

Calgary



# Goods Movement Strategy

Phase 3 engagement  
October 2017 to February  
2018

What we heard report



# Goods Movement Strategy

Phase Three Report Back // What we Heard, What we Did

March 5, 2018

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## Project overview

Calgary is connected to local, national and international markets in several ways. Major railways, interprovincial and international highways and a large international airport move products to and from businesses in Calgary and all over the world. The Goods Movement Strategy (GMS) will help The City of Calgary determine what transportation infrastructure improvements and policy changes need to be made to help Calgary thrive as an economic leader in multi-modal services and solutions over the next 30 years.

The strategy will also help The City support businesses and residents alike through continued improvements to our transportation network. These improvements will help us continue to efficiently move goods to markets in Calgary and beyond.

The Goods Movement Strategy will:

- Identify and prioritize short, medium and long-term actions and investments in transportation infrastructure to enhance the goods movement network in Calgary.
- Support the Calgary Transportation Plan (CTP) and Municipal Development Plan (MDP).
- Complement other City and regional economic development initiatives.

The City's bylaws related to goods movement will be reviewed and consolidated, where appropriate, as part of the Goods Movement Strategy. This includes the truck route map and bylaw 60M90.

## Engagement overview

Phase Three of the engagement for the Goods Movement Strategy included three advisory groups, two focus groups and face-to-face and online public engagement.

During Phase Three the public was given the opportunity to participate in face-to-face and online engagement opportunities. They ran February 2-16, 2018. Public events were held on February 3 at Sunridge Mall, February 4 at the Quarry Park Library, February 10 at Cross Iron Mills and February 11 at the Crowfoot Library. We spoke to approximately 125 people at the four public sessions. Participants at the face-to-face sessions were asked to fill out the online survey on iPads, to ensure that participants answered the same questions. All participants were given the opportunity to provide additional feedback on goods movement within Calgary. An education campaign to help residents learn more about goods movement, the industry and its importance to Calgary's economy supported the public engagement.

The advisory groups have been working with the project team for a year, meeting quarterly to discuss issues and provide timely feedback for the project. The Operational Advisory group is made up of representatives from the goods movement industry and focuses on short-term improvements that can be made to Calgary's transportation network to alleviate issues like congestion and parking for delivery vehicles. The Strategic Advisory group is made up of representatives from the goods movement industry, academics and industry associations. The Strategic Advisory



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group focuses on the long-term future (30-60 years out) for the goods movement industry in Calgary. The Regional Advisory group is made up of representatives from the counties and municipalities that immediately surround Calgary. Their focus has been on creating and maintaining dialogue as it pertains to road networks and goods movement within the Calgary region.

Two focus groups were commissioned in addition to the advisory groups. This group is made up of academics and professionals from the transportation and logistics fields, who were not already in our advisory groups. These sessions were added in response to feedback received during advisory group meetings.

## Public engagement

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### What we asked

The public were asked questions about the delivery of goods to homes, neighbourhood offices, shops and restaurants. They were also asked about possible enhancements to the truck route network and their preference regarding road closures for maintenance work truck routes. Finally, residents were asked about their awareness to various new goods movement technologies and how The City should prepare for their integration into our transportation network.

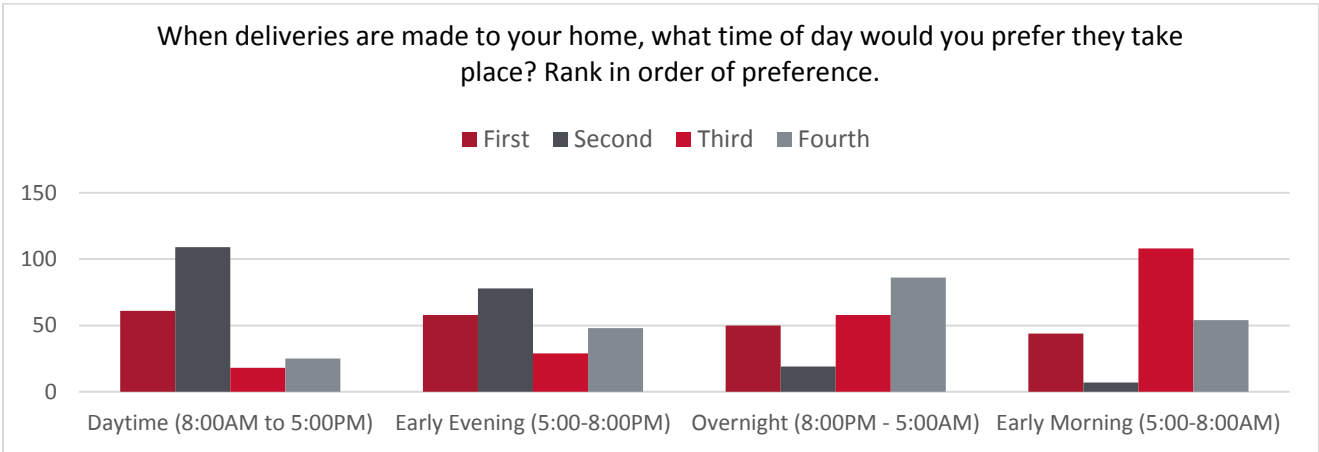
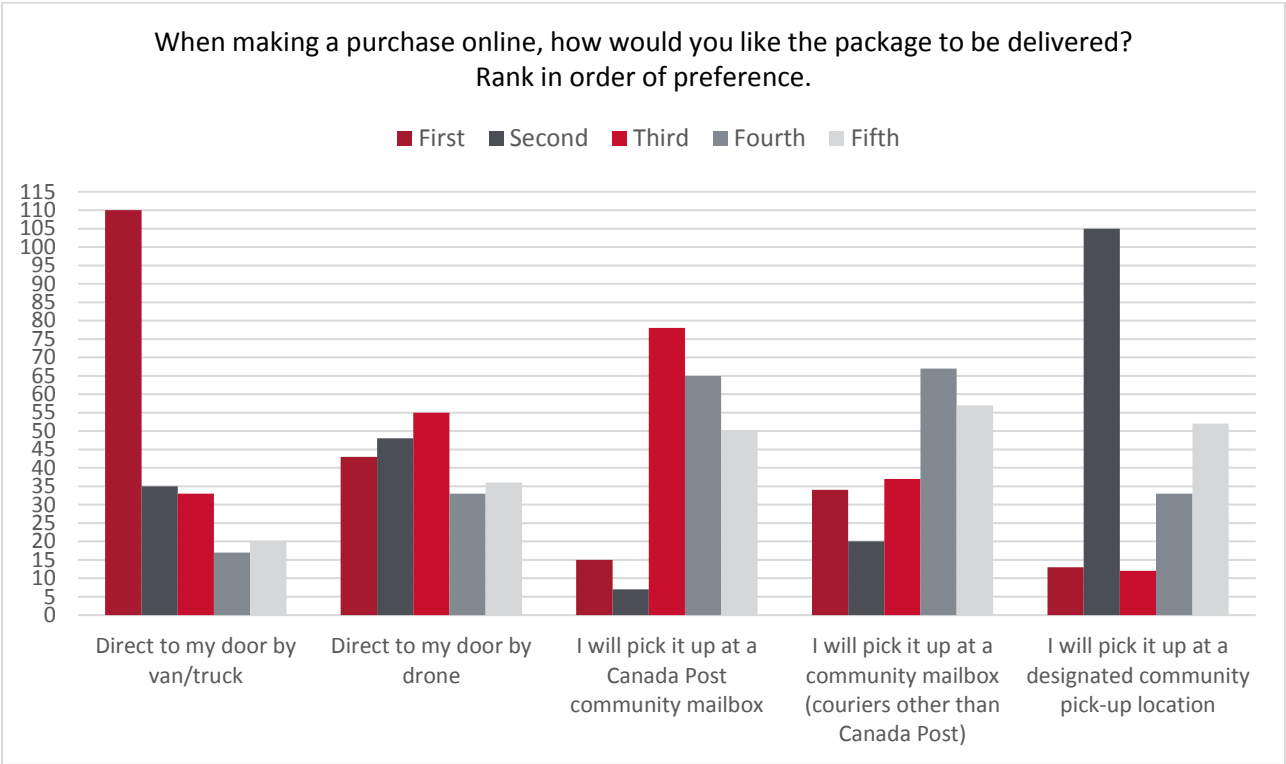
### What we heard

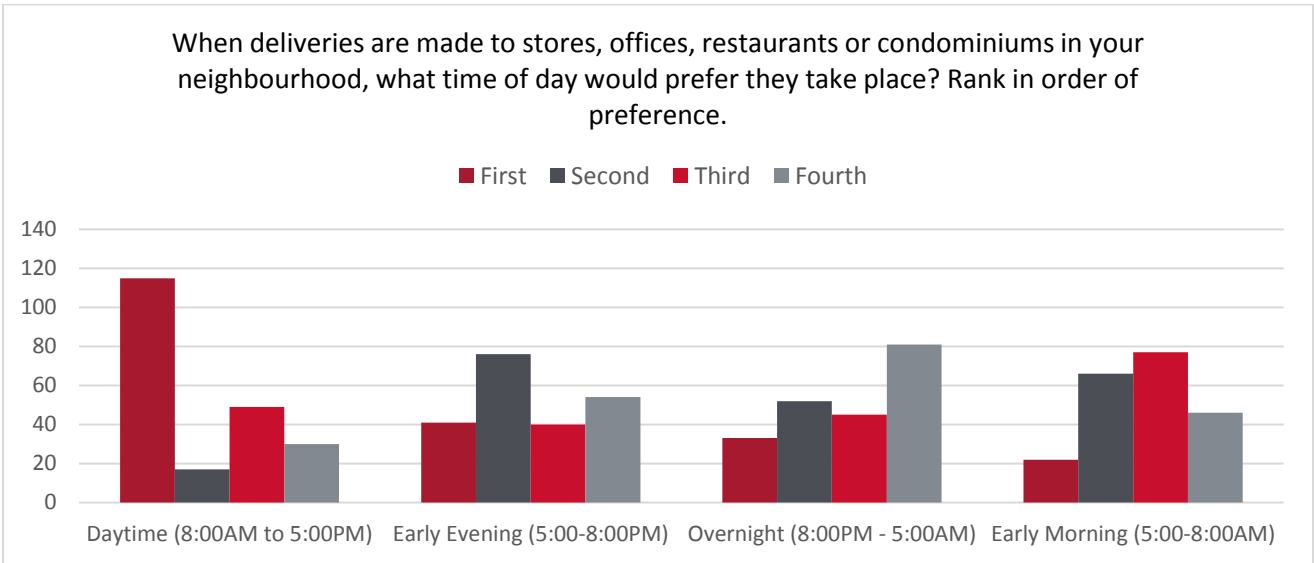
Our public engagement indicated that for the most part, respondents still want their goods delivered directly to their homes. They also preferred daytime deliveries, although there was some flexibility on picking parcels up from a dedicated location or having the deliveries either early morning or evening. At commercial, retail or condominium developments, respondents indicated that they would prefer that the appropriate infrastructure be in place for deliveries. We also heard that respondents preferred some form of time or location specific restrictions on deliveries to locations without a back alley or loading zone (e.g. strip malls). Respondents also would like The City to look at how we can adjust signal timing to help goods move around more efficiently on truck routes, rather than creating specific infrastructure for trucks. For those who work in the industrial parks, the majority currently drive themselves in but a significant portion of respondents said they would prefer other options to get to work and home.

