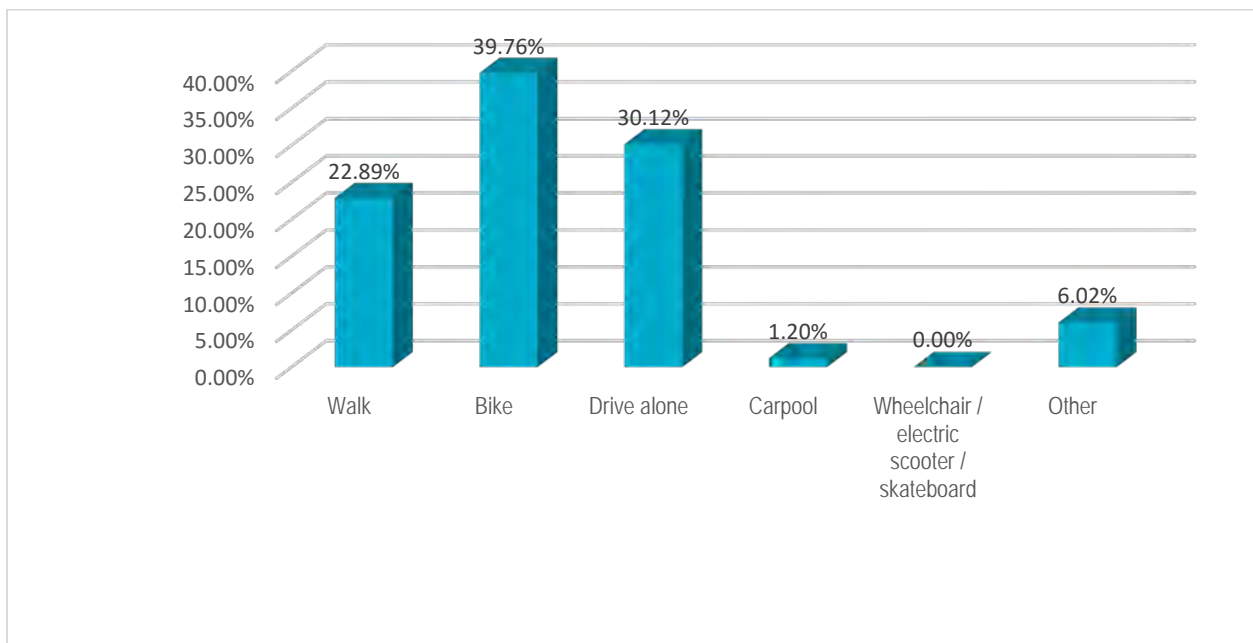


Comments:

- parking on Bonhonne in the trailer court is ridiculous. I don't understand how coops had go ahead without proper parking. Out of 18 condos on the first block, 1 uses garage as parking.
- Dust control in alleys
- Less traffic on Geikie St.
- Patrica Street from Nutters to Super A PEDESTRIAN ONLY - cobblestone street!
- Traffic education to visitors and locals, clearer lane ID
- more accessible (less clutter) sidewalks in the cbd
- more bike racks and parking meters on streets
- use of autonomous shuttles like Navya or Easymile
- More efficient use of existing parking spaces
- less congestion in town core (alternate parking for motorhomes etc.)
- one way roads in Jasper are a hazard , they should be eliminated.
- Improved crosswalks for visibility.
- zero visibility at most intersections. have to pull out into crosswalk to see if there are vehicles coming
- Residential trailer parking. To many people cannot find places for thir rv's
- Not Enough hndicap parking spaces --> Grocery stores have none.
- Seniors + Handicapped Bus service
- less parking (RV) Downtown

- Absolutely no R.V or Vehicle Trailer Parking on Connaught or Patricia / More commerical parking.
- Improved accessibility for disabilities
- There is an excess of signage at the Patricia/Miette intersection. Visually challanging
- More parking stalls on town periphery
- wheelchair accessibility - need to push a WC around town to see areas + issues
- Sidewalk congestion- Bicycles patios, strollers, scooters, dogs
- Get rid of patios
- Get rid of sidewalk eating areas outside

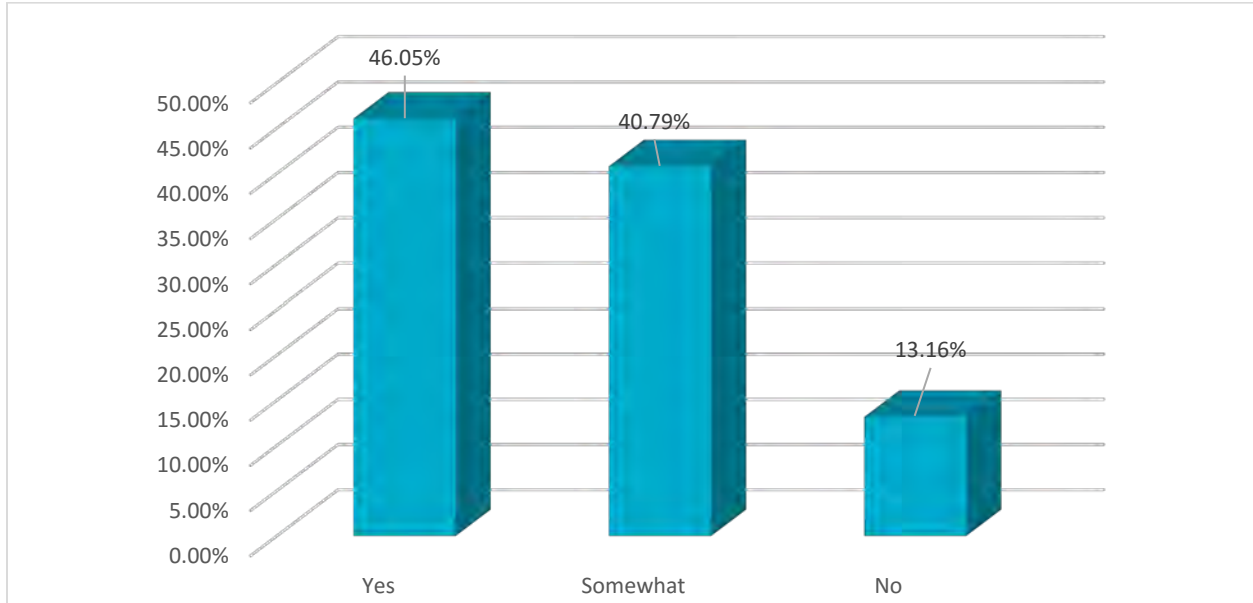
How do you normally travel to your workplace / school? Please select your primary mode of travel (select only one).



Comments:

- car
- drive kids to school (disability) then drive to work on other side of river - 12 kms
- Given the seasonality of Jasper, two answers would provide the muni with more info. Bike in the summer, walk in the winter, use my car to get groceries at TGP when needed.
- Retired

Do you feel comfortable cycling in Jasper right now? (select only one)

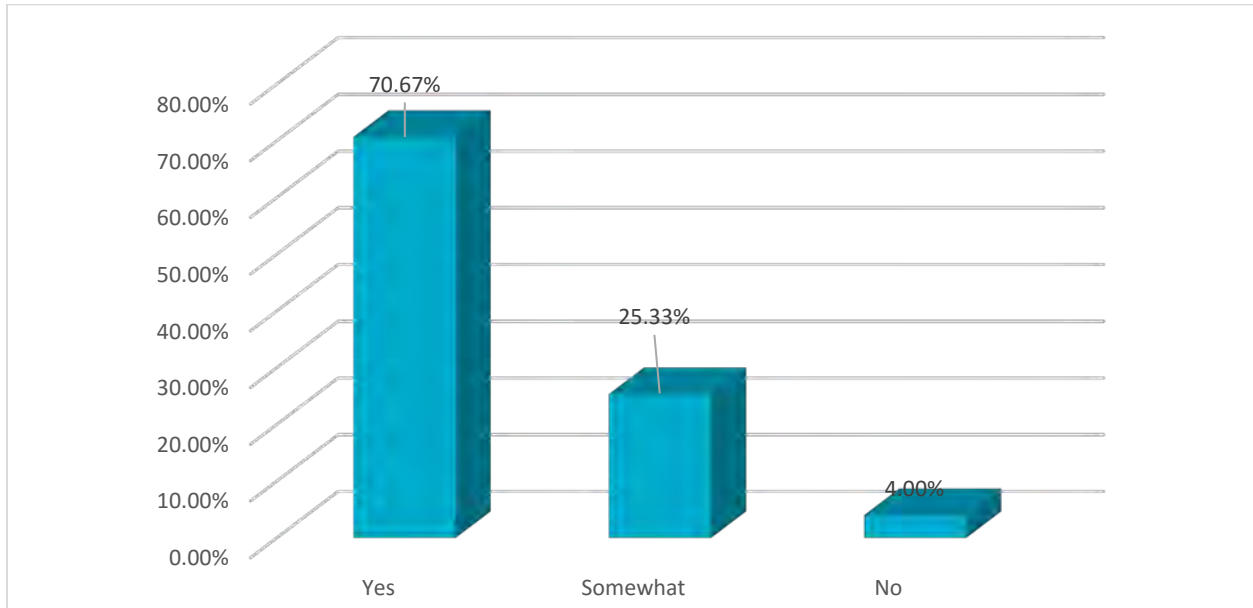


Comments:

- The road got too many pothole right where the bike lane is
- Too dangerous to ride in the downtown during peak season
- Parked drivers not looking when exiting drivers side
- in the summer, around down town it is VERY unsafe to be a biker. We need established bike lanes. That or the consideration of closing pat street from nutters to super a during peak summer seasons to promote a pedestrain friendly down town area.
- clearly painted (all times of year), flashing lighted crosswalks would be better
- A handful of tourists even locals, do not obey the full stop signs or the speed limits.
- In Peak season, it can be quite congested.
- too many weird drivers, too congested, too many distracted drivers who don't know where to go.
- Not on Connaught St. between Hazel and Bonhomme. Bike lane on the sidewalk seems to cause issues.
- not in the downtown core since the tourists seem to not be able to follow the rules of driving
- Cars are not looking where they are going and other cyclist are going down one way streets the wrong way and riding where ever they want and making it look bad for the rest of us.
- Enforce no cycling on sidewalks!
- Don't cycle
- comfortable, but would like better/more bike lanes especially on Connaught and dangerous in winter
- Cyclists should realize rules of the road. Pertain to them as well. Too many blow through stop size
- I avoid Patricia + Connaught CBD in summer. Use alleys instead.

- close patricia from Nutters to Earls
- Seldom bike on Patricia or Connaught
- Im a bit nervous for my kids. Too fast for sidewalk a little tough to be on street

Do you feel comfortable walking in Jasper right now? (select only one)



Comments:

sidewalk seating takes up to much of side way
 Not when there to many elk in town
 Due to restaurants extension one has to walk on roads while walking bicycles. The public sidewalks are too narrow, what makes a sidewalk public.
 Crosswalks are dangerous at 50 km/hr. Takes up to 9 cars before anyone stops.
 Except in the winter, on cross streets the alley entrances are usually very slippery
 its Oct, most tourists are gone, but Friday-Mon i always be sure to check than douvble check before crossing any street (even if it is a one way). On Patricia I have been almost hit numerous times this summer (using the cross walks) due to poeple taking pictures/ talking and not paying attention to pedestrains as they drive.
 paths, esp. in cabin creek are TOO dark, esp with animals in fall and spring
 Promotion of walking also may come with safe walking space
 too much clutter on sidewalks downtown (patios, sandwich boards, etc.)
 I won't let my kids (11 and 13) go downtown in summer due to congestion
 Sometimes nervous with visitor vehicles not paying attention. Feel fine everywhere outside downtown.
 the intersections is very dangerous, I almost get run over every day.
 My main worry is wildlife at night.
 sidewalks too narrow on Connaught and Patricia in summer ,pedestrian traffic too congested

Though, the elk during rutting season cause some anxiety. Especially as it gets dark.

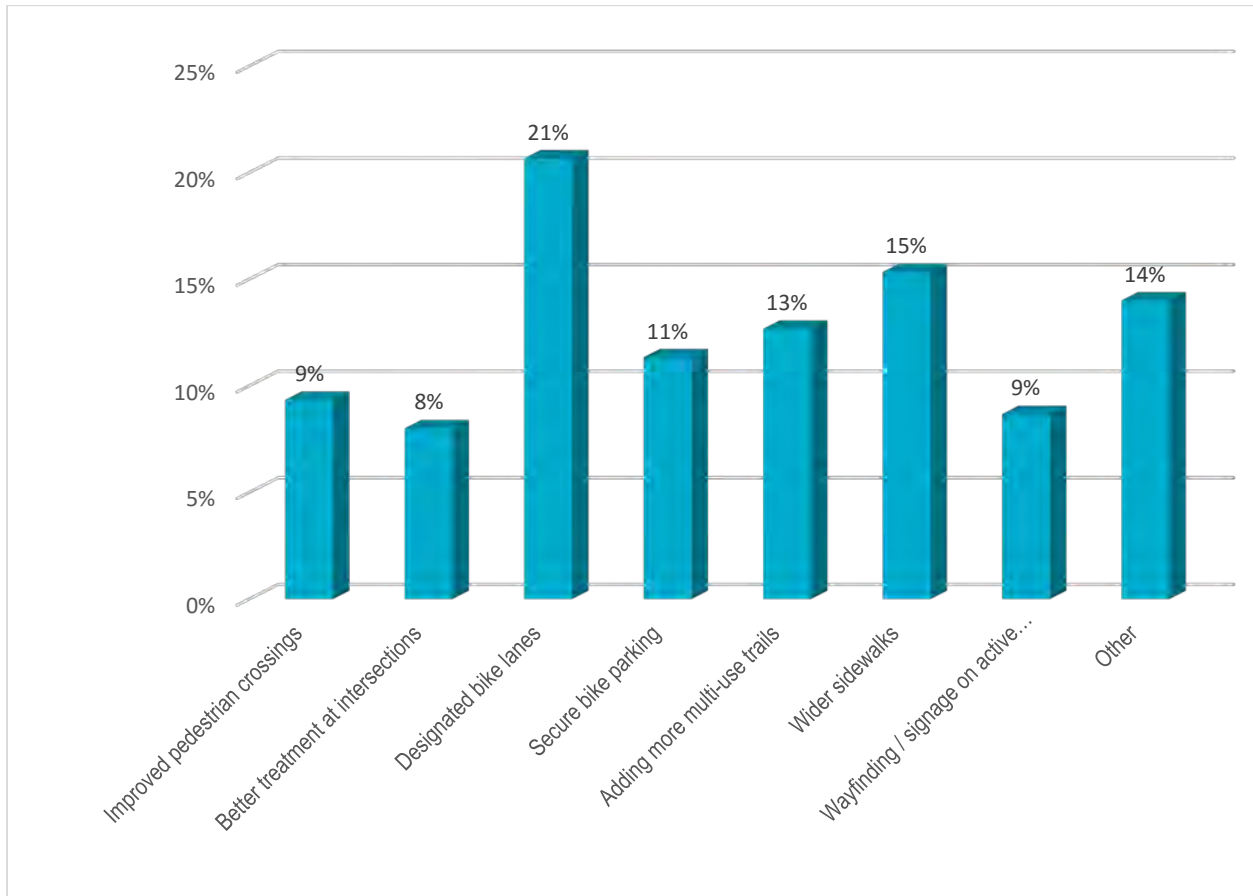
NA - don't walking

Too many pedestrians crosswalks and not well marked.

close patricia from Nutters to Earls

The block between Hazel and Miette should be turned into pedestrian only!