### Summary of Input

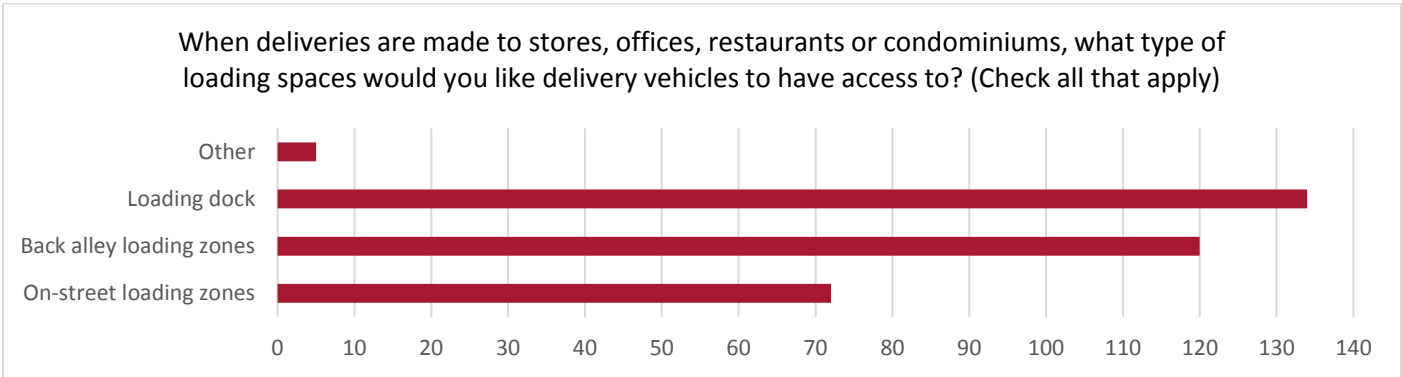
The charts below show a summary of the responses to the questions in the Shopping section of the online survey. These charts show when and how respondents would prefer to receive goods at their home or businesses in their neighbourhood.

The first chart shows the relative ranking of each delivery preference by participants when online shopping. Participants rated ‘Direct to my door by van/truck’ as their most preferred option, followed very closely by ‘Picking up their packages as a designated community location’.



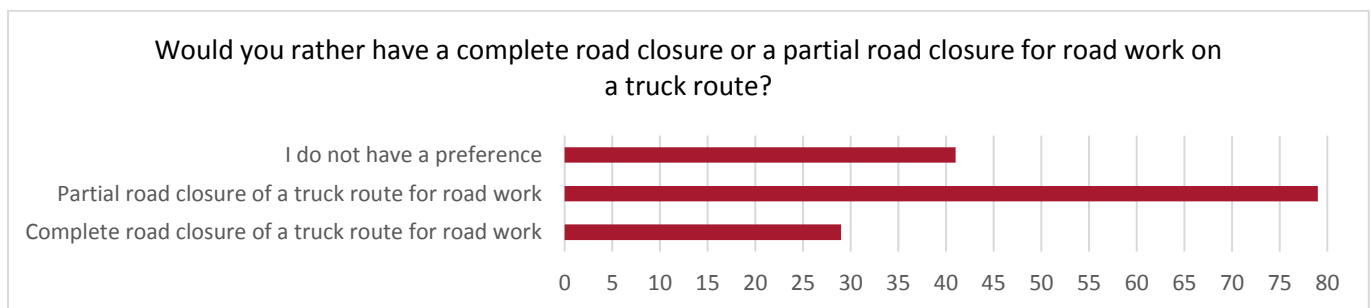
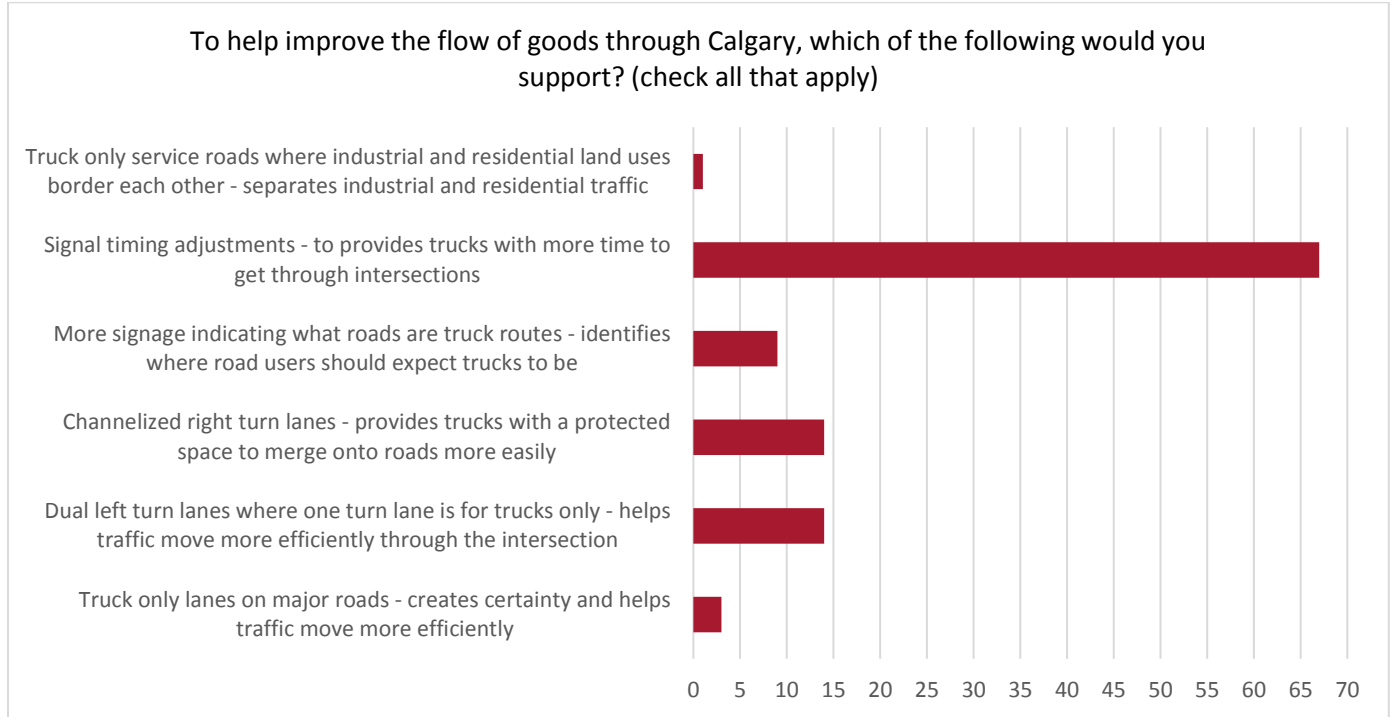


The two graphs below represent the feedback from the Delivery Vehicle Parking section of the online survey.

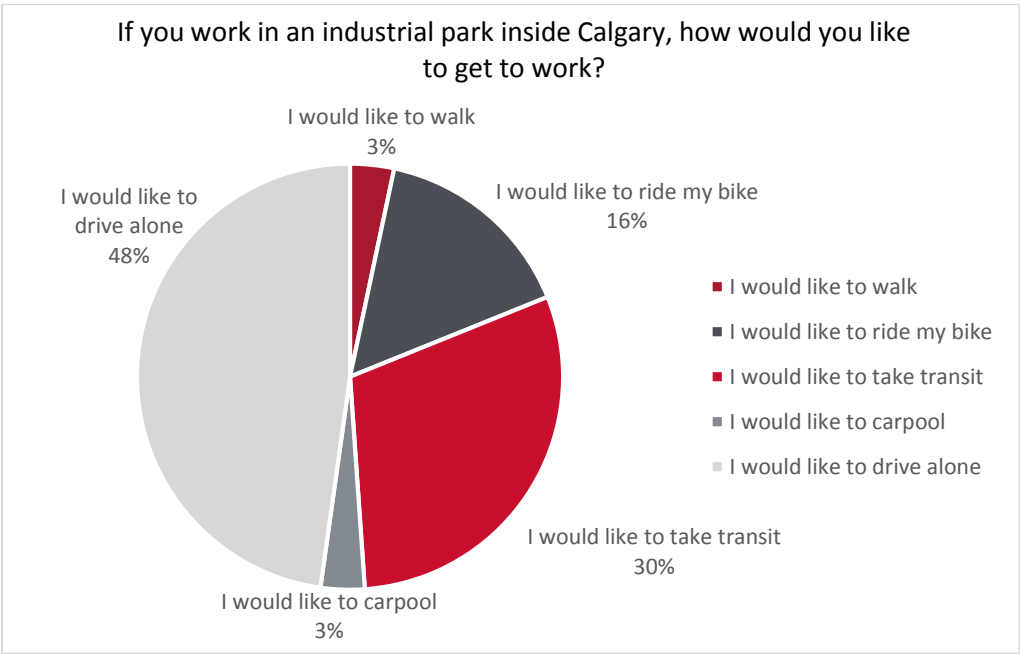




The two charts below represent feedback from the Truck Routes section of the online survey.

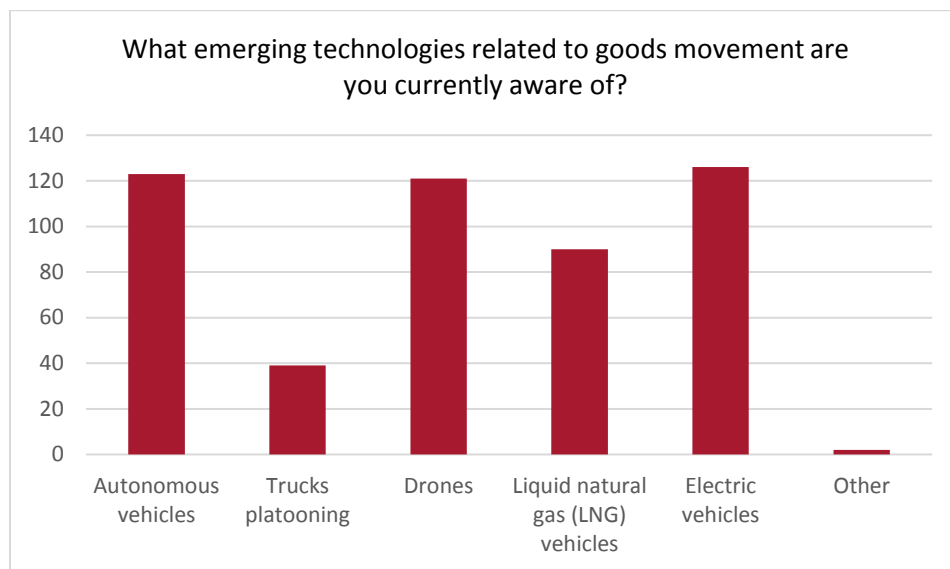


The two charts below represent feedback from the Travelling to Industrial Areas section of the online survey.





The chart below represents the feedback from the Emerging Technologies section of the online survey.



### Verbatim Comments

The comments below were submitted through our online survey. The only edits were to remove personally identifying information, which is removed with an indication that this has happened.

### When adopting or introducing new technologies, how would you like to see The City prepare for the introduction of new technology to our transportation network? (From the online form)

- Look at what other cities are doing. We're not so unique!
- allow for roads specific to these types of vehicles to encourage their use
- leave space in our minds and physical world for things we have yet to imagine. unlike how the c-train and major roads were first conceived for our city.
- Marketing strategy
- Be sure these technologies don't make the roads any more dangerous for pedestrians and cyclists - especially in downtown areas.
- Lead the way. Make Calgary the "flagship" and testing ground for the technology. Amazon's hq2 was a perfect example of how far behind the Calgary is.
- Unfortunately, regulation
- Prepare in theory and only implement when something is like to come to fruition in a projects design life.
- I would like a progressive city which explores all new technology as potential options.
- properly timed streetlights = traffic flow. Reduced Deerfoot bottlenecks = better flow
- Pay as you go bike like the one in Miami
- Test first and if it's deemed safe then go right ahead. Just be confident its safe.

- Public consultation to see if people support it
- I would like to see the city on the front of technology and not waiting till other cities change to see how we should change
- I'm working in Transport Refrigeration business. I think all food delivery VANs has to be regulated by Health Canada, because right now there is horrible situation (I'm working with all of them) and only very few customers has a food grade box.
- Small test/pilot areas within each city quadrant before adoption
- More input from owner/operators. Don't just impose policy pilot technologies
- Don't hesitate. It is already happening.
- I would like to know where and when these new technologies are to be tested, and to compare side-by-side effectiveness with existing technology. Let's see if the newer would slow down the older.
- Plan new development well
- Educate the public on the changes, post online, do news stories. Gather feedback from the public.
- Like to see a long-term plan for improving facilities in older industrial areas
- Use billboards to tell people about changes, news interviews/programs, info on internet
- The city should set policy that respects the neighbourhood which the trucks drive through. Smaller trucks for the inner city, regardless of the technology. We should not require new retail stores with semi-truck garages in inner city.
- Designated platooning routes and restrictions
- Seek solutions from progressive, similar cities.
- Be a leader in new technology implementation and be a hub for piloting new technologies in Calgary. Attracting more businesses.
- let's be world leaders in allowing new transport technologies working alongside tech companies to integrate new systems into our current network
- I would like them to stop wasting my tax dollars on silly things like this.
- Exhaustive safety review and awareness campaign. Robust liability enforcement for any company involved. No loopholes!
- New technology will allow for better movement of goods and eliminate the number of cars (i.e./drones). The size of roads should also be reduced for better pedestrian connectivity.
- Focus on technologies that limit the impact to the transportation network and consumer.
- Test it exhaustively before unleashing it
- I would like to see some implementation to the new technologies, but not mandatory
- Be proactive - offer solutions
- make some changes to infrastructure before the intro of the new technology. then revise infrastructure as need arises.
- not on the leading (\$\$ bleeding) edge. let other cities do the pilot tests and pay the big costs.