What would encourage you to use active modes of transportation (eg. walking, biking, transit, etc) more often? Please select up to 3.

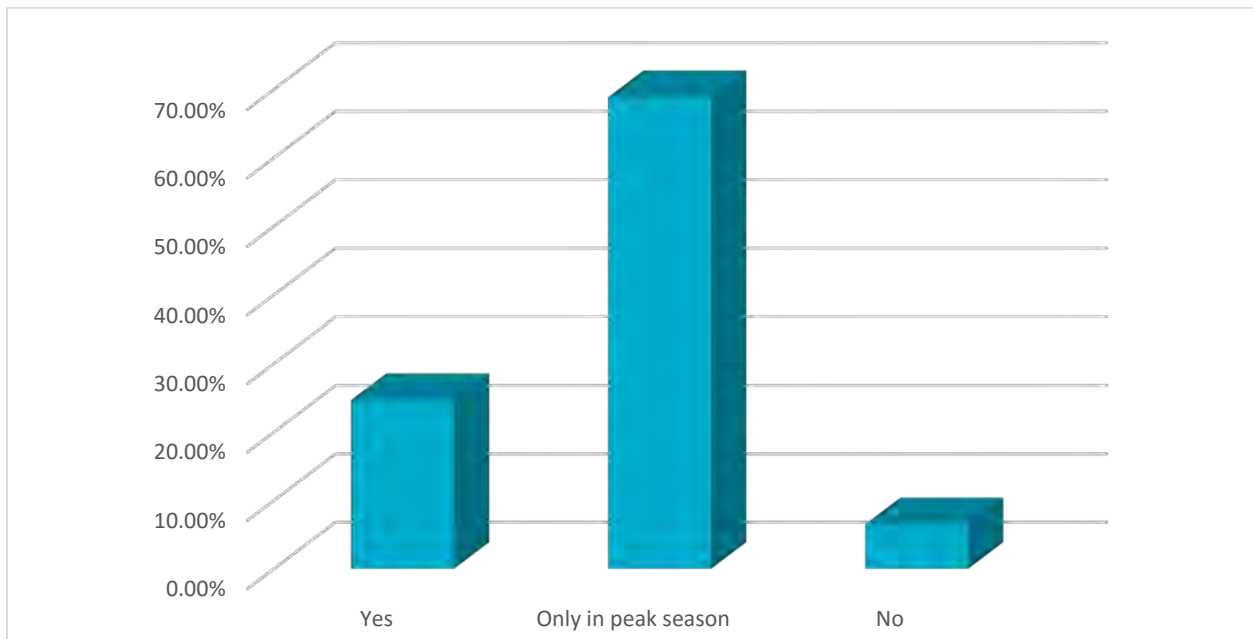


Comments:

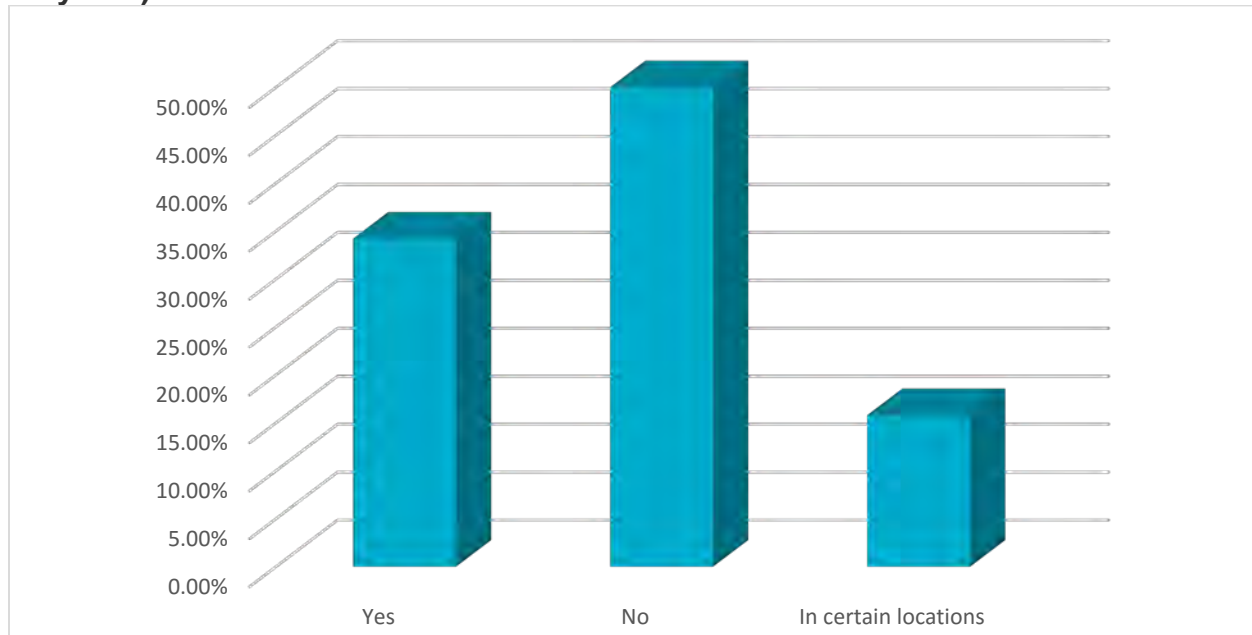
- Closing Patricia Street
- None of the above. Walk and Bike regularly
- Sidewalks would be wider without the restaurant seating
- None of the above
- Designated bike lane on Connaught and Patricia and Pyramid Lake Rd. especially
- Develop the walkways through the trailer court to connect to Cabin Creek West and the town trails
- we don't need bike lanes
- winter sidewalk maintenance at allies
- less congestion and use of small mass transit solutions

- We don't need designated bike lanes and wider sidewalks in residential areas, but the downtown is pretty bad. Many driving visitors don't watch for ped/bikes, or people wander in front of traffic.
- Turn Patricia street into bike/pedestrian only
- elimination of the silly oneway road s
- Removal of downtown parking, incentive programs, better bike racks, better connectivity of walking trails within the townsite.
- Rather than improved pedestrian crossings, enforcement of pedestrian crossings would encourage safety. Pedestrians rarely use crosswalks in downtown Jasper. The intersection redo at Geikie and Miette is not effective. Very few cars actually stop. Also the Patricia street and Miette Ave intersection promotes rolling stops. These intersections are too big and have cars tend to charge on through. Also there are almost 17 signs at the fireball intersection. Driver information overload.
- I have been forced to walk on the road due to intrusive patios
- the existence of transit
- get rid of the sidewalk extensions of restaurants where there is not enough room
- Trail Connectivity within townsite
- Patio Sidewalk standardization
- none - we have an easy to bike town

Do you find it difficult to find parking throughout the Town? (select only one)



Would you be willing to pay for parking in the Business District to encourage short term stay and increase availability at the existing parking locations? (select only one)



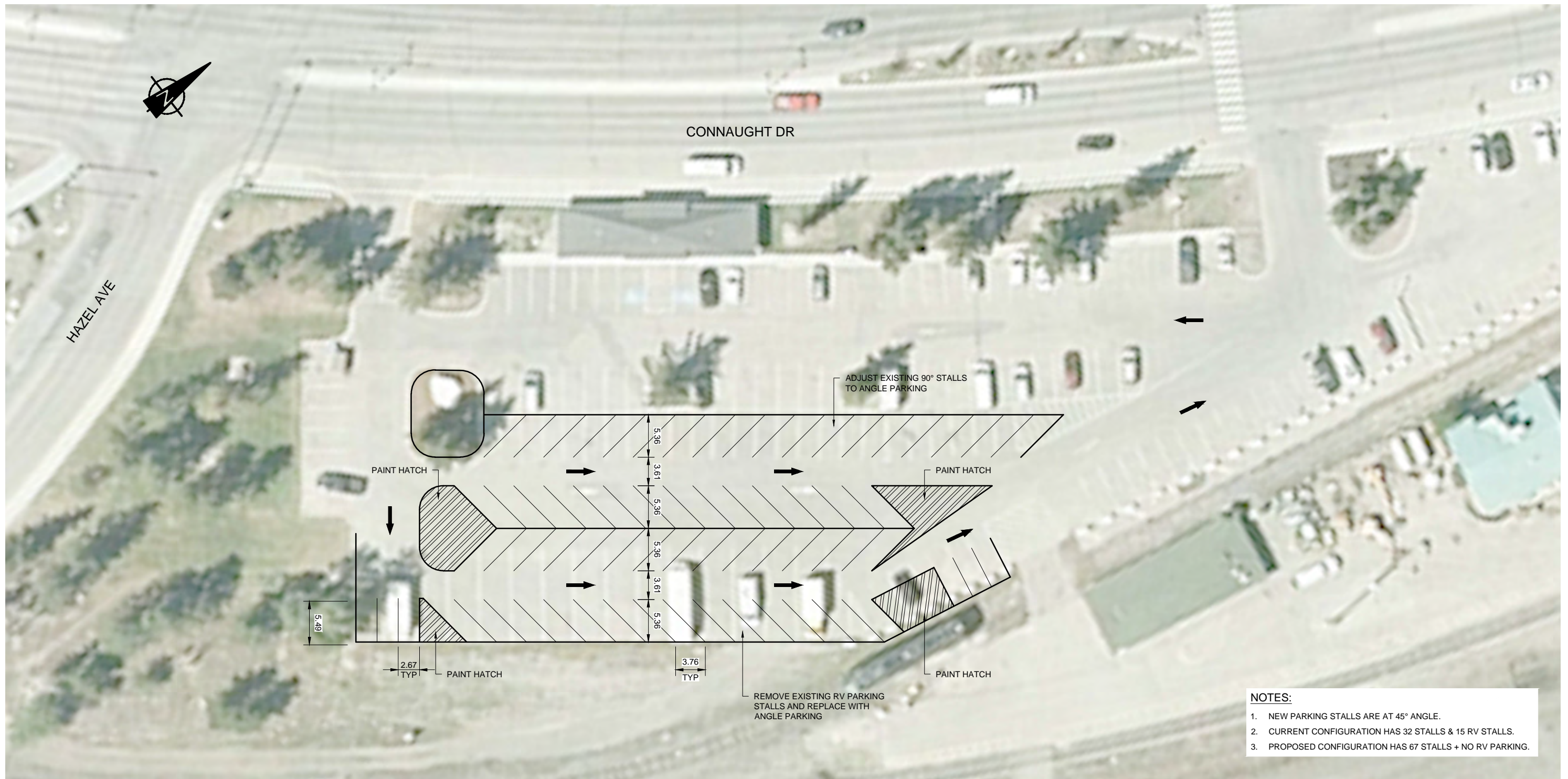
Comments:

- Want it but residents free but limited time like tourists
- Connaught and Patricia Streets
- Maybe a longer term parking lot away from downtown and the rate of the charge is less the longer you stay encouraging people to walk and even shop perhaps. No fees for short term downtown parking
- I would say for tourists this would be a good idea for locals maybe a resident card would be issued that you could swipe in the parking meter that would waive fees
- I'm not sure. I don't like the idea of paying to go get groceries, or my mail. Are people really parking for several hours at a time anyway, or are most people already parking kind of short-term?
- street side only, not in parking lots
- Tough issue - people will just be displaced to Geikie and I fear that it will result in even more vehicles driving around looking for a spot. I do think we should charge somehow, but I'm not sure the best way.
- I would be willing to walk further not to pay
- Downtown business core, designated parking lots out the lot across the tracks should be pay parking for visitors. Residents with passes should not pay. Rafting companies should pay a usage fee to the muni for using the parking lot across the tracks for business purposes. The car rental situation and random parking downtown and in redential areas needs to be resolved.
- Residents would pay - Cash grab
- CBD
- Visitors should pay at parking meters - locals free pass



Appendix B:

Parking Lot Reconfiguration



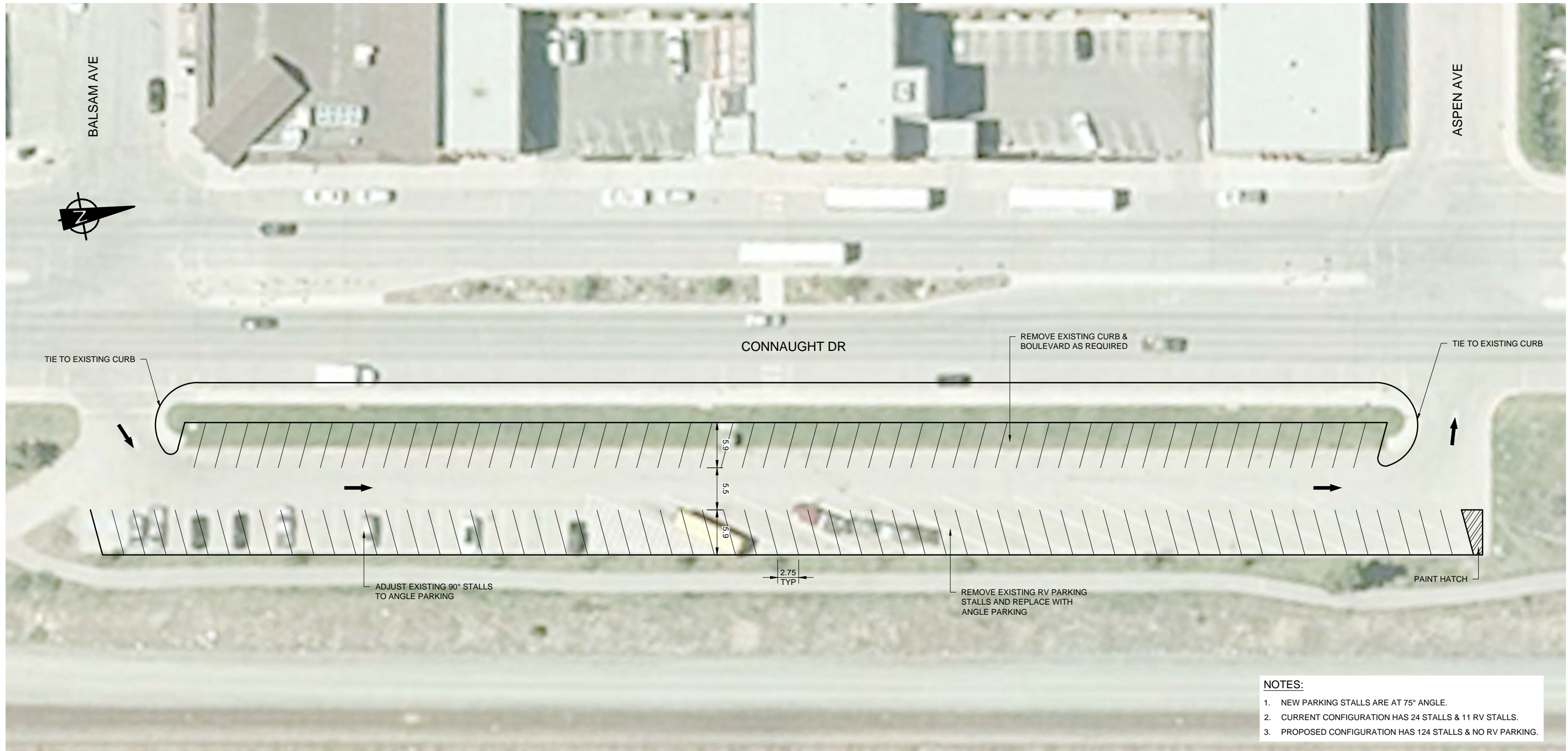
- NOTES:**
1. NEW PARKING STALLS ARE AT 45° ANGLE.
 2. CURRENT CONFIGURATION HAS 32 STALLS & 15 RV STALLS.
 3. PROPOSED CONFIGURATION HAS 67 STALLS + NO RV PARKING.

PROJECT: 2021 JASPER TRANSPORTATION MASTER PLAN AND DRAWINGS: 03 SHEET PLSRSPR CONNAUGHT PARKING LOTS

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- NOTES:**
1. NEW PARKING STALLS ARE AT 75° ANGLE.
 2. CURRENT CONFIGURATION HAS 24 STALLS & 11 RV STALLS.
 3. PROPOSED CONFIGURATION HAS 124 STALLS & NO RV PARKING.

PROJECT: 2011 LORAIN JASPER TRANSPORTATION MASTER PLAN AND DRAWINGS: 03 SHEET TITLE: PLEIN CONNAUGHT PARKING LOTS

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Appendix C:

Parking Structure and Paid Parking Literature

Parking Costs, Pricing and Revenue Calculator

By Todd Litman, Victoria Transport Policy Institute (www.vtpi.org)

16 January 2012

These three spreadsheets calculate parking facility costs, cost recovery pricing, and revenue generation. Users can adjust inputs to represent various conditions and assumptions. The three spreadsheets are described below.

Costs: This spreadsheet calculates the total costs of constructing and operating a parking facility. Default values are in 2002 U.S. dollars.

Pricing: This spreadsheet calculates the prices that need to be charged to recover parking facility costs and provide basic profits.

Revenue: This spreadsheet calculates revenues and profits from various parking facility costs and prices.

Use the tabs at the bottom to select the spreadsheet you want to use. Change the input values to reflect the specific situation you want to evaluate. The spreadsheet will automatically calculate results. These spreadsheets are linked, so data from some cells in one spreadsheet are used to calculate results in another spreadsheet.

Note: Highlighted text indicates input values. These are the cells that you should change when performing analysis. Do not change other cells unless you want to make structural changes to the model.

If you have questions or comments about this spreadsheet please contact:

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Victoria Transport Policy Institute

1250 Rudlin Street

Victoria, BC, V8V 3R7, Canada

Phone & Fax: 250-360-1560

Email: litman@vtpi.org

Website: <http://www.vtpi.org>

Parking Costs, Pricing and Revenue Calculator
 By Todd Litman, Victoria Transport Policy Institute (www.vtpi.org)
 16 January 2012

This spreadsheet, "Costs": This spreadsheet calculates the total costs of constructing and operating a parking facility.

Note: Highlighted text indicates input values. Default values are 2002 U.S. dollars.

Input Data

	Suburban	Urban	CBD	On-Street	Notes
Land Costs (per acre)	\$200,000	\$1,000,000	\$5,000,000	Varies	This is land acquisition costs.
Surface Spaces Acre	110	120	130	250	This is the number of parking spaces per acre of surface area (including landscaping and access lanes).
Interest Rate	6%	6%	6%	6%	Interest rate for long-term capital investments.
Years of Payments	20	20	20	20	Years of payments.
Average Days of Use Per Month	20	20	25	25	Typical number of days that parking space can be rented each month.

CBD = Central Business District

Facility Costs

Type of Facility	Structured Parking Stories	Land Costs, Per Acre	Land Costs, Per Space	Annualized Land Cost Per Space	Construction Costs Per Space	Annualized Construction Costs	Total Capital Costs	Annual O & M Costs	Total Annual Cost	Monthly Cost	Daily Cost
Suburban, On-Street		\$200,000	\$800	\$70	\$3,000	\$262	\$3,800	\$200	\$531	\$44	\$1.77
Suburban, Surface, Free Land		\$0	\$0	\$0	\$3,000	\$262	\$3,000	\$300	\$562	\$47	\$2.34
Suburban, Surface		\$200,000	\$1,818	\$159	\$3,000	\$262	\$4,818	\$300	\$720	\$60	\$3.00
Suburban, 2-Level Structure	2	\$200,000	\$909	\$79	\$15,000	\$1,308	\$15,909	\$500	\$1,887	\$157	\$7.86
Urban, On-Street		\$1,000,000	\$4,000	\$349	\$5,000	\$436	\$9,000	\$300	\$1,085	\$90	\$3.62
Urban, Surface		\$1,000,000	\$8,333	\$727	\$5,000	\$436	\$13,333	\$500	\$1,662	\$139	\$6.93
Urban, 3-Level Structure	3	\$1,000,000	\$2,778	\$242	\$18,000	\$1,569	\$20,778	\$600	\$2,412	\$201	\$10.05
Urban, Underground		\$1,000,000	\$0	\$0	\$25,000	\$2,180	\$25,000	\$700	\$2,880	\$240	\$12.00
CBD, On-Street		\$5,000,000	\$20,000	\$1,744	\$5,000	\$436	\$25,000	\$400	\$2,580	\$215	\$8.60
CBD, Surface		\$5,000,000	\$38,462	\$3,353	\$5,000	\$436	\$43,462	\$600	\$4,389	\$366	\$14.63
CBD, 4-Level Structure	4	\$5,000,000	\$9,615	\$838	\$20,000	\$1,744	\$29,615	\$700	\$3,282	\$274	\$10.94
CBD, Underground		\$5,000,000	\$0	\$0	\$35,000	\$3,051	\$35,000	\$800	\$3,851	\$321	\$12.84

Notes

Land costs for structured parking is divided among all users. Underground parking is assumed to have no incremental land cost.

Annualized land values

Parking facility planning, permits and construction costs.

Annualized Construction Costs

Total Capital Costs (land and construction)

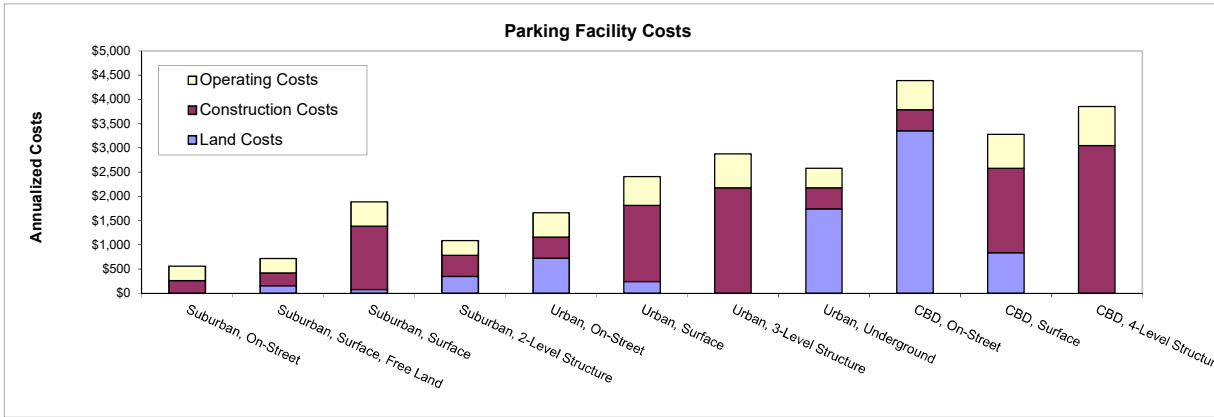
Includes repairs, maintenance, cleaning, lighting, property taxes, insurance, administration, access control, and enforcement.

Property tax imposed on parking facilities.

Annualized capital and O&M costs.

Annual costs divided by 12 months.

Monthly costs divided by monthly days of use.



Type of Facility	Annualized Land Cost Per Space	Annualized Construction Costs	Annual O & M Costs	Total Annual Cost	Monthly Cost
Suburban, On-Street	\$70	\$262	\$200	\$531	\$44.28
Suburban, Surface, Free Land	\$0	\$262	\$300	\$562	\$46.80
Suburban, Surface	\$159	\$262	\$300	\$720	\$60.01
Suburban, 2-Level Structure	\$79	\$1,308	\$500	\$1,887	\$157.25
Urban, On-Street	\$349	\$436	\$300	\$1,085	\$90.39
Urban, Surface	\$727	\$436	\$500	\$1,662	\$138.54
Urban, 3-Level Structure	\$242	\$1,569	\$600	\$2,412	\$200.96
Urban, Underground	\$0	\$2,180	\$700	\$2,880	\$239.97
CBD, On-Street	\$1,744	\$436	\$400	\$2,580	\$214.97
CBD, Surface	\$3,353	\$436	\$600	\$4,389	\$365.76
CBD, 4-Level Structure	\$838	\$1,744	\$700	\$3,282	\$273.50
CBD, Underground	\$0	\$3,051	\$800	\$3,851	\$320.95

Parking Costs, Pricing and Revenue Calculator

This spreadsheet, "Pricing": This spreadsheet calculates the prices that need to be charged to recover parking facility costs and provide basic profits.

Note: Highlighted Text Indicates Input Values

	Suburban	Urban	CBD	Off-Street	Notes
<i>Average Days of Use Per Month</i>	20	20	25	25	Typical number of days that parking space can be rented each month.
<i>Monthly Load Factor (percent)</i>	70%	80%	90%	90%	Portion of parking spaces that are actually leased or rented at any time.
<i>Annual Profit</i>	10%				Expected profits on investments.

Type of Facility	Pricing System	Annualized Facility Costs	Annual Pricing Costs	Total Annual Costs	Breakeven Monthly Revenue	Breakeven Daily Revenue	Monthly Revenue For Exected Profit	Daily Revenue for Expected Profit
Suburban, On-Street	Pay-And-Display	\$531	\$50	\$581	\$69	\$3.46	\$76	\$3.81
Suburban, Surface, Free Land	Pass	\$562	\$50	\$612	\$73	\$3.64	\$80	\$4.00
Suburban, Surface	Pass	\$720	\$50	\$770	\$92	\$4.58	\$101	\$5.04
Suburban, 2-Level Structure	Pass, Pay-And-Display	\$1,887	\$150	\$2,037	\$243	\$12.13	\$267	\$13.34
Urban, On-Street	Pay-And-Display	\$1,085	\$150	\$1,235	\$129	\$6.43	\$141	\$7.07
Urban, Surface	Pass, Pay-And-Display	\$1,662	\$150	\$1,812	\$189	\$9.44	\$208	\$10.38
Urban, 3-Level Structure	Pass, Pay-And-Display	\$2,412	\$200	\$2,612	\$272	\$13.60	\$299	\$14.96
Urban, Underground	Pass, Pay-And-Display	\$2,880	\$200	\$3,080	\$321	\$16.04	\$353	\$17.64
CBD, On-Street	Pass, Pay-And-Display	\$2,580	\$200	\$2,780	\$257	\$12.87	\$283	\$14.16
CBD, Surface	Pass, Pay-And-Display	\$4,389	\$200	\$4,589	\$425	\$17.00	\$467	\$18.70
CBD, 4-Level Structure	Attendant	\$3,282	\$400	\$3,682	\$341	\$13.64	\$375	\$15.00
CBD, Underground	Pass, Pay-And-Display	\$3,851	\$400	\$4,251	\$394	\$15.75	\$433	\$17.32

For details see "Pricing Methods", Online TDM Encyclopedia at <http://www.vtpi.org/tdm/tdm83.htm>

From "Cost" table

Incremental costs to price parking, including any additional equipment, operations and administration.

Facility and pricing costs.

Monthly revenue needed to cover costs

Daily revenue needed to cover costs.

Monthly revenue needed to cover costs and provide expected profit

Parking Costs, Pricing and Revenue Calculator

This spreadsheet, "Revenue": This spreadsheet calculates revenues and profits from various parking facility costs and prices.

Note: Highlighted Text Indicates Input Values. Default values are 2002 U.S. dollars.

	Monthly Rates	Load Factor	Gross Annual Revenue	Total Annual Costs	Net Annual Revenue	Profit Margin
Suburban, On-Street	\$35	90%	\$378	\$581	(\$203)	-35%
Suburban, Surface, Free Land	\$35	70%	\$294	\$612	(\$318)	-52%
Suburban, Surface	\$35	70%	\$294	\$770	(\$476)	-62%
Suburban, 2-Level Structure	\$60	70%	\$504	\$2,037	(\$1,533)	-75%
Urban, On-Street	\$75	90%	\$810	\$1,235	(\$425)	-34%
Urban, Surface	\$75	80%	\$720	\$1,812	(\$1,092)	-60%
Urban, 3-Level Structure	\$150	80%	\$1,440	\$2,612	(\$1,172)	-45%
Urban, Underground	\$150	80%	\$1,440	\$3,080	(\$1,640)	-53%
CBD, On-Street	\$100	90%	\$1,080	\$2,780	(\$1,700)	-61%
CBD, Surface	\$100	90%	\$1,080	\$4,589	(\$3,509)	-76%
CBD, 4-Level Structure	\$150	90%	\$1,620	\$3,682	(\$2,062)	-56%
CBD, Underground	\$200	90%	\$2,160	\$4,251	(\$2,091)	-49%

Monthly Rates
Charged Users

Portion of parking ren Total revenue.

Annual costs,
including facilities,
operations and
pricing expenses.

Gross revenue
minus costs.

Portion of Parking
Spaces Rented



Altus Group



2018

CANADIAN COST GUIDE 

ABOUT THIS GUIDE

Get Comprehensive Insight into Your Real Estate Construction and Development Costs

Altus Group's annual **Construction Cost Guide** is the Canadian real estate industry's leading guide to development project costing. It is trusted as a budgeting tool by public bodies, developers, lenders, contractors, consultants and various industry professionals.