- The City should not pay for any of the above. That is the role of private industry. This includes powering stations (electricity) or LNG stations.
- LNG
- Safety is very important, thus more information about the safety of some of these new technologies would be helpful
- Drones for delivery should be banned as unsafe. Autonomous vehicles limited to specific routes only. i.e. shuttle routes.
- Electric
- Electric vehicles are soooooo much quieter!
- Have 1, 5, 10, and 20 years planning
- Provide infrastructure to attract innovation and research.
- Thorough testing. Public education.
- Let some other community be the test bed.
- Create the infrastructure for electric charging and smart highways
- I want to abolish anything that will drop out of the sky, and restrict and police anything that makes a racket. It's noise and sightline pollution that are the problem, as home is the only sanctified place left for peace.
- Early and often review.
- I believe the Autonomous vehicles should be granted their own lanes. We have all seen computers have an issue of some sort or another. Those vehicles are driven by computers. There is no possible way to guarantee against malfunction.
- Safety for other vehicles and pedestrians
- yes
- Create awareness in public. Pilot test initiative. Gather feedback from citizens.
- Pay closer attention to clearly painting/markings lanes and roadways - this is extremely important for autonomous vehicles' performance. Try engaging Tesla's autopilot on 130th Ave SE right now. Nope. And that's just level 2!
- Get cracking on autonomous vehicle testing
- By accepting the new technology rather than fighting with it (e.g. Uber). Adopt Drones as a preferred solution, as these have no impact on roadways.
- Be an early adopter and open to the new technologies.
- Integrate new technology movement with current movement.

**If there is anything else you would like us to know about goods movement in Calgary please let us know below.**

- Calgary's transportation corridors need to be re-thought along a strategy of prioritizing mass-people-movement / mass transit solutions first, individual cars second. This is the only

solution that increases public usage of public transit and meets environmental goals and accessibility goals, over the long term. As part of this strategy, mass goods movement could utilize the same routes. I.E, if C-train services were offered along current truck routes, and automated trucks were part of the plan... why could an automated cargo platform not be hauled on the same route?

- Get more trucks to use Stoney!!!!!!
- Large trucks during rush hour are a major pain. It would be great if there were restrictions for when they could deliver goods (between 9am & 3pm, then again between 7 & 10 pm, for example).
- Good step to create more awareness. I had no idea it was such a large segment of the economy:
- I don't have a choice if I can drive into the industrial park. My job requires me to drive and I don't have any alternative options. I also suggest better education about access and detours for the partial roads closures.
- for the signal timing adjustments - red for vehicles and red for trucks to clear the intersection
- HOV lanes, dedicated truck routes, raise speed limit, photo radar is a cash grab. Increase police presence for safety.
- Don't design roads for large trucks. Fit the trucks to the neighbourhood not the other way around
- More heavy traffic restrictions and designated routes where trucking interfaces with residential (i.e. Westwinds, restricting Castleridge Blvd to residential traffic, routing trucks through 43rd St to McKnight) Better enforcement of trucks in residential areas when not making deliveries to the areas
- Current plans.
- our road network is very poor, way too many traffic jams for the size of our city and an incomprehensible desire to obstruct traffic flow (the city calls it "managing") we should be doing everything we can to get vehicles off the road since a complete redesign of our roads is impractical
- The current situation of allowing neighbourhood shopping areas without any designated loading zones leads to trucks blocking large parts of the parking areas in these shopping areas making it unsafe and inconvenient for pedestrians' cyclists and drivers.
- Keep regulations from piling up. Every new regulation is an added cost and time expense for shippers which will inevitably be passed along to consumers.
- Do not have industrial near adjacent neighbourhoods. Keep the industrial away.
- I also have a concern about possible job loss due to alternative delivery methods
- Can we LIMIT THE USE OF BACKUP BEEPERS? Companies should be using white noise backup alarms anyway. Beepers are ineffective for their intended purpose and are very disruptive to anyone nearby. If beepers were banned then I would have no issue with deliveries occurring overnight or in early mornings.
- Roll it out smartly. Don't just throw it on people, as you'll find out in the next election.

- Restrict trains travelling through town during rush hours. In my opinion, this would solve more traffic issues than everything else mentioned in this survey.
- Restricted hours of truck operation at night in downtown. Less regular truck traffic on routes that serve communities and have many pedestrians. Poor facilities and circulation for pedestrians and people with disabilities in all of Calgary industrial areas. Consideration for smaller delivery vehicles (as opposed to a 53' trailer) to be used downtown and in neighbourhoods. City should pilot the use of electric vehicles or autonomous vehicles in its fleet and be an early adopter.
- Reduce truck traffic on 16th Ave NW. Perhaps make 16th Ave between Russet Rd NE and Deerfoot not accessible for trucks. Will push trucks onto ring road as intended instead of cutting through inner city with high particulate exhaust pollution, noise pollution and traffic congestion.
- There's an economy of scale in all examples, but people need to somehow understand that something like a corner store, or pub, or community hall, that also happens to do things like accept packages for locals, give kids a place to hang out, needs to be allowed in zoning and needs to be accepted in older communities. I also compare to the monster community centres built in every new community; sure, they're nice for things like arenas and pools that require the investment, but you need something smaller and more intimate spread thinly. Community mailboxes fail because nobody wants to be there; too unfriendly, too inhuman, too impersonal.
- Bicycle traffic should not be allowed to crowd or hinder commercial truck traffic (going 15-20kph in a 60kph zone). The 2 (shouldn't) even be allowed on the same roads. A cyclist can stop in a matter of feet, where a loaded commercial truck cannot.
- No Semis on 16th Ave too much stop start.
- Truck only lanes could unnecessarily impede traffic flow for all users, and distinguishing what qualifies is going to be a slippery slope (a Canada post truck? What about their little vans? What about an electrician's van then? And a soccer moms van too??) But really, I think we should open parcel delivery up to Uber-style drivers. Oh, the efficiency!!
- Please mandate a "trucks restricted to right lane only" bylaw for major arteries in Calgary (Deerfoot, Stoney), and enforce it! It's time to put an end to big rigs hogging the middle lanes and ripping down the fast lane in rush hour traffic.
- Do not make road rules more complicated as a result of any of these efforts.
- Calgary needs a better system of managing its roadways. Better snow clearing, better cleaning and better clearing / reopening of roads closed due to accidents.
- Support digital signs to instruct drivers on quickest routes through the city.
- Location of street signs can be challenging to see, can they put them on traffic signals?
- Use bus only lanes to merge
- Snow clearing compounds, can they be aligned with types of vehicles on them?
- Don't rely on Bluetooth for triggering traffic signals and timing signs, be careful about where the sensors are placed (speed zones)
- Avoid yields for trucks, hard to get going if fully loaded
- Upgrade the traffic signal technology, better synchronization



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- Use pantel zoom cameras

## Advisory Groups

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### What we asked

We asked our advisory group members where their areas of concern with Calgary's transportation network are. They were also asked about existing and potential connections to communities and developments surrounding Calgary. This was done using maps of Calgary and the surrounding region, which stakeholders marked up with their concerns regarding our transportation network and potential new developments. These maps are shown below, starting on page 31.

### What we heard

There were common elements through all our discussions with our advisory groups. They have recommended that The City maintain dialogue with industry and other partners regularly after the project has been completed. They would like to see more public education regarding the importance of the goods movement industry to Calgary's overall economy. Lastly, they see a need for more deliberate strategic planning of future developments when at the land use planning stage, to ensure that the needs of the transportation industry are accommodated.

The Strategic Advisory Group discussions focused on strategic future planning, land use protection, land use zoning and policies, both land use and transportation, that are flexible enough to manage today's needs but also look to the future needs for goods movement.

The Operational Advisory Group discussions focused on how goods flow through Calgary and how infrastructure changes can alleviate traffic congestions. They also said that improved data sharing on things like safety issues, routes used by industry, policy changes are necessary between industry and The City of Calgary.

Our discussions with the Regional Advisory Group focused on consistent routes for goods movement, appropriate infrastructure connections for moving goods and collaboration on future developments.

### Summary of input

| Operational Advisory Group  |   |
|---|---|
| Themes  | Verbatim comments from stakeholders   |
| Industry changes are coming with advances in technologies, will need to work with The City to build infrastructure and/or to implement the use of new technologies. | <ul style="list-style-type: none"><li>• Platoons – next iteration of automation, will need cooperation on roads to test platooning and timing with City of Calgary and Province. Would have a driver in every unit.</li></ul> |
| Work with industry for effective and efficient route and infrastructure planning.   | <ul style="list-style-type: none"><li>• Increasing opportunities to use Stoney Trail will help alleviate Deerfoot Trail problems, but need to</li></ul>   |

|  |  |
|--|--|
|  | provide adequate access points and connections to industrial areas.  |
| Policy changes and traffic congestion for goods movement with changes in shopping patterns.                        | <ul style="list-style-type: none"> <li>...e-commerce – Chef's plate, Amazon. &lt;redacted due to personally identifying comment&gt; It is going to change the goods movement pattern. That is residential home delivery. The truck volume is going to increase on truck routes because there are going to be more smaller trucks (5-tonnes). China is starting to do more drop zones. Is stuff going to be delivered to your home or to a more drop zone?</li> </ul> |
| <b>Strategic Advisory Group</b>  |  |
| <b>Themes</b>  | <b>Verbatim comments from stakeholders</b>   |
| Long-term/strategic thinking around development and the transportation network in Calgary 30+ years in the future. | <ul style="list-style-type: none"> <li>Need to be aware of whether the changes we're making are sustainable/environmentally friendly, especially if more vehicles on the road</li> </ul>   |
| Protection of infrastructure and corridors for goods movement.   | <ul style="list-style-type: none"> <li>new policies should include guidelines to protect corridors/routes, way to keep traffic moving (designated lanes, speed limits etc.).</li> </ul>  |
| Potential policy and bylaw changes.  | <ul style="list-style-type: none"> <li>designated lanes for carpooling or trucks possibly during certain hours of the day.</li> </ul>  |
| <b>Regional Advisory Group</b>   |  |
| <b>Themes</b>  | <b>Verbatim comments from stakeholders</b>   |
| Importance of infrastructure connections   | <ul style="list-style-type: none"> <li>Heavy commodities have a large impact on the roads, especially once off-loaded from rail onto truck.</li> <li>Land development is contingent upon water servicing to the area. Once water is in development will start in earnest. Sites are serviced, but they need water.</li> </ul>  |

### Verbatim Comments

The comments below were captured at meetings by our recorders in response to the questions we asked stakeholders. No edits have been made unless there was personally identifying information, they are removed with an indication that this has happened.