The guide is founded upon Altus Group's proprietary database of project costs, which includes project data from **over 1,400 Canadian Cost and Project Management engagements** in 2017 alone. Drawing upon this comprehensive catalogue, our industry leading experts have analyzed the information and provided a succinct and user-friendly summary of the findings for each major market across the country.

While using our Cost Guide helps develop a rough preliminary project financial plan, we strongly recommend you seek professional expert advice to provide a more precise, project specific estimate and pro forma.

Within this year's Cost Guide, you will find:

- ✓ 2018 Canadian Economic Overview
- ✓ Key Market Trends
- ✓ Notes on Correct Use of Data
- ✓ Measurement and Application of \$/SF: Sample Analysis
- ✓ Data Tables for the Public and Private Sectors across Western and Eastern Canada
- ✓ Canadian Cost Index
- ✓ Building Type Descriptions
- ✓ About our Cost and Project Management Group

VANCOUVER

CALGARY

EDMONTON

WINNIPEG

GTA

OTTAWA/GATINEAU

MONTREAL

HALIFAX

ST. JOHN'S



2018 CANADIAN ECONOMIC OVERVIEW

2018 started with significant tailwinds from remarkable employment and economic growth last year. Almost 425,000 net new jobs were created in 2017 – a 15-year high – and the economy advanced just over 3% which is also among the fastest growing years since the recession a decade ago.

While modestly higher interest rates and looming uncertainties, such as the outcome of NAFTA negotiations, may mean economic headwinds for 2018, the recent surge in job creation, coupled with historically-high immigration will most certainly have a positive effect on consumer confidence, housing demand and absorption rates in commercial real estate.

The Canadian economy is remarkable. It topped \$2 trillion in size last year, supports a population of over 35 million people and has a remarkably sustainable construction sector that will likely start some 220,000 new homes this year, work on over \$72 billion in residential renovation projects and initiate some 280 million square feet of new ICI construction.

For more information contact our Economic Advisory team at 416-641-9500 or economics@altusgroup.com.

Sources: Stats Canada, Canada Mortgage and Housing Canada (CMHC)

425,000
Net New Jobs (2017)



QUICK STATS – CANADA



New Homes
220,000



**Residential
Renovation
Projects**
\$72 billion



**New ICI
Construction**
280 million sq.ft.

KEY MARKET TRENDS

The real estate market's performance in 2017 was strongly influenced by the new homes market with the two most active markets - **Toronto and Vancouver** - experiencing very strong consumer demand for apartment condominiums, and developer demand for residential land. Buoyant residential land sales shot total commercial property investment to record levels in these two markets.



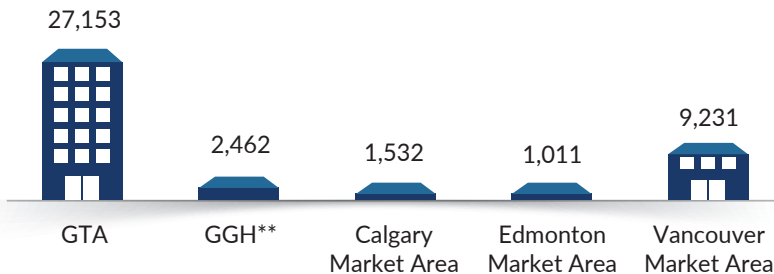
Looking forward into 2018, home buying intentions remain positive and relatively strong housing demand is expected to continue to impact both the residential land and new homes markets; although some cooling is expected due to affordability challenges and tighter mortgage lending rules. Solid economic growth should continue to drive interest in commercial property investment, with property investment in office, industrial, and retail spaces expected to continue to remain strong.



We have sampled several key metrics* from across the Canadian market to provide you with an overview of some of the key trends. Our analysis is based on market trends up to the end of Q3 2017.

New Condominium Apartment Sales

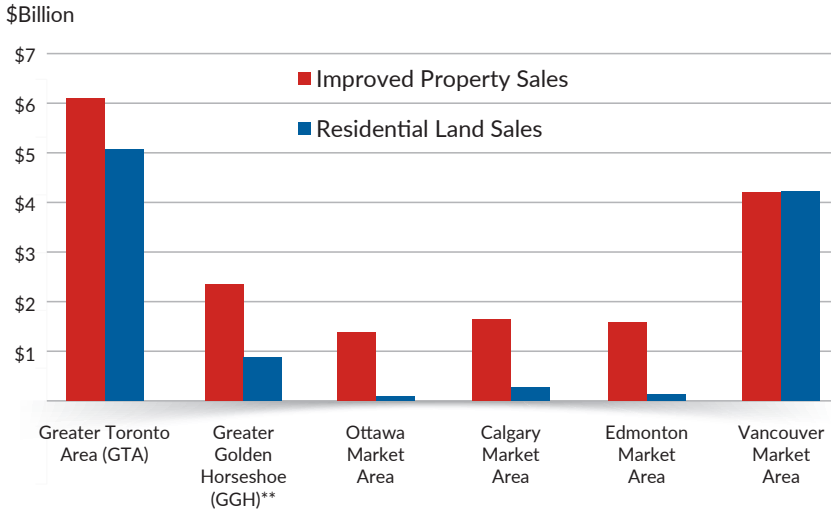
Sales of new condominium apartment units. Q3, 2017



KEY MARKET TRENDS

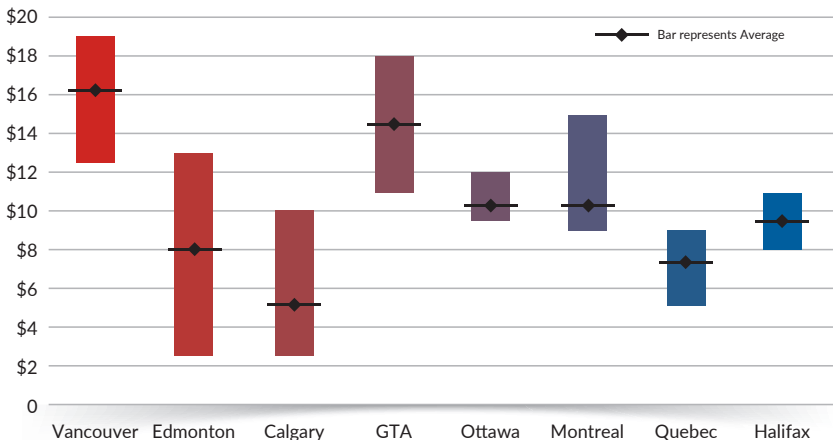
Improved Property and Residential Land Sales

Total transaction volumes for residential land and improved properties by market.



Office Leasing Rates

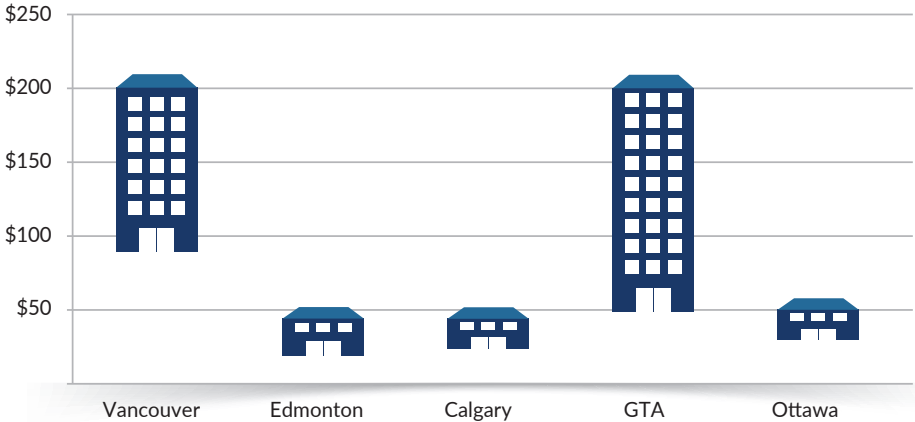
Market net effective rate for suburban class A office space



KEY MARKET TRENDS

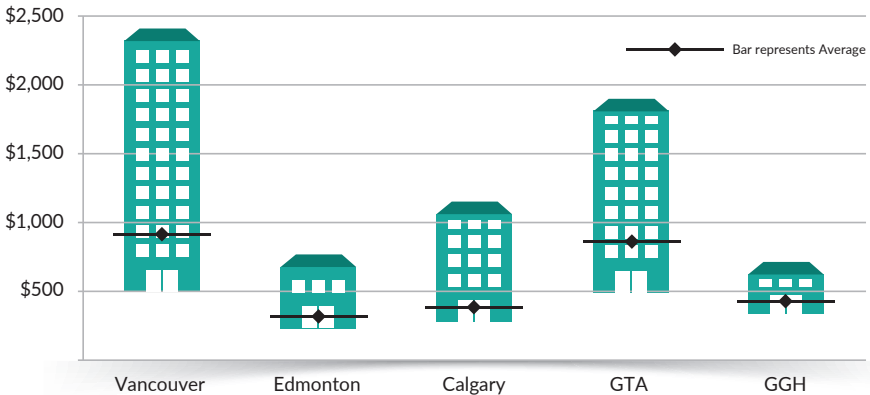
\$/Square Foot Buildable Land Prices

Approximate dollar per square foot ranges for land as a function of buildable area for high density residential development.



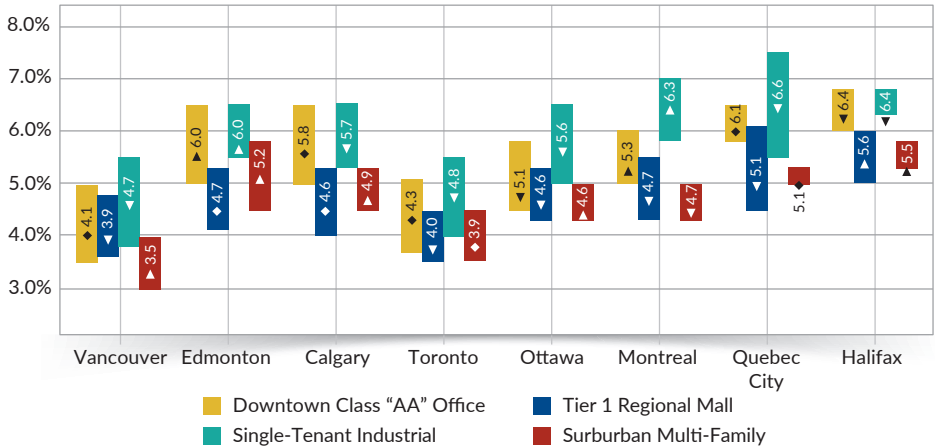
\$/Square Foot for Condominium Apartments

The approximate dollar per square foot sale price range for new condominium apartments.



KEY MARKET TRENDS

Overall Capitalization Rates



Arrows indicate directional movement from previous survey.

Movement is defined as a change of more than 0.10 and due to rounding some arrows may not reflect actual movement.

Notes:

*The above data is based as of end of Q3, 2017

**GGH data does not include GTA numbers.

***Improved properties such as office buildings, retail centres, and industrial buildings

Source: altusgroup.com/datasolutions

About Our Data

Our Data Solutions group connects the Canadian real estate industry through the delivery of data with unparalleled breadth, integrity and relevance. Our national data platform provides you with the key benchmark metrics to assess development potential, understand market trends, and run project analysis.

For more information on our data products, contact us at

datasolutionsinfo@altusgroup.com

NOTES ON CORRECT USE OF DATA

1. Guide Only

The construction cost data contained herein is of a general nature only and subject to confirmation with respect to specific circumstances.

The unit rates for the building types described are an average range exclusively for that particular type of building. The unit rates assume that a level, open site exists with no restrictions from adjoining properties. It is assumed that stable soil conditions prevail. Average-quality finishes (unless otherwise stated), both to the exterior and interior, are also assumed.

Judgment factors must be applied within the average range to allow for:

- Quality
- Location
- Building shape, size and height
- Topography and soil conditions
- Schedule
- Site restrictions
- Market conditions
- Type of contract
- Extent of site works
- Design method
- User requirements
- Procurement advantage of developer/contractor

2. Construction Cost Escalation

An “escalation allowance” is a contingency (usually a percentage) added to the estimated construction estimate to allow for inflation in labour and material costs between the date of the estimate and the contract award. As the project moves closer to the onsite start date, the contingency reduces, reflecting the reduced risk of escalating costs.



As we prepared the 2018 Cost Guide, US economic policies on NAFTA and interest rates continued in their uncertainty. The undetermined outcome of the trade implications of Brexit also continue to be at play. In these changing market conditions, it is imperative to have a detailed construction estimate prepared in order to capture prevailing market conditions at that time and obtain an accurate projection of your project construction costs.

3. Construction Costs Only

The unit costs outlined herein cover construction costs only. In all commercial developments, the project budget must also include development or “soft” costs. These would include some or all of the following:

- Land and related costs
- Architectural and engineering fees
- Government registered programs
- Insurance and bond costs
- Legal fees
- Special design consultants
- Special equipment and furnishings
- Management costs
- Site services outside the property
- Interest charges and lenders' fees
- Marketing and advertising
- Levies
- Tenant incentives
- Permits and development charges
- Purchaser upgrades
- Appraisals
- Soil and environmental tests
- Land surveys
- Property taxes
- Broker commissions
- Contingencies
- Rezoning costs
- Other municipal fees
- Developer profit

NOTES ON CORRECT USE OF DATA, CONTINUED

4. Correct Measurement & Use of Square Foot

In preparing a “cost per square foot” guide, we must outline how we define the area used as the denominator to calculate this value. We have adopted the Canadian Institute of Quantity Surveyors’ definition, which dictates:

1. Measure each floor to the outer face of the external walls;
2. No deductions for openings at stairs, elevators or vertical ducts are made;
3. A deduction is made for a non-service vertical protrusion, e.g., atrium space;
4. Mezzanine floors are generally included;
5. Balconies are excluded; enclosed solariums in residential condominiums are included;
6. Sloping and stepped floors (auditoriums/movie theatres) are measured flat; and,
7. Exclude all external covered walkways.

For building types that usually have underground parking (condominiums, offices and hotels) allow for an underground parking component of 30%. Rates for buildings where parking is not common (schools, hospitals and retail) will need parking costs added, based on the “parking garage rate” in the Guide.

[For an example of how to use cost per square foot data, see page 10.](#)

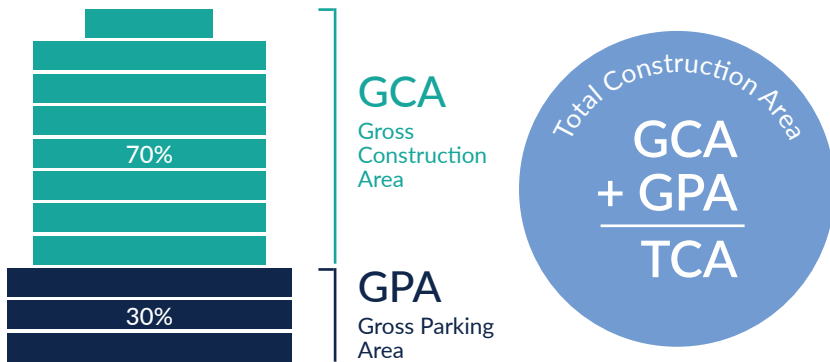
5. Federal & Provincial Sales Taxes

The unit costs provided exclude Goods & Services Tax (GST) and Harmonized Sales Tax (HST), but include Provincial Sales Tax (PST) where applicable at the time of the release of this Guide.