#### Advisory Groups (October 2017)

- might be more drones than couriers making deliveries, or robots
- Calgary's population bigger (100k's bigger)
- more land use (in & out of City) so more to move around



- what corridors will we need to get around?
- congestion will be worse, more cars competing with trucks, more bottlenecks
- tougher world for goods movement in established areas and newly developed areas
  - this is a negative impact on Calgary's competitive edge
- all of Deerfoot trail could become congested, would need new corridors
- warehouses moving because areas are too congested for them to navigate by truck
- technology changes will come
- the way things are moving around the world is changing
- how do we live if we stay in Scenario 1 (we stay the same) and the rest of the world is in Scenario 2 (everything is fully automated)?
- off peak/evening deliveries
- we can't deliver changes to the status quo soon enough, we need to catch up (similar to Scenario 3 - constant tweaking to how we do business)
- Scenario 3 isn't government leading, people might be upset about cost and changes being made. Government isn't innovator in change
- cars mixing with trucks on major roads causes congestion
- need to be proactive & intentional about change
- with small changes we'll never catch up, need to think long term, predict and pre-empt.
- some things won't change much long term, others will (Scenario 2) e.g. Deerfoot Trail will still be congested
- adaptability of existing roads (e.g. 5th Ave S lane reversal) seeing an issue and making changes
- designated lanes for carpooling or trucks possibly during certain hours of the day.
- electric vehicles in bus lanes, no charge to park at City lots (we don't know how many we have). Test it out, see if it generates change.
- Need to plan & be proactive - more sustainable vehicles in the future
- slowing down Deerfoot trail to 80km/hr during rush hour could move traffic faster during those times of congestion
- new policies should include guidelines to protect corridors/routes, way to keep traffic moving (designated lanes, speed limits etc.).
- policies should be flexible - corridor could be reserved for trucks and switched to trains when built
- relaxing policies can have negative impact on goods movement (e.g. relaxing AVPA could result in curfews to prevent noise complaints, reducing cargo coming into YYC).
- uncertainty around drones and where they can operate near airport vicinity (decision to be made by Transport Canada). Last mile away from airport
- People need to understand impact of goods movement, which includes truck, train & plane movements
  - people don't understand the connection to the things they buy
- Autonomous vehicles could increase traffic but traffic might move more efficiently as a result of automation

- Need to be aware of whether the changes we're making are sustainable/environmentally friendly, especially if more vehicles on the road
- if we know where we're at currently with GHG we can plan better for the future, make things better, not worse
- limit who can drive into the downtown every day. We used to do this, why wasn't it successful, why is it gone?
- We can choose to stay parallel or we can be a leader. We can be pro-active & learn from the mistakes of others
  - other cities have had difficulties with the public not wanting to support trucks, the public requests money being spent on transit. Traffic continues to choke.
  - Council doesn't know that trucks are there, they support changes for commuters
  - increase awareness of the problem, create understanding amongst decision makers of the issues before (we're) beyond the possibility of fixing it.
- We have important economic assets tied into our transportation network. Fundamental to our future. Need to protect it so that we can manage it. (e.g. homes next to rail, homes next to airports, businesses beside rail lines etc.).
- need to protect economic assets & how they function, don't want them to be choked & leave the city
  - need to tell this story
- bus tour to show decision makers the existing conditions, include industry reps who can tell the story of the impact to them.
- could try to get cars off the roads for truck but need to provide options that reduce need for cars (e.g. placement of work centres, land use planning, transit, residential, etc.).
- e-commerce is bringing new types of traffic
- do a living lab of a goods movement corridor, test different options to see what works and what doesn't. would be visible for the public and decision makers.
- A living lab would show the trade offs between travel modes
- are we looking at when Airdrie, Chestermere & Calgary become a metropolitan area? Will it happen in a thoughtful and planned way? The region needs to plan land-use and transportation together, rather than separate. IF not done in conjunction with each other it won't make sense. City can't plan for the future is they don't know what the region is planning. Growth Management Board might help with this.
- How can we be flexible/nimble/adaptable? (project team question)
- corridor for drones to travel along "building in the air" - plan, develop and protect space.
- mechanisms to stay aware of changed - truck issues, tech changes, the unknown
- Mechanisms to stay connected and talk about changes.
- need to think at a strategic level, try to avoid getting stuck in the trenches. A way to keep having conversations.
- need a way to test things together, experiment together, move forward together
- identify innovations, draw attention to it and tell people about it

- Limit who can drive into the downtown every day. We used to do this, why wasn't it successful, why is it gone?
- what do people outside of the industry think? Focus groups? Citizens View?
- if we protect corridors and make it easier for business to choose Calgary, that would help
- need to know how we fit the national network, each region has its specialty. Boats have priority over rail, rail has priority over trucks according to the Constitution.
- without transportation and logistics sector the most recent downturn would have been worse
- who is best positioned to make changes? (project team question)
- industry and government together - share ownership of maintaining or improving
- need to move things forward in sync
- business will create innovation, not government
- let everyone along the chain know because they can impact their piece of the bigger picture
- need stakeholders to continue to create awareness of the Strategy and champion it going forward.
- More drones making delivery. Robots driving down the road.
- Status quo: I am reminded by a folk song. The more things change the more things stay the same. Calgary would grow a lot bigger. A whole lot more land use, and not all of that land use is in the City. 20 years from now, were would all of this additional activity happening, so what corridors are required? If 20 years from now, cars hop on Deerfoot – cars will be competing even more with trucks. Congestion will be even worse. The structure of the City won't change. Goods movement traffic should compete on the roads... it gets more choked. Business as usual – tougher world for goods movement. Then the question is what direction does the growth go out to? I actually think goods movement... It becomes too congested for everyone. It is bad for the competitive edge.
- I would concur with that – the Deerfoot would compete with the 401. Businesses would have to move out to the periphery. How do you get deliveries in? But you already see some of that, e.g. Safeway in Manchester, neighbourhood could build around it. More safety issues.
- The way things move around the world are changing... change the way the goods move around the world. How do you live with scenario 1 if the world has shifted to scenario 2?
- With self-driving cars, there are opportunities for deliveries outside of the human delivery schedule, they would have the whole free reign of the road.
- Scenario 2 is happening – it creates some solutions to scenario 1. But it creates some changes that we need to deliver that we can't do fast enough. The best of Scenario 2 is part of the solution. The worst of scenario 2 confounds the problem. Part of it is complementary.
- Scenario 3 – I don't believe that the City will lead in goods movement. At best, we will be behind and dragging along. This project is the first in 20 years. There will be soft incremental changes – there will be incremental. It won't be the government leading. My sense as a government guy, it is going to be first the industry that is touch with what will be changing. They will signal. Government are not paid to be innovators. There won't be soft changes. We see the conflict .... Driving up down Stoney Trail – bumper to bumper. That

section is crawling bumper to bumper. It just gets more congested for. Stoney Trail just a corridor in the middle. The responses have to be smart and proactive.

- The small incremental options are not an option. We will never catch up. We need to predict and pre-empt.
- When I started working for the City in the 70s, I remember the view driving into the City. I used to think back then how things will have changed in 20 years. But it is that way today. As much of scenario will not change. Some things will not change all that much, like where people live. The fact is, my commute is my 40-year old commute. We need to think beyond the status. Scenario 2 will push.
- How do we build the flexibility in terms of how we wrestle with this emerging situation so we can get in front of that? We won't have the solutions 30-years from now.
- The adaptability ... the ability of roads to adapt. What infrastructure is already there to use in a different way. E.g. reversing the flow of 5th Avenue.
- What should we do?
- We have to be adaptable. We can designate lanes for big trucks. For carpools. These are things that we are doing right now. We have the ring road designated lane. I think that there is some logical stuff that we could be doing.
- I know in some countries we allow electric vehicles to drive in the park lane. Vehicles are incentivized to "go green". Would it push sales of electric vehicles? Europe was very proactive in putting in charging station. These are something that we can take a lead in. These are some things where we can do something ahead of time.
- There are studies where slowing down Deerfoot (variable speed limits). There is a study going on right now. We are looking at some of the intelligent transportation system options that we could look at.
- Two main things. We need to have policies in place to protect for drones. We need to have policies in place to protect policies or routes. We protect those corridors otherwise it becomes extremely costly to build. If you can protect for those corridors, being flexible, whether is a road corridor or rail corridor.
- We were talking a lot last week about Stapleton in Denver – it forced the airport to move. But it is happening in Calgary. I have talked about it before the AVPA – the province wanting to relax the AVPA. You will get more noise complaints. The cargo will move. Cargo alone is \$500 million and 5% of GDP. If you move out. You want to protect those things. A lot of the piece is educational – you might hear the noise. But do you know that your neighbor works there?
- We don't know where TC will take a stand on drones. We can't have any drones operate in the airport area. So, the drones couldn't operate in the airspace. (Implication being that goods would still need to be trucked from the airport to a DC...)
- I think that all of the pieces that we are talking about, we need to raise the profile of goods movement.
- The educational piece is huge. There is a huge disconnect between the ordering goods online and trucks showing up...
- There may be more trucks and but they are autonomous... maybe the trucks flow better.
- How is Calgary going to adapt?

- We are not really connected on a system dynamics model. But that gives us the possibility for the City to be proactive.
- I am jumping between the thoughts – the second one. Going forward, trucking is going to increase. We need to look at the infrastructure there. Are we making it a sustainable model for more passenger and freight. Asthma, quality of life... will we have to shut down offices (like in other heavily congested cities). Can we plan for that? We need to look for a sustainable model for transportation. Has there been a concerted effort to look at quantification of greenhouse gas emissions? I saw an AT report from 2003, but it was just an estimate (from GHG). Calgary is just ... Edmonton has finer detail. Sustainability has some finer details.
- The elsewhere is largely in Europe. Antwerp used robots to move goods 20-years.
- Encouraging smart vehicles... if I can save that parking cost I might consider a smart vehicle.
- I had a flashback to the Calgary Sun – if your license plate ended in a certain number you could drive into the City. I am wondering if somewhere on a dusty shelf, why did it work? France has been using it. Different countries experiment with it. In Ecuador, some days you couldn't use that work.
- I think the key point is that we can choose to be proactive. We can choose to be proactive, even if other cities are not doing it.
- Other cities may not do it, not because they don't want to do it. Some of the truckers in Vancouver were going nuts. Part of the objective when part of the money was going to trucks from a special tax levy, but mayors (?) wanted the money to go to transit. So part of the challenge is political. Transit versus goods movement. The challenge is that we can get into a gridlock in your thinking. You know that the obstacle is too big to move.
- Council doesn't know that you are there. And the people that have the problem – trucks – are businesses. The lesson from Vancouver is that you can't do something once its too late.
- How do you bring the awareness to the decision-makers? The logistics community doesn't step and say that you are there. This is the first big opportunity for the logistics industry to "show up". We can see the signs that things are not doing well. How to elevate the education and awareness.
- One thing – there are some really important economic assets that are connected in the transportation system – they are about jobs/revenue/etc. Airports, etc. These assets are really fundamental to our future. How do you manage this infrastructure to get the best assets? We build houses right up against railroads, and give up uses for commercial. That is a concern in Springbank. The story is that if we want economic security. We need to take care of assets that take care of economic activity.
- When they start to choke, we need to do some innovative things how to get better useful of infrastructure. We need to get political support to do some of these things.
- Maybe it is a bus tour of council – during rush hour – to show some of the goods movement infrastructure.
- Is there something from the industry that could go with you to show the issues and lend more credibility. That is important.
- We can try to do things to get cars off the road to make way for trucks... The ways that you get cars off the road is to provide other types of options. Part of the issue is that most of our jobs is on the west and two-thirds of the jobs are on the east.

- How do you stop reinforcing the same land use patterns?
- What technologies will work for us and what works against?
- However, in the future, there won't be less traffic, but more trucks coming to my door.
- My study on Deerfoot – could we do a pilot – what are everything we could do to try to do a pilot of different technologies. Make it visible.
- Deerfoot – most of the traffic is commuter. We are looking a number of options that we are vetting.
- Do you think you will show an integration of the strategies? And the trade-off that is needed. Will you show a practical example, that would be pretty cool.
- Airdrie and Calgary are very close. Nobody is talking about amalgamation. They are talking about filling in the gaps.
- We are talking about a transportation plan marrying with a land-use plan – that needs to be married a regional scale. One of the first tasks of the new growth management board will need to a growth plan that is married with a transportation plan. The last couple of iterations is to try to marry the two plans in the next couple of iterations. Stoney Trail is a corridor will load from both sides.
- A great recommendation of this study would be to recommend a proper land-use and transportation plan at the regional plan.
- The City can't talk about land use outside of the jurisdiction. Calgary has to plan for that land use. My sympathies for the City.... They need to connect to the City to what is happening in the region.
- I am not sure if you are aware, there is a north Calgary plan, they will be retaining a consultant to retain a consultant to review transportation plan.
- How does Calgary position itself?
- Build off (redacted) idea – drones. How do you plan for drones? Planning for building in the air.
- How do you deal with conflicting views on the same thing? If you protect for this. How do you manage the view points?
  - Need to have some thoughtful mechanisms to keep awareness for what is going on. What are mechanisms to keep awareness for issues and communicating and keeping people aware.
  - There are mechanisms that we should put in place -- what is a good idea or bad idea? There need to be ways to have forums for friendly discussion.
    - Need mechanisms to be nimble and quick to respond.
    - Need mechanisms to respond to think strategic level. It may mean someone hosting semi-annual conferences that keep thinking strategic.
  - Mechanisms to experiment forward together – lets try a truck lane over here. Let's measure it, try it, and see it over there. Experiment forward together.
  - It would be great to recognize local leadership. E.g. a company that is switching to a different type of fuel. A way to publicize and celebrate innovation. And it could be something from the City. There are leaders in innovation.
  - It would be really neat to create a criteria whether a thing, whether reducing the AVPA reduces our well-being or increases our well-being. The proposed change, how does that strengthen or weaken

our assets. Understand clearly what criteria can be used to evaluate options. Need a consistent criteria.

- Have we talked to people outside of the industry? We sometimes get the best ideas from someone else from outside of the community. We are planning to do a targeted stakeholder engagement.
- What about focus groups of the public that might be interested in the topic. That could be the next step...
- Just speaking on experience from the Deerfoot trail study – we got way more input from the online surveys. We are looking at doing the open houses at places at locations where people will go to.
- How would things go on in the 4th scenario?
- The idea of the inland port – what happens when Vancouver is more expensive? How do you attract that business? You need to have the corridors that are protected and accessible.
- What happens when no one can afford to live and build here. Do we have any say? How do we fit in with the network across the country? We are one piece as part of a constitution. We don't realize how much priority. We don't really think about how we interact.
- Ships have priority over rail over trucks.
- Can we have a conversation with CED, or Calgary Logistics Council, or? for an hour? Another thing you could consider with the whole public strategy – if we didn't have the transportation and logistics sector, we wouldn't have survived the downturn in oil and gas.
- That's where you are going to get your future ideas...
- Who is best place to initiate changes to make these forward? My ideal scenario where they all bring together.
- How do show the benefits of working together? The management of local roads, land use, etc. is municipalities. Each part is going to keep jurisdiction. How do we move forward in sync? The business guys are going to do innovation in their own areas. Participants won't give that group – reference to a possible council -- authority to make decisions. Need to give the group the indication that things could get worse before they get better. The leadership has to come from the organizations themselves.
- In June I was in Ottawa, I was meeting with TC and a few MPs. There are people in decision-making areas that need to be kept in the loop/being in the bandwagon.
- This report is a threshold event. That is the best thing that has happened in 20-years. But it is going to go into an environment that it is set up to not be receptive to it. Need people to co-own the report. It is not like it is going to win an award it comes out. This is our best chance to put something together.
- Southwest quadrant of Calgary
- HWY 8 and Sarcree Trail intersection
- What are the changes?
- We don't know how it will be improved or how it will work
- Bottleneck on HWY 8 between Crowchild Trail and Macleod Trail
- People are trying to merge and access ramps
- The volume of traffic is heavy on HWY 8, so there is a merge and weave problem in this section
- Trucks take 8 to 22 then to 16 (Highway 1)



- For me the interchange at Sarcee and Glenmore. This turn --- watching trucks trying to make this corner – trucks really struggle to make this turn. Then you have to merge back onto Glenmore (double to single lane). Everyone cuts off the trucks coming onto to Glenmore trying to merge. Then the speed limit slows down going west. It is a single lane on Glenmore... there is no shoulder or passing lane.
- Highway 22 is only single lane, but it is 100 km/h. The ring road is going to help, but people are going to avoid 16th Avenue.
- Coming down Deerfoot, then use Bow Bottom to cut over to Macleod. They use Bow Bottom more. They do use Anderson. Trying to get down to SW part of the city
- The area outside of the Ikea on Deerfoot. There is a bottleneck as you get to the bridge, then it is free flowing.
- Glenmore is always an issue from Deerfoot west
- There are not many trucks on Sarcee. I tend to see a lot more food deliveries going up to (e.g.) Sobeys.
- There are not a ton of trucks on 14th Street SW. Coming out of those neighbourhoods it is slow in the morning (with commuters...)
- Really bad on Glenmore just east of Crowchild trying to get onto Crowchild
- Trucks come up Sarcee to serve residential area
- So many lights on 16th Ave!
- The southside on Deerfoot is a “creeper” – it will slowly creep up in terms of volumes.
- Northwest quadrant of Calgary
- Deerfoot Trail between Memorial Drive and 32 Ave is bad at night, due to the volume of traffic going north during the pm rush hour
- Cannot widen Deerfoot Trail, but a study is looking at long & short-term solutions
- There are weaving issues on Deerfoot Trail – The worst is at Bow Bottom Trail. Weaving at Memorial Dr, McKnight Blvd, and Beddington Tr are bad too.
- At McKnight Blvd traffic bottlenecks because of the volume off of McKnight Blvd going north and people wanting to go onto Beddington Tr
- HWY 1 is a problem coming from the east because of all the traffic signals. The perception is that Stoney Trail is the long way around.
- Signs telling you the time it takes to get to key intersections/roads is helpful, and they’re accurate (e.g. signs along HWY 1, Deerfoot Tr and 17 Avenue S.E.)
- The time of day matters, and traffic volume on Deerfoot Tr
- What is the time savings of taking Stoney Tr versus HWY 1 or Glenmore Trail? Would be helpful to share this information with commercial drivers
- Signal timing near aggregate pits is a challenge, people don’t want trucks there
- 100’s of trucks in the area during construction season.
- Getting in and out is a challenge at Country Hills Blvd and 112 Ave NW

- Where there is residential and retail, it takes trucks longer to move through an intersection, there are now designated truck turning lanes
- Would like more signals specifically for trucks turning
- Need to educate the public about truck turning lanes and signals
- Pits will be there for 20 years, need to keep people happy and keep trucks moving
- There is a lot of industrial activity going on near Memorial and Deerfoot (just east). Parmalat's second largest fluid production. 200 trucks per day. Also Calgary Herald and GFS.
- I would avoid Deerfoot or 16th Avenue like the plague.
- There is a traffic jam on Deerfoot as you come north to Beddington. The province has extended the acceleration/deceleration lane in this area... (Note: it was possibly referring to the area just to the North).
- Issue coming WB from Stoney then going NB on Deerfoot then turning onto to road to Balzac. Ramp Stoney to Deerfoot – double down to single lane.
- Can we do anything for Deerfoot? Not sure if we can do anything. Wonder about HOV lanes.
- The Americans plan more for lane change.
- The airport is a city in a city...
- There will have to be a passenger link to Edmonton – a lot of Edmontonians come down from Edmonton. There needs to be a passenger (rail) link to Edmonton. There has to be an LRT connection to the airport. Anything that could take passenger vehicle traffic.
- Built a children's playground around the airport. The only way to get in there is on 64th Avenue.
- There is a good link around the airport.
- The Bowness Issues. You are talking about the types of land use around the area.
- All of the interchanges on Stoney are all big enough.
- I have seen some issues leading up to Deerfoot on Stoney Trail.
- People forget that Calgary supports Alberta, Saskatchewan and the BC interior.
- Downtown Calgary
- Big trucks don't go downtown
- Deliveries are scheduled with customers, relationships with dock masters and security help with loading zone timing and allowing them to stay longer (social engineering aspect)
- Businesses are not happy with construction road closures (e.g. 17 Ave S.W. – no issues getting in and out of this area for trucks)
- "Not really experiencing loading zone issues · Pick-ups are not in the downtown, typically picking-up at the airport. Drop-offs are mainly in the downtown and are pre-scheduled. Most downtown pick-ups that happen are fashion related."
- Pick-ups are not in the downtown, typically picking-up at the airport. Drop-offs are mainly in the downtown and are pre-scheduled. Most downtown pick-ups that happen are fashion related.
- Sysco and GFS would be about to outline any issues in this area.

- Restaurants don't have docks but shopping centers do, so loading isn't as much of an issue for shopping centers.
- Memorial Dr and 4 Ave flyover works well
- You don't take away traditional roads to build the bike lane
- The Ogden turn off is awful. There is a whole bunch of bulk/industrial traffic. There are laydown yards. People try to get into downtown from there.
- Very congested, tight radii. However, it a lot of flat decks. Even getting five-tonne trucks in around there is a challenge
- 17th Avenue in its entirety is a write off for trucks.
- Memorial is OK during rush hour because they do a lane swap. But you have to watch the size of the vehicle going down there – need to watch the height limits there. The newer trucks are too high – need to order specific smaller trucks.
- The biggest complaint I have heard about downtown, it is hard to get down some of the alleys to the loading dock. It is how they are creating the receiving down in the big build. There are also buildings by the university where you have to park and pallet jack them in.
- We are using 1-tons, but they are Asian designed so don't work well in the snow due to clearances between the tire and the vehicle.
- There is not a lot of support from the West into Downtown – probably because most of the services come from the East.
- Memorial is pretty good from the West into downtown.
- Memorial Deerfoot interchange. With the trains. Memorial onto Deerfoot turn is brutal. There is a yield sign there ... not a merge. That is a Calgary thing. The intersection itself is complicated.
- All of 16th Avenue is a pain but it is passenger traffic. It is supposed to be the number 1 highway
- The bike lanes downtown – takes away the parking. Can't even find an area to park and pallet in. It is slowing our business down there.
- Northeast quadrant of Calgary
- Stoney Trail and Country Hills Blvd interchange is bad because it's a cow trail. This is the best way for trucks to get to the airport, and the most logical.
  - o If you miss it need to take Metis Tr or 96 Ave, it's too windy and not direct
  - o Not many improvements because of future development
  - o Poor to no signage directing you to the airport from here. Need better signage!
- Encourage drivers to use Stoney Tr to get to the airport, or to get north to go to Edmonton
- Need logical access to the airport from Stoney Tr. Stoney Tr and Country Hills Blvd is most logical, but it's a terrible connection.
- Access to Conrich is awful for vehicles, Heavy truck traffic.
- Not a lot of negativity around CP, don't hear drivers complain about it.
- Once Glenmore Trail is done, access to Highfield will be good.

- Need to stop at 52 St and Glenmore Tr for traffic signal. Doesn't work well.
- Service centers (fuel, scales, rest stops) along Stoney Tr would take pressure off other routes and attract truckers to this route.
- Truck traffic coming in goes to depots to be split, what does it look like once trucks leave the depot.
- (redacted) is 80%+ long chain vehicles coming in and being split at their facilities in Calgary
- Coming off Stoney onto 16th Avenue. It's a three-lane race to get onto two lanes.
- Through the tunnel there is a little single lane road... there is not connection.
- 16th Avenue and Deerfoot – all this truck traffic
- Rainbow road up to the CN intermodal yard, some trucks coming North on that road.
- Stoney OK, only time it gets dicey is when it is down to one (?) lane.
- Driving NB on Stoney south of 16th Ave an issue – only two lanes
- The trick is having too many junctions to get onto the Stoney. Have to be careful not to have too many. Metis Trail onto Stoney – not great. More residential. Some confusing....
- What are they going to do with the area North of Calgary – Asian mall.
- Chestermere wanting to annex some land due to development east of Calgary
- Southeast quadrant of Calgary
- Bow Bottom Tr at Deerfoot Tr are, this is the biggest issue
- Stoney Tr and 61 Ave S.E. needs access from north and south, currently this access doesn't exist to and from Stoney Tr. Just carries traffic from 84 St S.E. traffic eastbound. Industrial access is required.
- Peigan Trail needs to be twinned between Deerfoot Tr and Stoney Tr because it's too narrow. The two-lane section is good, close to Stoney Tr.
- Peigan Tr and 52 St is a big intersection. Truck drivers go through on yellow and red lights because of the signal timing.
- Glenmore Tr and 100 St access plan is good.
- Glenmore Tr and 52 St is bad.
- 114 Ave S.E. is poor because of traffic volumes. There is an unknown construction project happening here, there are new lights at the Canadian Tire so now there are too many lights.
- 52 St has too many lights.
- Not setup to use Stoney Tr to its maximum potential due to lack of access and roads connecting have too many lights.
- It's easy to get around by cars, the challenge is access to industrial parks is lacking.
- People aren't getting up to speed when merging at Stoney Tr and 17 Ave S.E. It slows down traffic during rush hour.
- We have asked CPS to do radar for slow moving traffic that is creating hazardous conditions.
- Southeast Stoney Tr drivers are not getting up to speed, they are driving 70-80 km/hr. This is regular traffic not trucks.
- Most truck traffic is along southeast portion of Stoney Tr because of industrial areas