MEASUREMENT AND APPLICATION OF \$/SF: HOW TO USE THE DATA

When calculating the total construction area for a private sector building, unit costs should be applied exclusively to the Gross Construction Area (GCA). This assumes that GCA comprises 70% of the Total Construction Area (TCA). For building types that typically have underground parking, assume the Gross Parking Area (GPA) comprises 30% of the TCA.

For an explanation of the correct measurement and use of square foot, please see page 9.



Example

A 7-storey, 100,000 sq. ft. Class B office building in the GTA

GCA = 70,000 sq. ft.	70%
GPA = 30,000 sq. ft.	30%
<hr/>	
TCA = 100,000 sq. ft.	100%

Approximate cost is:

BUILDING	70,000 sq. ft. x \$180 to \$265/sq. ft = \$12.6M to \$18.6M
TENANT FITOUT	70,000 sq. ft x \$40 to \$90 sq. ft = \$2.8M to \$6.3M
TOTAL	\$15.4M to \$24.9M

Notes:

- All costs are in Q1 2018 dollars.
- Unit costs cover hard construction costs only – all development or “soft” costs are excluded.
- Rates are based on typical standards and should only serve as basic guidelines. There is no substitute for a detailed estimate.
- Unit prices exclude any applicable taxes.

PRIVATE SECTOR:

WESTERN CANADA

EASTERN CANADA

BUILDING TYPE		\$/Sq. Ft.	Vancouver	Calgary	Edmonton	Winnipeg	GTA	Ottawa/Gatineau	Montreal	Halifax	St. John's
RESIDENTIAL	CONDOMINIUMS/APARTMENTS (Includes Underground Parking)	Up to 6 Storeys (Hybrid Construction)	220 - 290	185 - 220	185 - 220	190 - 225	195 - 265	190 - 235	170 - 215	180 - 235	175 - 235
		Up to 12 Storeys	250 - 315	220 - 265	220 - 265	225 - 270	215 - 280	200 - 255	185 - 245	195 - 250	195 - 255
		13-39 Storeys	265 - 325	230 - 285	235 - 295	235 - 295	215 - 290	205 - 275	200 - 280	200 - 260	n/a - n/a
		40-60 Storeys	270 - 350	245 - 305	250 - 305	250 - 315	235 - 310	n/a - n/a	220 - 295	n/a - n/a	n/a - n/a
		60+ Storeys	320 - 370	n/a - n/a	n/a - n/a	n/a - n/a	275 - 330	n/a - n/a	n/a - n/a	n/a - n/a	n/a - n/a
		Premium for High Quality	80 - 200	60 - 160	60 - 160	65 - 165	75 - 200	55 - 160	65 - 170	65 - 170	60 - 170
	WOOD-FRAMED RESIDENTIAL	Row Townhouse with Unfinished Basement	120 - 185	110 - 140	115 - 140	110 - 140	100 - 155	110 - 150	100 - 140	95 - 135	110 - 145
		Single-Family Residential with Unfinished Basement	130 - 230	115 - 150	120 - 155	115 - 155	110 - 210	110 - 180	95 - 160	90 - 150	115 - 150
		3-Storey Stacked Townhouse	160 - 215	135 - 160	140 - 165	130 - 160	135 - 175	140 - 170	115 - 160	115 - 165	135 - 170
		Up to 4-Storey Wood-Framed Condo	165 - 225	145 - 170	150 - 175	150 - 175	145 - 195	150 - 185	115 - 170	125 - 160	125 - 170
5 to 6-Storey Wood-Framed Condo		190 - 250	150 - 180	155 - 180	150 - 190	155 - 205	150 - 185	n/a - n/a	125 - 170	125 - 175	
	Custom-Built Single-Family Residential	400 - 1,000	400 - 850	400 - 850	405 - 850	400 - 900	420 - 870	350 - 700	300 - 600	285 - 600	
	Additional Cost for One Level Underground Parking	85 - 130	80 - 120	85 - 125	90 - 130	95 - 150	95 - 130	80 - 135	90 - 120	115 - 140	
SENIORS' HOUSING	Independent / Supportive Living Residences	190 - 280	160 - 250	165 - 255	165 - 255	170 - 270	160 - 245	150 - 240	155 - 235	170 - 240	
	Assisted Living Residences	220 - 305	185 - 260	190 - 265	190 - 265	200 - 285	190 - 250	180 - 255	175 - 250	180 - 255	
	Complex Care Residences	260 - 340	220 - 295	225 - 310	225 - 300	240 - 320	230 - 295	220 - 280	215 - 290	215 - 295	
COMMERCIAL	OFFICE BUILDINGS (Over 5 Storeys incl. Underground Parking)	Under 5 Storeys with Surface Parking (Class B)	200 - 265	175 - 210	175 - 220	180 - 215	175 - 245	180 - 225	155 - 210	165 - 210	170 - 220
		5 - 30 Storeys (Class B)	250 - 285	175 - 265	175 - 270	180 - 275	180 - 265	190 - 245	165 - 245	175 - 240	185 - 230
		5 - 30 Storeys (Class A)	270 - 340	220 - 280	220 - 290	225 - 285	210 - 315	210 - 260	195 - 280	195 - 260	215 - 260
		31 - 60 Storeys (Class A)	295 - 390	265 - 360	265 - 380	275 - 370	280 - 390	n/a - n/a	255 - 370	n/a - n/a	n/a - n/a
		Interior Fitout (Class B)	40 - 105	35 - 85	35 - 85	35 - 90	40 - 90	40 - 85	40 - 90	35 - 85	35 - 85
		Interior Fitout (Class A)	100 - 160	75 - 130	75 - 130	75 - 130	80 - 150	80 - 135	80 - 145	75 - 135	75 - 135
	RETAIL	Strip Plaza	105 - 155	100 - 145	105 - 150	105 - 150	105 - 170	115 - 160	95 - 160	100 - 150	110 - 160
		Supermarket	170 - 220	150 - 200	160 - 205	150 - 205	145 - 200	150 - 180	120 - 170	125 - 190	135 - 180
		Big Box Store	160 - 220	150 - 200	160 - 205	155 - 205	135 - 190	145 - 170	115 - 170	135 - 175	135 - 180
		Enclosed Mall	215 - 300	200 - 270	205 - 280	205 - 275	200 - 280	195 - 245	185 - 250	185 - 255	190 - 245
HOTELS	Budget	175 - 225	150 - 190	155 - 200	155 - 195	145 - 185	150 - 195	135 - 195	160 - 200	150 - 190	
	Suite Hotel	255 - 300	220 - 280	225 - 285	225 - 285	225 - 285	200 - 260	195 - 255	200 - 265	205 - 270	
	4-Star Full-Service	260 - 340	235 - 285	240 - 290	245 - 295	235 - 300	225 - 285	205 - 275	220 - 280	230 - 285	
	Premium for Luxury	85 - 160	90 - 140	90 - 140	95 - 140	85 - 140	85 - 140	85 - 140	60 - 95	65 - 95	
PARKING	Surface Parking	5 - 25	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	5 - 15	
	Parking Garages - Free-Standing (Above-Grade)	90 - 125	70 - 90	75 - 95	75 - 95	70 - 105	75 - 95	55 - 90	95 - 115	100 - 130	
	Parking Garages - Underground	100 - 145	80 - 135	85 - 135	80 - 130	95 - 170	105 - 150	75 - 130	100 - 150	125 - 155	
INDUSTRIAL	INDUSTRIAL FACILITIES	Warehouse	85 - 130	80 - 105	80 - 110	85 - 115	70 - 100	80 - 100	60 - 95	100 - 130	95 - 125
		Urban Storage Facility	80 - 130	70 - 105	70 - 110	70 - 115	75 - 95	85 - 105	n/a - n/a	n/a - n/a	n/a - n/a
		Data Centre - Tier III	560 - 925	460 - 900	460 - 925	470 - 915	525 - 1,000	510 - 880	495 - 865	n/a - n/a	n/a - n/a
		Pharmaceutical Lab	530 - 735	390 - 600	390 - 610	400 - 595	445 - 705	420 - 635	410 - 625	n/a - n/a	n/a - n/a
		Manufacturing Facility	285 - 370	230 - 315	235 - 330	240 - 320	260 - 340	255 - 330	240 - 320	250 - 325	250 - 325

PUBLIC SECTOR:

WESTERN CANADA

EASTERN CANADA

BUILDING TYPE		\$/Sq. Ft.	Vancouver	Calgary	Edmonton	Winnipeg	GTA	Ottawa/Gatineau	Montreal	Halifax	St. John's
INSTITUTIONAL	EDUCATIONAL BUILDINGS	Elementary School	210-250	175-240	180-250	185-245	170-225	190-225	160-195	230-275	240-285
		Secondary School	230-285	210-270	215-285	220-275	195-265	220-255	175-220	265-300	275-315
		Private School	225-350	190-305	195-320	200-310	195-315	235-290	180-290	295-350	295-350
		Universities & Colleges - Teaching, Lecture Hall Bldg.	375-495	305-410	310-425	320-415	350-500	300-400	305-395	295-365	300-375
		Universities & Colleges - Laboratories (Level 1 and 2)	490-625	475-585	485-615	500-600	470-680	450-600	435-560	385-500	415-575
		Universities & Colleges - Student Residence	210-330	195-265	200-280	205-275	170-265	175-230	165-245	185-260	185-260
HEALTH CARE	General Hospital/Acute Care	600-815	495-675	495-710	510-695	550-745	545-720	495-720	540-750	530-720	
		Medical Clinic/Treatment Centre	330-480	270-405	270-425	275-415	290-420	290-410	275-410	305-450	315-475
TRANSPORTATION BUILDINGS	Regional Airport Terminal	315-410	290-360	295-380	300-370	315-395	275-350	255-330	290-375	290-400	
		International Airport Terminal	650-820	540-715	550-750	565-730	575-730	550-690	535-655	565-710	575-700
		Bus Terminal/Garage	275-350	235-290	240-300	245-290	245-330	240-320	230-290	245-320	245-320
CIVIC	GOVERNMENT BUILDINGS	Fire/EMS Station	315-450	250-360	255-370	260-360	235-315	235-310	230-295	250-315	290-380
		Police Station - Local Detachment	290-350	240-275	245-290	250-285	270-325	260-330	255-305	285-335	285-375
		Police Station - Regional Headquarters	330-475	280-345	285-355	290-350	275-340	275-345	255-325	295-350	300-400
		Court House	400-525	350-450	360-470	370-460	400-550	370-455	355-450	365-450	375-475
		Operations Centre	325-475	250-345	255-355	265-350	230-315	260-325	230-285	245-365	285-385
		Penitentiary	345-410	340-400	350-420	360-410	325-430	315-410	295-370	380-525	425-525
		Municipal Office	215-275	245-315	250-325	255-320	195-260	220-275	185-255	195-260	210-280
		Library	300-425	310-380	315-400	325-390	275-425	280-350	230-360	235-350	250-350
RECREATION/ENTERTAINMENT BUILDINGS	Ice Arena	240-350	185-250	190-255	195-255	195-255	170-220	160-255	190-240	180-265	
		Community Aquatic Facility	380-465	300-380	305-400	310-390	365-470	320-400	305-410	340-430	340-430
		Multi-Use Recreational Centre	260-390	220-285	225-300	230-295	210-315	240-320	205-285	200-310	200-310
		Casino Facility	360-600	355-585	360-615	370-600	450-750	440-700	400-660	365-575	n/a - n/a
		Performing Arts Building	450-565	415-525	420-550	430-535	395-650	390-500	375-495	380-490	385-490
		Museum/Gallery	425-590	360-500	360-525	370-515	370-550	380-490	360-485	355-490	350-490

PRIVATE & PUBLIC SECTOR:

WESTERN CANADA

EASTERN CANADA

BUILDING TYPE		\$/Sq. Ft.	Vancouver	Calgary	Edmonton	Winnipeg	GTA	Ottawa/Gatineau	Montreal	Halifax	St. John's
SITE SERVICING	Local Roads - 8m road width (per metre)	2,600-3,300	2,500-3,300	2,600-3,500	2,600-3,400	3,200-3,900	3,000-3,900	2,800-3,600	2,800-3,600	3,100-3,800	
		Arterial Roads - 9m road width (per metre)	2,800-3,900	2,700-4,000	2,800-4,200	2,800-4,100	3,300-4,500	3,100-4,400	3,000-4,300	3,000-4,000	3,200-4,200
		Arterial Roads - 12m road width (per metre)	3,600-4,200	3,400-4,400	3,700-4,600	3,500-4,500	4,100-4,900	4,000-4,800	3,800-4,700	4,000-4,700	4,100-4,600
		Private Roads - 6m road width (per metre)	2,300-2,600	2,100-2,800	2,200-2,900	2,200-2,900	2,500-3,300	2,400-3,200	2,300-3,000	2,400-2,900	2,500-3,000
		Residential Row Townhouses (per unit)	18,500-26,000	18,200-27,000	19,100-28,400	18,700-27,700	20,500-30,500	22,000-30,000	19,500-28,100	18,200-25,800	22,000-30,000
		Industrial (per acre)	125,000-210,000	114,100-185,100	119,800-194,300	117,000-189,700	138,000-212,000	134,000-208,000	125,000-192,500	116,200-185,400	140,000-200,000
		Commercial (per acre)	150,000-230,000	152,500-270,400	160,100-284,000	156,300-277,200	187,000-313,000	183,000-310,000	168,000-281,000	161,600-257,500	180,000-280,000

ALTUS GROUP

CANADIAN COST INDEX

British Columbia

(Indexed to Vancouver)

1. Victoria	108
2. Vancouver	100
3. Whistler	115
4. Southern Interior	95
5. Northern Interior	115

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2. Edmonton (see data table)	NA
3. Regina/Saskatoon	102
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Ontario

(Indexed to GTA)

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2. Hamilton and Surrounding Areas	104

3. Niagara Peninsula	104
4. Barrie	105
5. Toronto:	
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(Indexed to Halifax)

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(Indexed to GTA)

1. Yellowknife	170
2. Iqaluit	240
3. Remote Communities	275

2018 COST GUIDE

BUILDING TYPE DESCRIPTIONS

General Notes

All costs exclude site development and premiums associated with signature architecture.



Residential

Condominiums/Apartments

Assume cast-in-place concrete structure for all condos unless otherwise noted. Hybrid construction could include any combination of alternate building structures, such as precast concrete and light gauge steel. The premium for high-quality finishes should be applied to any of the condominium/apartment categories.