- East Shepard
- Glenmore just west of Stoney busier than showing on the GPS. People using 52nd Street SE to access residential zone in the south.
- It is a single lane down there.
- There is good flow going Stoney to South on Deerfoot – not so bad.
- Reference to Glenmore overpass, they are fixing this – this is Glenmore over the bridge.
- This interchange Barlow and Deerfoot. There is a lot of industrial development North on Barlow.
- Now that we have fixed the overpass on Glenmore, we are going to start to have problems to the east. The Glenmore corridor on the east end is going to be the next issue due to Calgary and Rocky View development. Really congested with trucks trying to get onto to Stoney.
- Problem is residential at the south end.
- 52nd Street Corridor a problem. There is a couple at-grade crossings (reference to the crossings of the CN lines). Residential coming up. Tractor trailers competing with Versa's. When you get up to 17th it is really slowing down. There is a truck stop. There are railway tracks, residential, truck stops, a lot of long established industrial. All of the rail pieces in this section.
- Deerfoot from Barlow to Glenmore a problem – really congested with commuter traffic and two lanes.
- When there are major accidents on the Deerfoot, then have to circle around.
- Not sure what you are going to with Blackfoot. Should let people know to get into the right-hand lane to get down to Ogden.
- Miscellaneous feedback
- Would like to see what the alignment is between TIIPS/Investing in Mobility and projects identified by industry.
- Increasing opportunities to use Stoney Tr will help alleviate Deerfoot Tr problems, but need to provide adequate access points and connections to industrial areas.
- Increasing Stoney Tr to 3 lanes in more areas might help increase truck traffic.
- Stoney Tr is a really bumpy road surface, the pavement has heaved.
- Winter road maintenance is terrible at major intersections, in part because of our varied weather
- Signage probably won't be as big of issue in 10 years because of technology. But there are still glitches with the technology.
- For me, e-commerce – Chef's plate, Amazon. We are flying another plane during the day from Toronto to Calgary – e-commerce deferred freight - full. It is going to change the goods movement pattern. That is residential home delivery. The truck volume is going to increase on truck routes because there are going to be more smaller trucks (5-tonnes). China is starting to do more drop zones. Is stuff going to be delivered to your home or to a more drop zone?
- Buying more stuff online. In the US, can deliver groceries online and get more 30-minute delivery with Amazon prime

- There are four delivery trucks to one area. Intelcomm doing Sunday delivery for Amazon. Now there a frozen meat delivery guy. It is going to disrupt what the goods movement flow.
- Automated vehicle technology is coming – but might be a bit longer in Canada. If we have ride sharing and uberization of freight. That will reduce the number of trucks
- Going to see more depots and drop zones. The big couriers only have one depot. We are going to run out of space. We have thought of having a second satellite station, but it is costly.
- Going to have smaller hubs and spokes. Toronto has 20 Fedex hub and spoke methods.
- We support Alberta from Red Deer south. Lethbridge is doing growth, Medicine Hat. We tried to get north of the border.
- Smaller hub and spoke. Need drop zones within residential areas. Can see companies push you deliver to this area and then pick it up. We haven't really thought about the supply chain implications.
- We are going to see long hours for residential deliveries.
- Talking more and more about electric vehicles – we are going to have more electric. More on the passenger car side (freight technology isn't there). Need more charging stations.
- Uberization of freight – usually would dispatch one courier – would be ordinary people that pick-up parcels for one package. What if I could pick up one load. That is purely a ground service. If I could get something on a personal service level to pick up my groceries. The baby boomers can afford it. Loblaws – click and go
- Analogy for the milk man – big brother. (The milk man would know your order from week to week).
- Might call for changes in the truck routes.
- Are going to see more truck traffic into the residential areas.
- Priorities
- Signage displaying travel times to key locations.
  - o Can we develop an app that does this as well?
  - o Possibly use the traffic radio station for this?
- Truck route map/Non-infrastructure exercise
- Is calling HWY 1 a truck route through Calgary appropriate? Trucks going through a business district, no logical access through here. Stoney Tr is a better option than HWY 1.
- Could restrict to 3 or 4 axel trucks, possibly other restrictions. Maybe no 5 axel trucks between Stoney Tr and Deerfoot Tr.
- If going to Vancouver or BC makes more sense to use Stoney Tr to travel through Calgary.
- Need to do further study before implementing something like this.
- Mixed road designations cause confusion, because trucks are de-prioritized in some sections (e.g. urban boulevard sections).
- North section of Sarcee Tr is an opportunity for an extension of existing truck route.
- Beacon Hill Shopping Centre – northbound traffic can get into the centre, southbound has no left turn to get in Sarcee Tr N.W. between 112 Ave and 128 Ave.



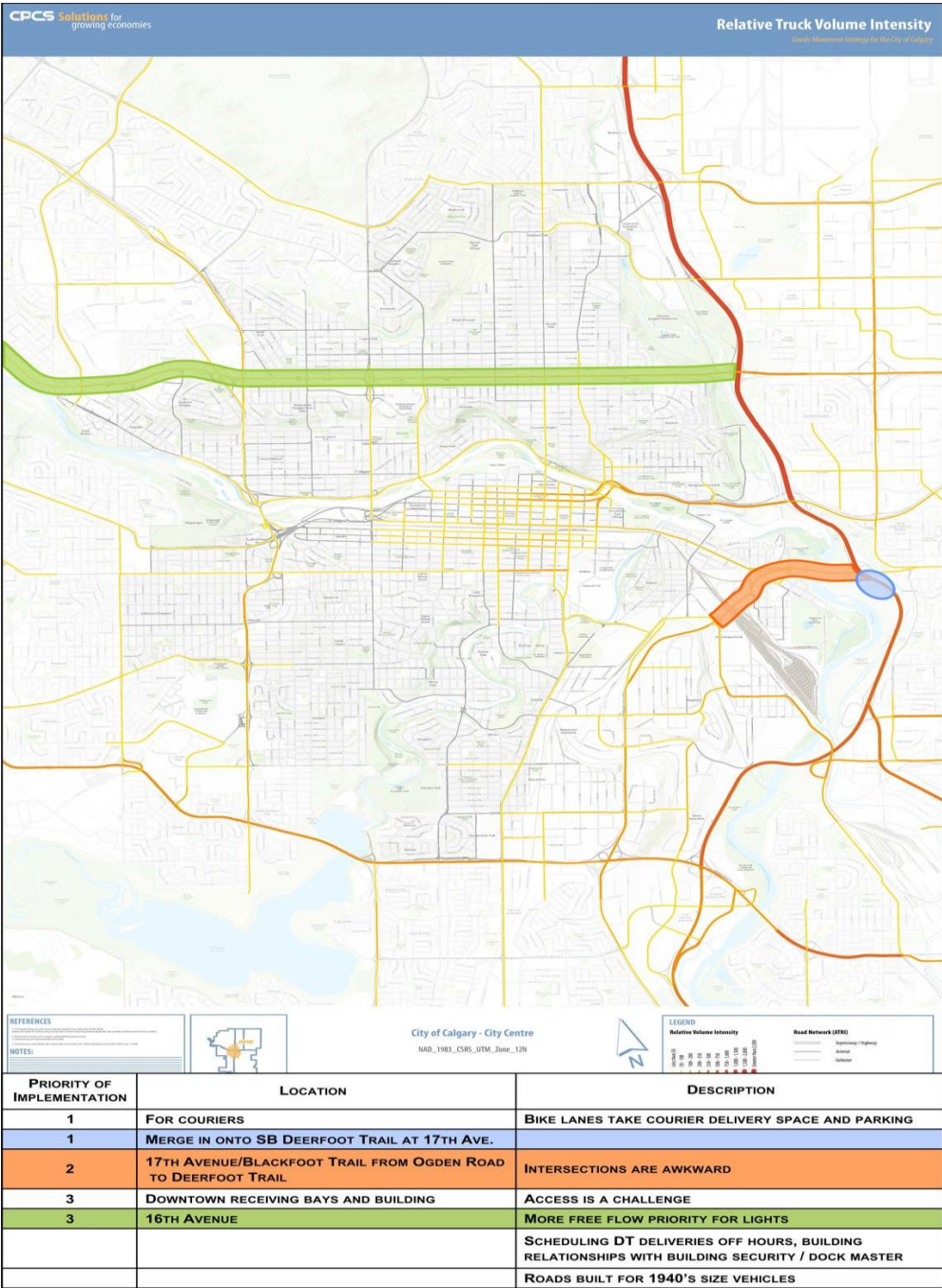
## Goods Movement Strategy

Phase Three Report Back // What we Heard, What we Did  
March 5, 2018

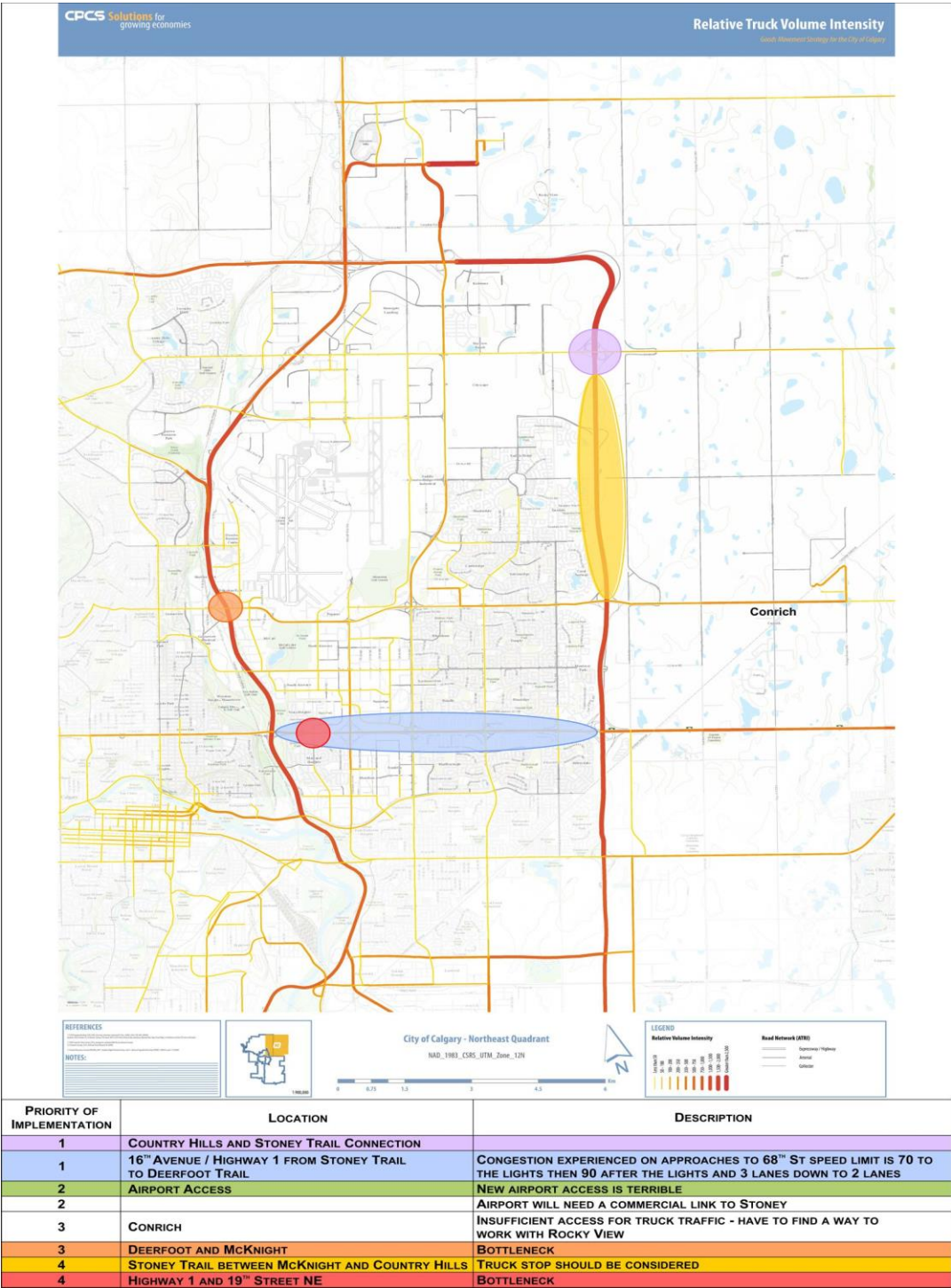
- Review development plans and provide proper access to shopping centres so trucks don't have to circle around.
- Platoons – next iteration of automation, will need cooperation on roads to test platooning and timing with City of Calgary and Province. Would have a driver in every unit.
- More to truck driving than going from point A to B.
- Designated point to designated point within a city, the loads would be broken down at points that make sense.
- Electronics can fail, so need to be careful about automation.
- E.g. platoon from Stoney Tr to QE2 or HWY 1 eastbound, but need permissions in place.
- No support to LNG technology, lack of infrastructure development. It failed in Alberta because of a lack of support from government.
- Driverless automated units in shunt yards, oil sands makes sense in non-public areas and in certain contexts. If units fail in non-public areas it's less risky. (e.g. a shunt truck backing into dock doors or another vehicle in the lot).



Maps from our Advisory groups (October 2017)  
Map of Centre City

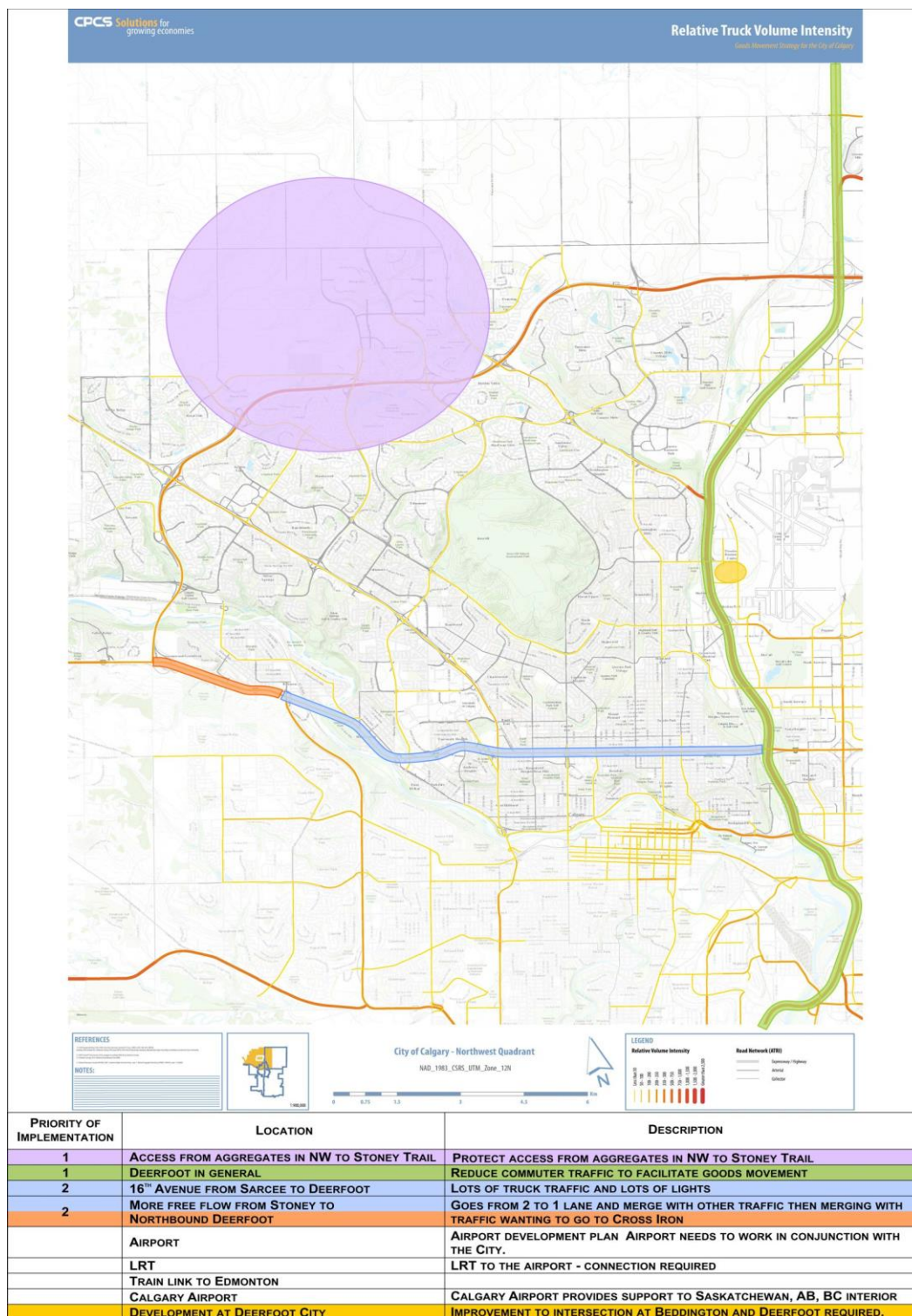


Map of Northeast Calgary

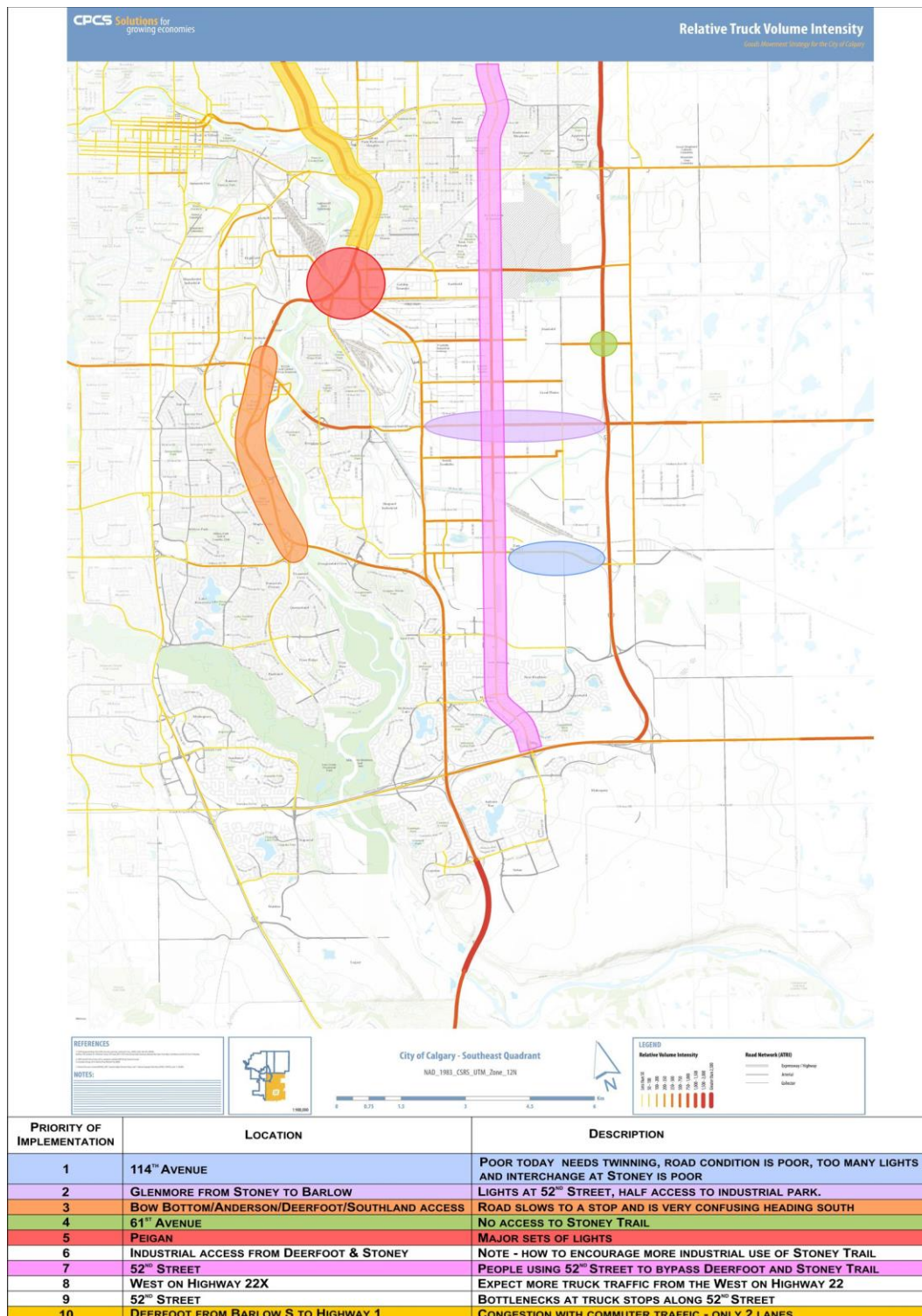




## Map of Northwest Calgary

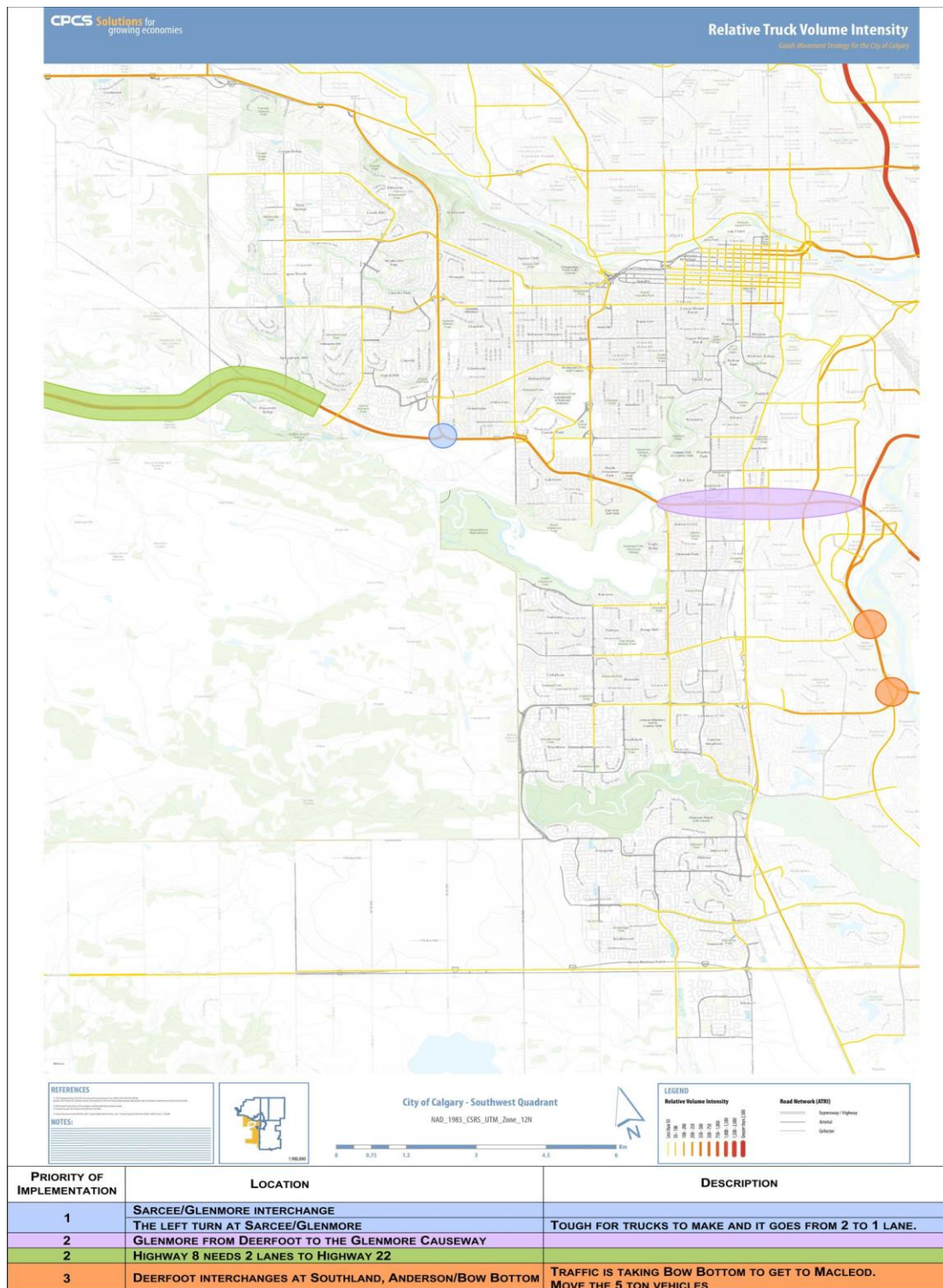


Map of Southeast Calgary

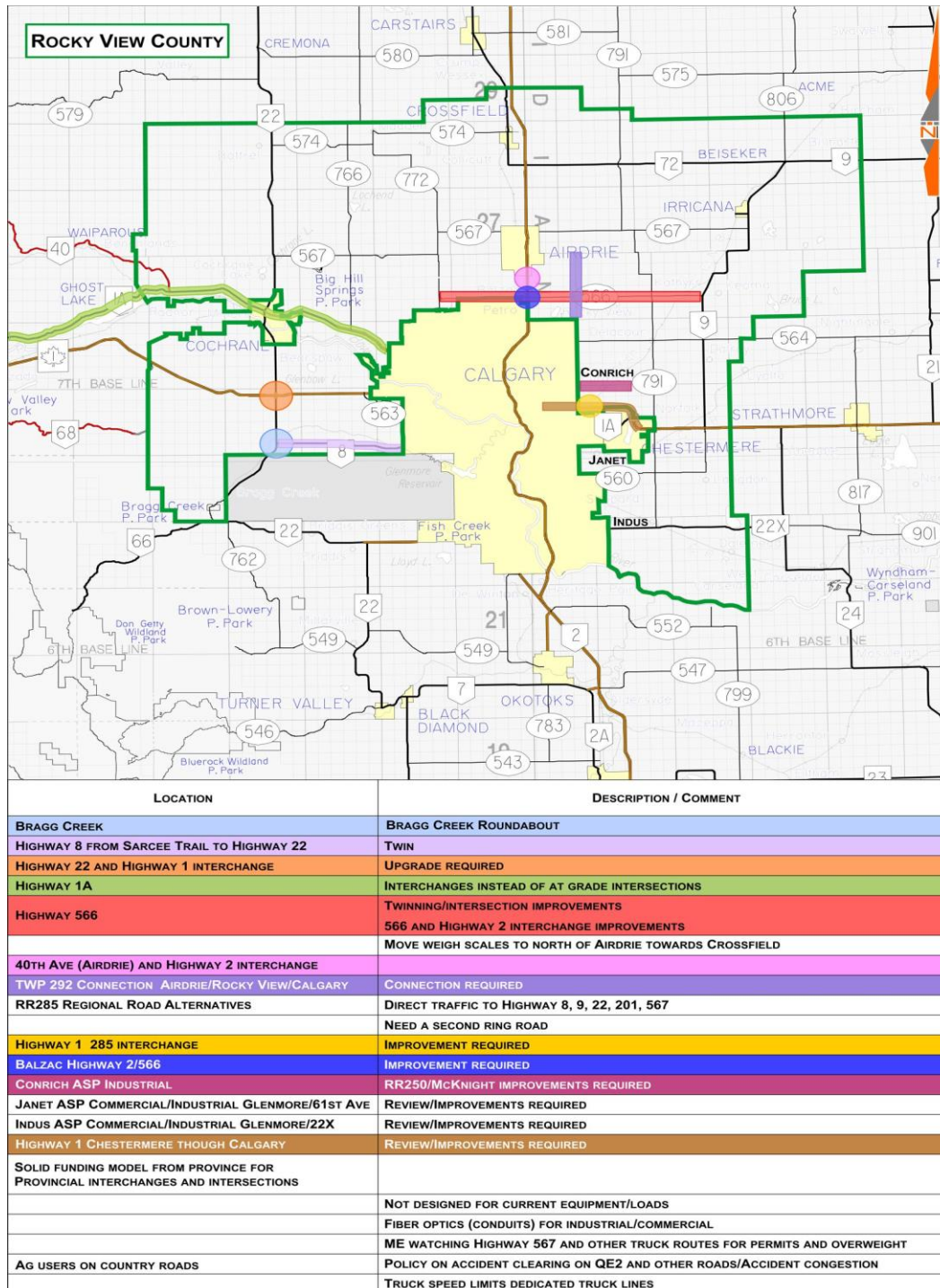




Map of Southwest Calgary

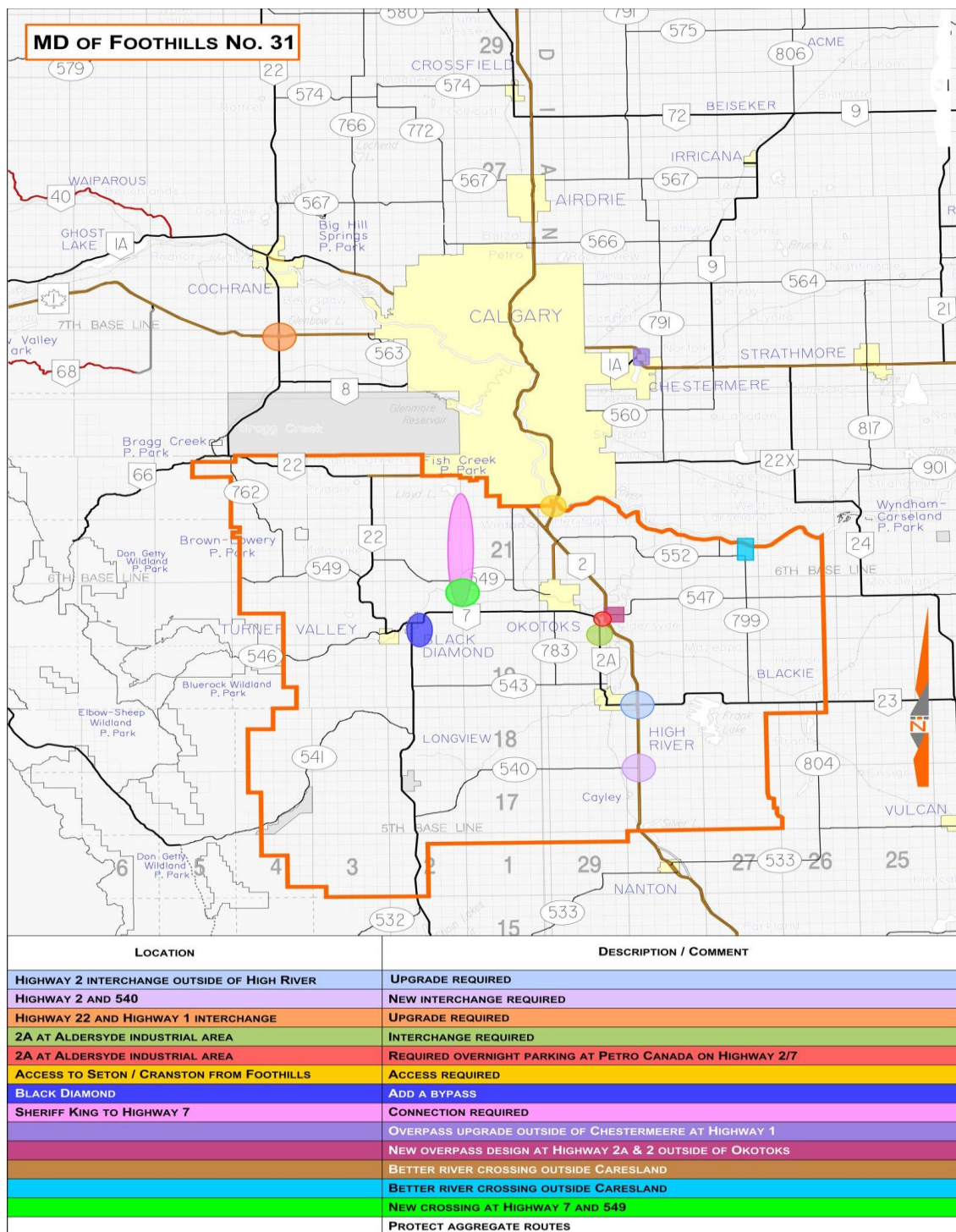


Map of Calgary and surrounding region





Map of Calgary and surrounding region





### Focus Groups

#### What we asked

The focus groups were asked to provide information on what they saw were currently issues or opportunities around goods movement, who was responsible for making the improvements (industry, government or a combination of both) and finally what issues we should pay attention to in the future.

#### What we heard

The focus groups mirrored several themes from the advisory groups. Specifically, they commented on how our future planning in terms of land uses, locations/proximities of industrial and residential developments. There were also comments on how right of ways need to be protected for future transportation modes as well as some thought on how infrastructure could be repurposed as technology altered delivery of goods. The focus groups also believed that it was going to be the combination of industry and government would provide the best arrangement to deal with goods movement with each partner focusing on their area of expertise and then merging that information into flexible policies and bylaws.

#### Summary of input

| Themes   | Verbatim comments from stakeholders  |
|--|--|
| Policies and policy enforcement                                      | <ul style="list-style-type: none"> <li>policy should be revised time to time to keep up with changes and new technologies</li> </ul>   |
| Emerging technology  | <ul style="list-style-type: none"> <li>data transmission - will need a whole new security protocol, infrastructure, regulations etc.</li> <li>would the road support the technology (e.g. truck) that comes in the future?</li> </ul>                            |
| Future planning  | <ul style="list-style-type: none"> <li>continue this conversation after this has passed - review it yearly so it stays actionable</li> <li>waiting until global change will make business reluctant because market is seen as reactive not proactive.</li> </ul> |
| Infrastructure – protection of right of ways for future developments | <ul style="list-style-type: none"> <li>concentration of trucks in some routes may damage the road and this should also be further studied</li> </ul>   |