Wood-Framed Residential

The floor area of the unfinished basement and garage should be excluded from the area used with the unit rate provided. Parking is excluded from all unit rates; however, the additional cost for one level of underground parking below the wood-framed condos is noted.

Seniors' Housing

Costs can fluctuate, depending on whether the facility is operated for a profit or is community based, the level of care, and the services provided to residents.

Commercial

Office Buildings

The costs assume base building construction only, including mechanical and electrical services, washrooms, and finishing of ground floor entrance lobby and elevator lobbies to upper floors. The cost of tenant partitioning and finishes, with the

2018 COST GUIDE BUILDING TYPE DESCRIPTIONS, CONTINUED

exception of ceiling and column finishes, are excluded. The cost of finishing this space can fluctuate depending on the density of partitioning and the quality of finishes. Costs assume standalone buildings and are not representative of a component within a mixed-use building.

Retail

The costs given assume single-storey buildings with the exception of enclosed malls. The cost of providing parking facilities is excluded from the unit costs provided. The CRU space is considered shell. The public space is finished. Costs assume standalone buildings and are not representative of a component within a mixed-use building.

Hotels

The costs exclude any allowance for FF&E, as each operator has its own definition. The cost for a budget hotel assumes no restaurant or bar facilities and minimal meeting/conference areas. Suite hotels assume a kitchenette. The costs of four-star full-service hotels include dining and conference facilities and special-use lounges. Premium for luxury should only be applied to the four-star full service hotel.

Parking

On-grade parking assumes an asphalt paved surface lot, including necessary curbs, line painting, storm servicing and pole lighting. Above-grade parking assumes open air structure. Below-grade parking assumes that temporary support to the excavated sides of the proposed garage is required, and that there are no extraordinary conditions (water, contaminated soil, close proximity to underground services, etc.). Extra deep parking garages (7+ levels) and garages with site restrictions should be assessed on an individual basis. The “efficiency” of garages (parking area/stall) is also an important cost variable.

Industrial

Industrial Facilities

Warehouse space is based on heated shell space, excluding mezzanine areas. A finished office component is included.

Urban storage facilities are based on multi-level facilities, which have site constraints.

2018 COST GUIDE BUILDING TYPE DESCRIPTIONS, CONTINUED

Data Centres are based on suburban sites, and include access flooring and redundant heating and cooling systems. Active hardware is excluded.

Pharmaceutical laboratory costs would vary depending on the level of testing and manufacturing involved. FF&E is excluded from the unit costs.

Manufacturing facilities are based on open spaces with high structures to allow space for equipment. FF&E costs are excluded.



Institutional

Educational Buildings

The costs given exclude any allowance for FF&E.

Health Care

With more than 40 subcategories of space types available in hospitals, the mix of costs fluctuate depending on the type of facility being constructed, the mix of beds, clinics and surgeries, as well as the building configuration. Parking and FF&E are excluded.

Civic

Transportation Buildings

Regional airport terminals are typically single-storey facilities that have smaller gate and circulation capacity for local domestic flights and minimal amenities. International airport terminals are multilevel facilities with extensive amenity space for restaurants, retail stores, and have larger circulation space and gate capacity. Also included are spaces for customs

2018 COST GUIDE BUILDING TYPE DESCRIPTIONS, CONTINUED

and immigration control. Costs for surface and/or parking garages, airside infrastructure, and equipment are excluded.

Bus garages are slab on grade, single-storey, long span steel structures which include vehicle maintenance facilities and a small administration area. FF&E including vehicle lifts are excluded. All buildings are based on suburban facilities with no site constraints. Any associated site work and parking are excluded from the unit costs. Costs assume a design standard equivalent to LEED Silver. Premiums associated with actual certification or Gold/Platinum are excluded.

Government Buildings

Fire/EMS Stations exclude any costs associated with training buildings.

Local police detachments would include offices and facilities for police and civilian members with minimal interview rooms and holding cells. Regional police headquarters would include all the same plus additional interview rooms, holding cells, training space, and administration.

Courthouses include judicial chambers, administration offices, holding cells, and courtrooms.

Operations Centre costs are based on the main facility only, including maintenance, storage, and administration areas. Any outbuildings would be an additional cost.

The range of costs for penitentiaries would vary based on the level of security and size of facility.

Municipal offices would include administration space for all municipal departments, meeting, conference rooms, council chambers, cafeteria, daycare facility, and significant atrium space.

Library costs would vary depending on the size and if they are stand alone or part of a multi-use facility.

Recreation/Entertainment Buildings

Ice arenas would include single pad to four pad facilities with spectator seating; unit costs are based on steel structures.

Community aquatic facilities include single or multiple pools, minimal spectator seating, change room facilities and fitness areas; unit costs are based on conventionally framed

2018 COST GUIDE BUILDING TYPE DESCRIPTIONS, CONTINUED

structures for the majority of the building, and glulam wood structure for the pool area.

Multi-use recreation centres could include any combination of fitness, gymnasium, daycare, community room, and administration space. Facilities with arena, pool, and multi-purpose areas should be based on the costs for each component combined together.

Casino/gaming facilities are assumed to be single storey buildings containing gaming floor (slots and/or table games), restaurants, bars, entertainment, and retail areas. Costs include fit-out of the gaming floor, and exclude FF&E, slot machines/tables, and security system.

Recreation/Entertainment Buildings, Continued

Performing arts building unit costs would vary depending on the size and function of the facility. Acoustical treatment, theatre lighting, stage, and seating requirements would all impact the cost.

Museum and gallery costs vary depending on the purpose of the space; humidity and temperature control, redundant systems, and fire prevention would affect the costs.

Site Servicing

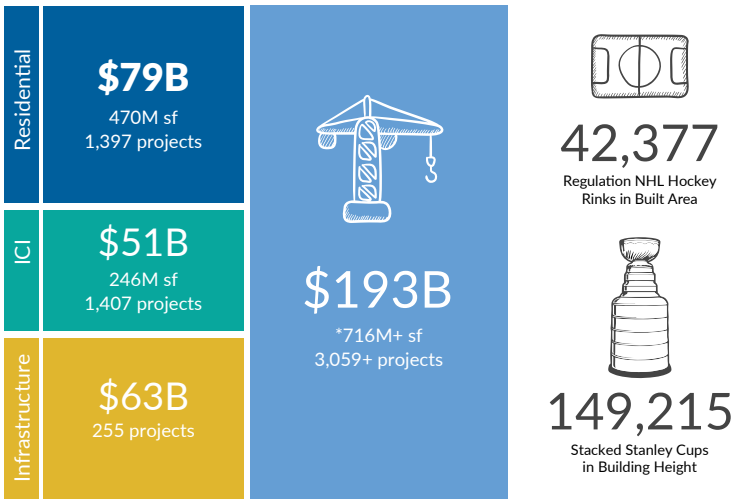
The rates for residential site servicing are based on costs per centre line of road and allow for underground storm, sewer, water and electrical services and street lighting, earthworks, curbs, asphalt roadways and sidewalks. Items such as berms, retaining walls, noise barrier fences, entrance features, storm ponds, landscaping and external services are excluded. The higher end of the specified range should be used for municipalities, which require crusher run limestone in lieu of granular materials for the base road construction and/or where curb or road sub drains are required. Arterial road costs may be partially recoverable from the local municipality or region. The rates for townhouse servicing are provided on a per unit basis. The rates for industrial and commercial site servicing are provided on a per acre basis.

Excludes any requirement for oversizing of services for future development.

ABOUT OUR COST & PROJECT MANAGEMENT GROUP

We are the trusted, independent source of construction cost and project management. Our skilled professionals provide expertise as well as access to the unparalleled benchmarking data and cutting-edge software that empowers effective project delivery across all asset types.

Our database consists of over 3,000 projects and counting...



*All values measured in current dollars.

We can strategically manage project contracts and implement detailed financial and project plans with key stakeholders to keep every project on track and on budget.

What we do for clients

- Analyze key performance metrics
- Residential and parking efficiency analysis
- Quickly & easily find comparable projects based on location and building attributes
- Predict site conditions based on knowledge of nearby projects
- Benchmark construction costs
- Benchmark soft costs
- Track escalation trends based on actual trade contracts
- Analyze costs based on building configuration (# of storeys, typical floor plate, # of units, size of units, location etc.)
- Construction efficiency analysis (ratios of concrete, rebar, formwork and cladding)
- Provide industry-leading informed advisory services by linking our data, 3D estimating system and ARGUS Software.

Our Team

In Canada, our Cost and Project Management team is made up of approximately 160 staff in offices across the country. Our knowledge and experience across all asset types ensures that our services are tailored to each project, delivering dependable, accurate, and valuable independent advice. To talk about your project, contact your local Altus advisor or call us at (416) 641 9500 or cost@altusgroup.com



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CANADIAN
COST GUIDE

2018

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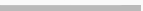
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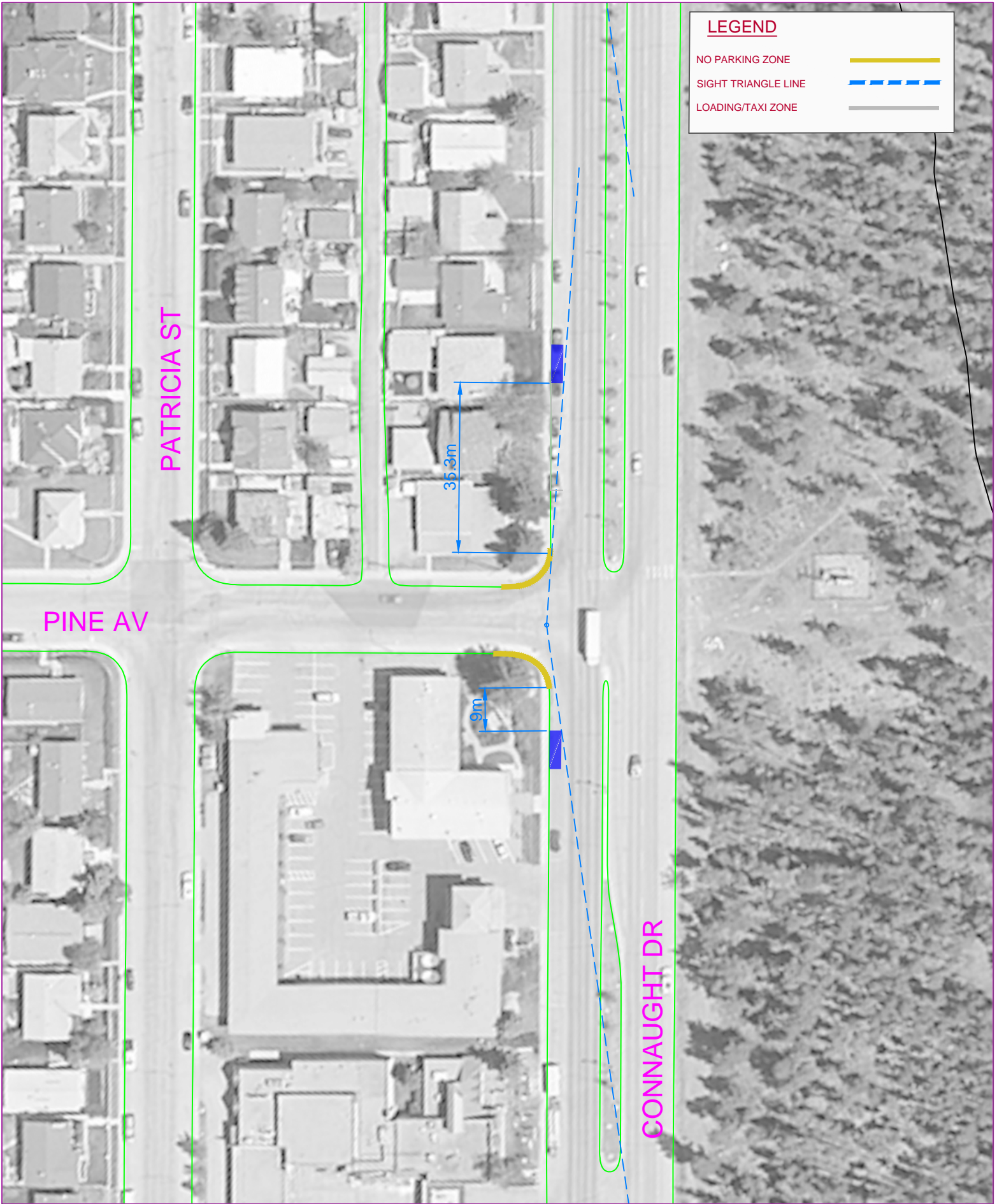


Appendix D:



Intersection Sight Distances and Parking Setbacks

LEGEND

- NO PARKING ZONE 
- SIGHT TRIANGLE LINE 
- LOADING/TAXI ZONE 



LEGEND

- NO PARKING ZONE 
- SIGHT TRIANGLE LINE 
- LOADING/TAXI ZONE 

PATRICIA ST

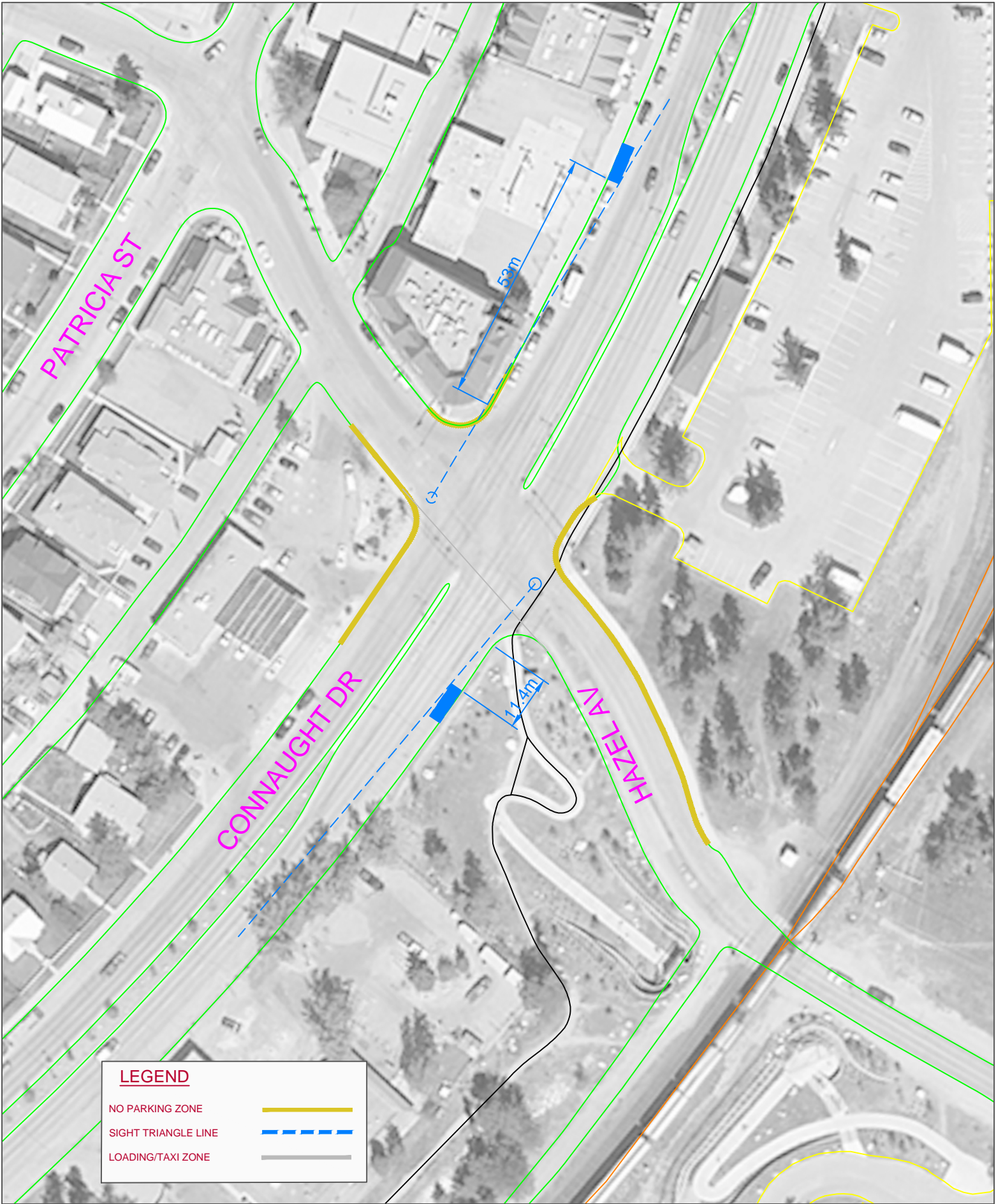
SPRUCE AV

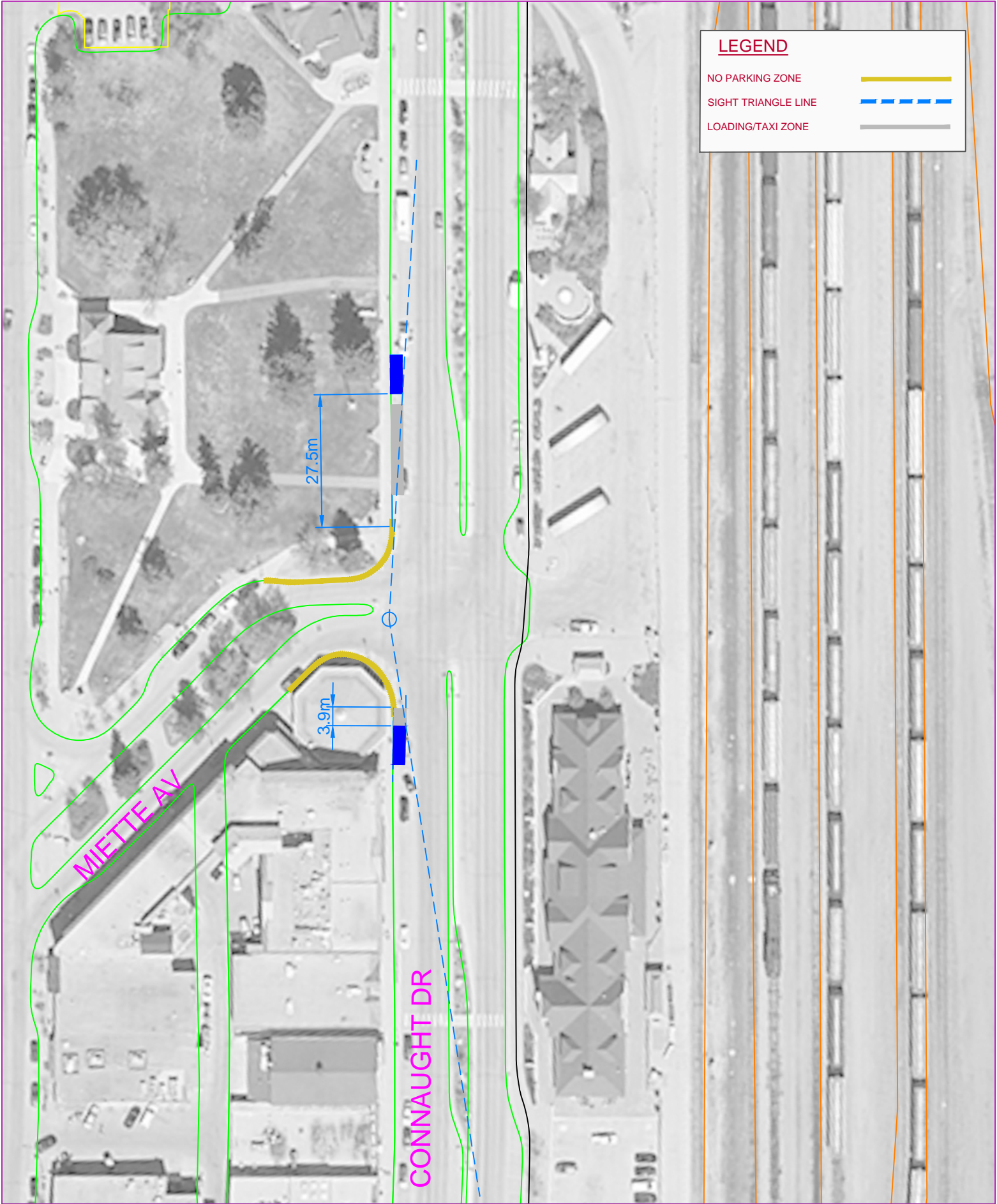
CONNAUGHT DR

36.8m




7.9m







LEGEND

- NO PARKING ZONE 
- SIGHT TRIANGLE LINE 
- LOADING/TAXI ZONE 

27.5m

3.9m

MIETTE AV

CONNAUGHT DR

LEGEND

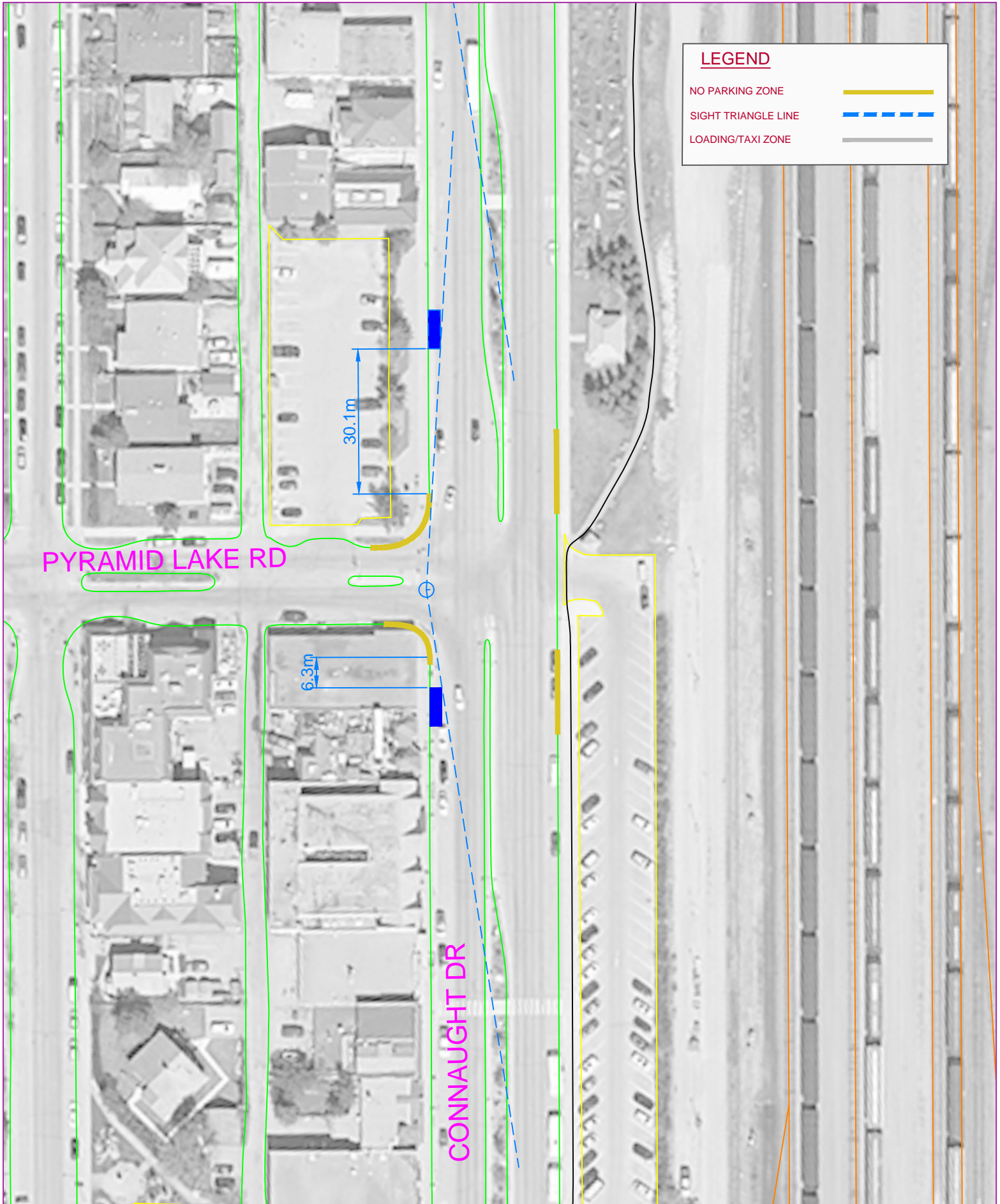
NO PARKING ZONE



SIGHT TRIANGLE LINE



LOADING/TAXI ZONE

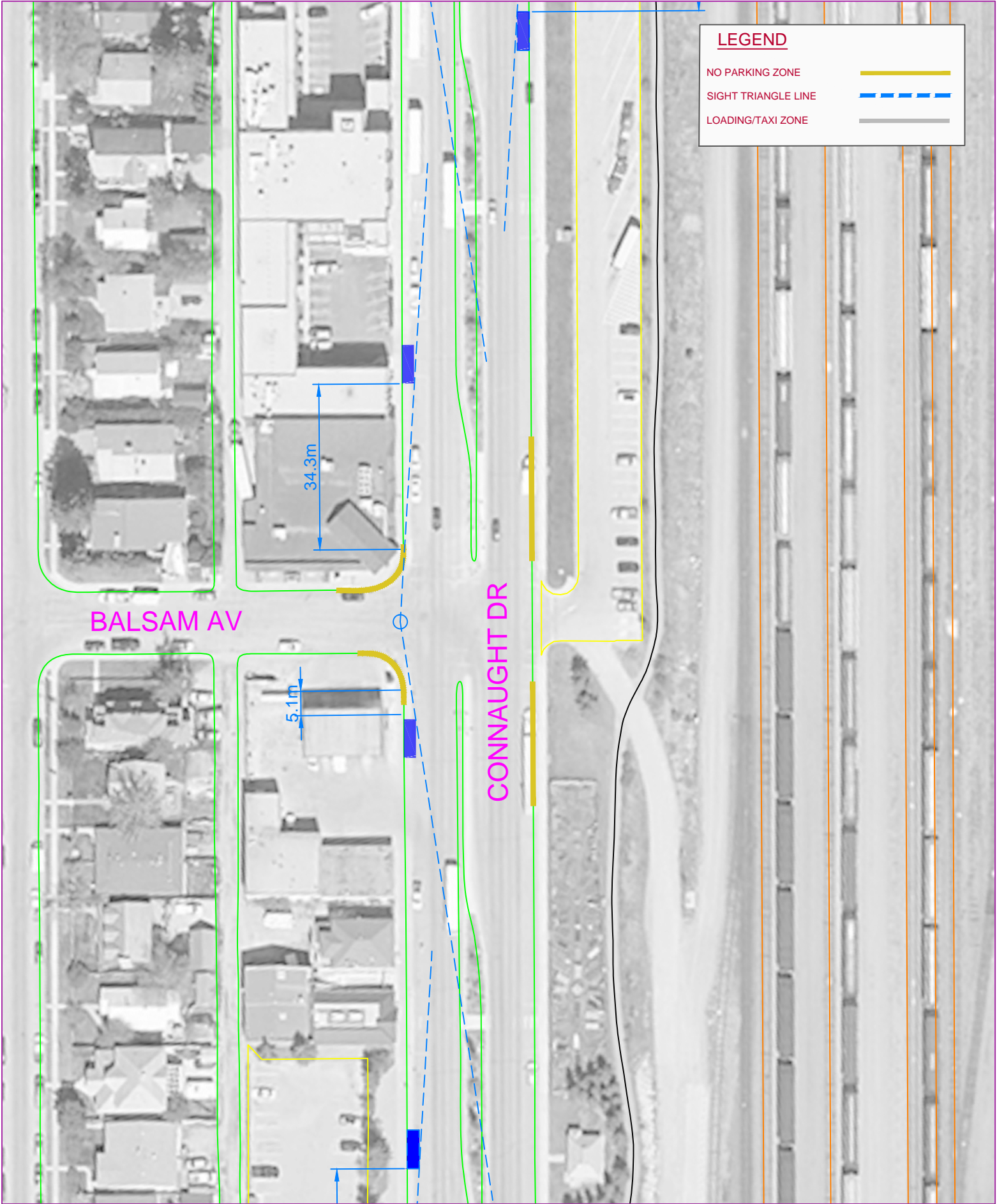


PYRAMID LAKE RD

CONNAUGHT DR

30.1m

6.3m



LEGEND

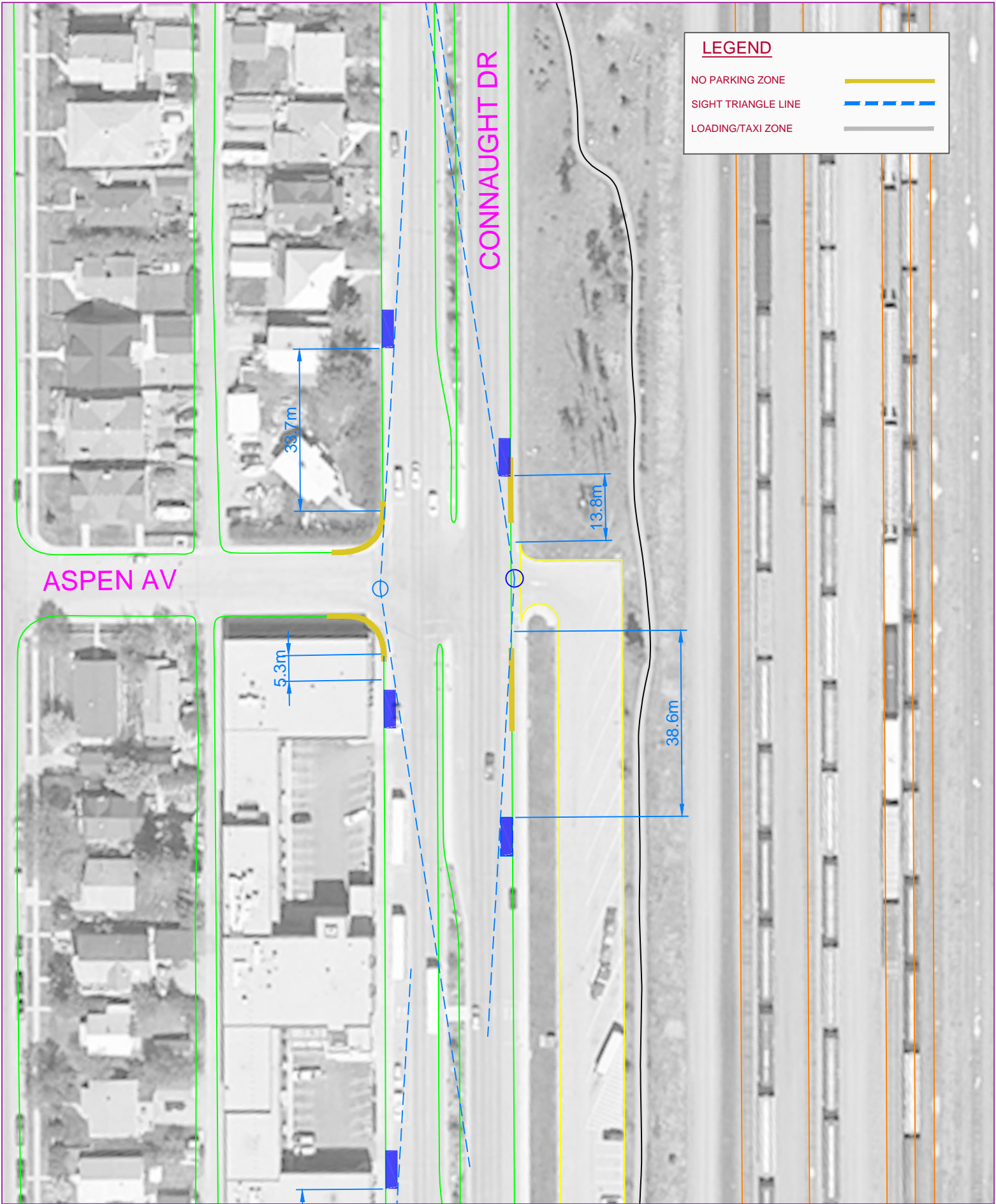
- NO PARKING ZONE —
- SIGHT TRIANGLE LINE - - -
- LOADING/TAXI ZONE —

BALSAM AV

CONNAUGHT DR

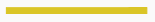
34.3m

5.1m



LEGEND

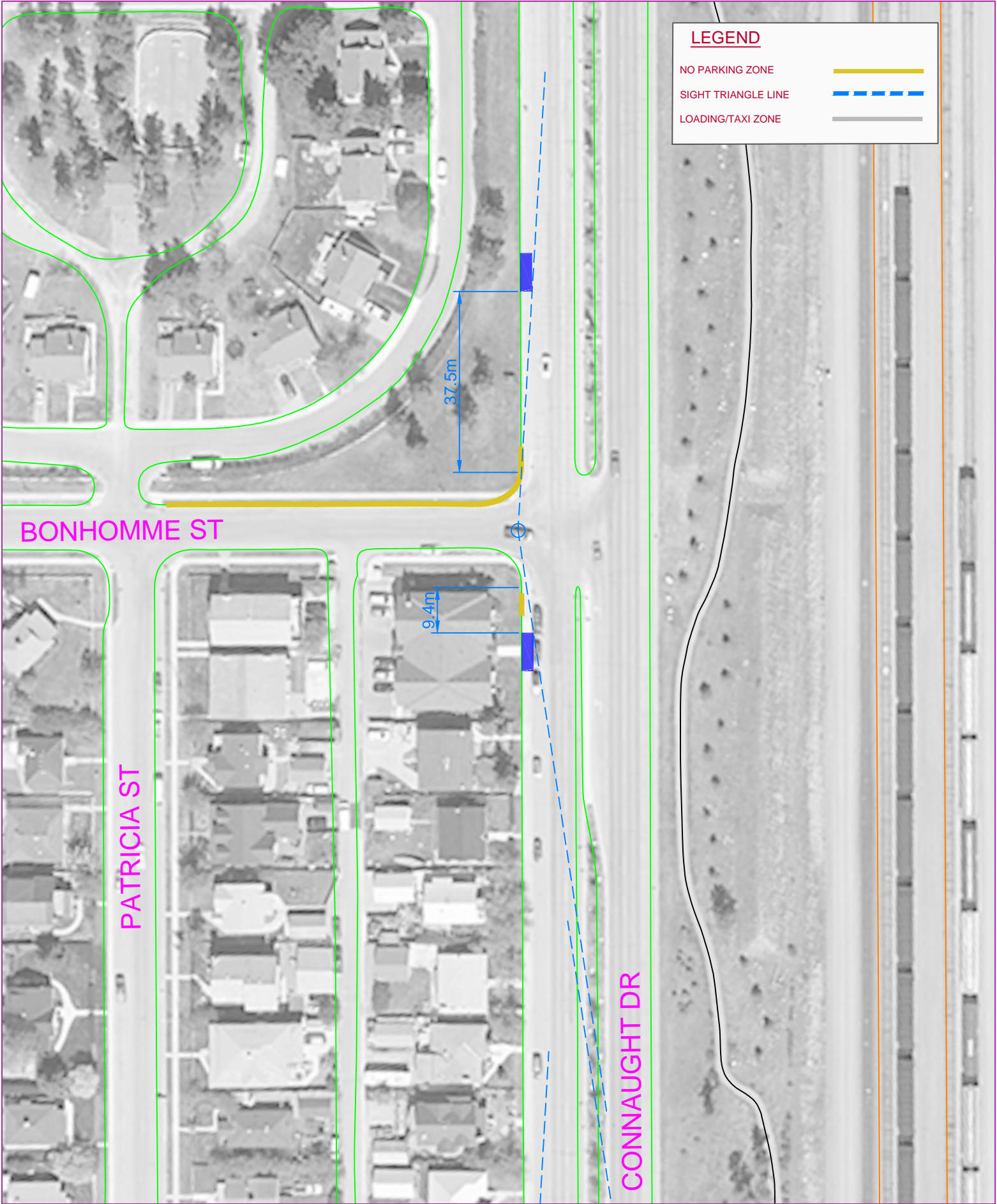
NO PARKING ZONE



SIGHT TRIANGLE LINE



LOADING/TAXI ZONE



BONHOMME ST

PATRICIA ST

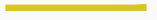
CONNAUGHT DR

37.5m

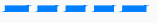
9.4m

LEGEND

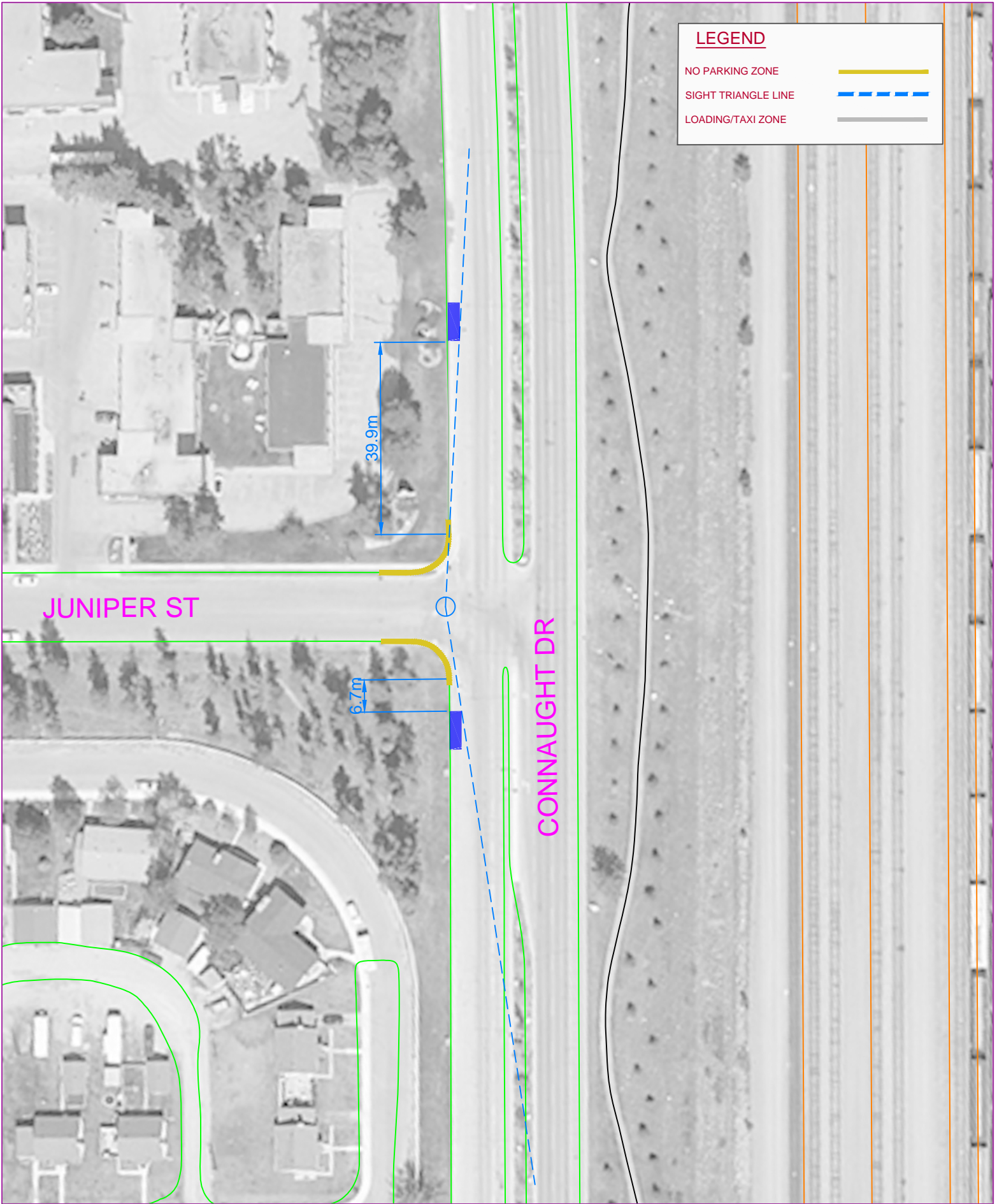
NO PARKING ZONE



SIGHT TRIANGLE LINE



LOADING/TAXI ZONE



JUNIPER ST

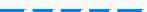
CONNAUGHT DR

39.9m

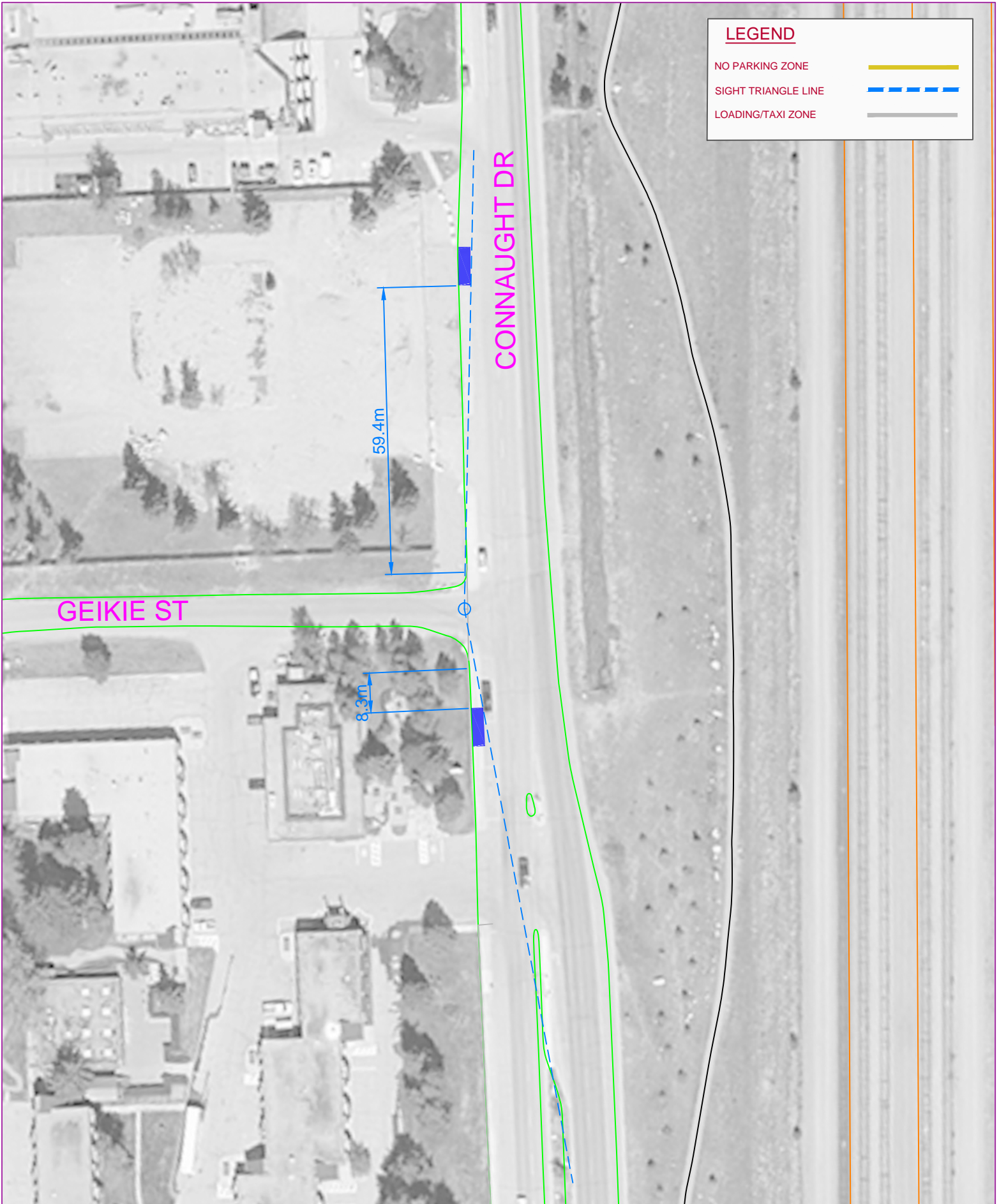
6.7m

LEGEND

NO PARKING ZONE 

SIGHT TRIANGLE LINE 

LOADING/TAXI ZONE 





CONCEPT STOP LINES ON BONHOMME ST AND MIETTE AV