#### Verbatim Comments

The comments below were captured at meetings by our recorders in response to the questions we asked our key stakeholders. No edits have been made unless there was personally identifying information, they are removed with an indication that this has happened.

#### Focus Groups (November/December 2017)

We asked the focus groups what they saw as the issue, who was responsible for resolving it and what should we be looking out for in the future.

- Cannot afford not to reserve land for movement of goods and services
- needs to be a connectivity for the future
- need to reserve land and be proactive
- continuation of expressway
- future of this century is development around airports
- growth management board takes responsibility in coordinating
- density of population growth = gridlock
- City of Calgary
- City of Calgary and municipalities and regions around
  - need proper classification of roads
  - growth management plan
  - amended area structure plan
- city of Calgary v rockyview conflict
- growth management plan mandated by provincial government
- City of Calgary not a desirable place to live if no change
- no longer sustainable
  - long term plan
  - building complete communities (work, play, live in same community)
- developments occurring around edge of city currently
- working in isolation
- We are an inland port - logistics centre
- Goods coming in by air, going out by truck and a changing workforce
- responding to global pressures
- Calgary becoming a centre of movement
- will the melting of snow up north impact the movement of goods?
- is this something Calgary needs to be aware of?
- empty containers - what do we do with them? - economics
- have Calgary be the port for Western Canada
- Calgary is not the producer of goods due to smaller population
- Use of GPS in trucks - incentivized / rewarded for good driving, penalized for not (accountability of drivers)
- industry
- GHG Emissions
- can the city incentivize GREEN driving? (City's job is to get light roads/infrastructure)
  - No idling policy
  - monitoring though technology (GPS) - rewarding employees
  - City of Calgary following policy (City of Calgary Fleet should follow no idle policy)
- not following policy

- improving efficiency of public transportation for the user
  - Apps like Uber App
  - real-time monitoring (Intelligent transit systems)
- transit/bus idling
- moving goods in the night time to lower impact to citizens
- City of Calgary to facilitate planning between all parties (transportation companies/departments)
  - cooperation between city departments, corporations, transportation companies for planning purposes facilitated by the City of Calgary
- future planning - expected size of city vs current size (logical planning)
  - reserving land for future plans
  - developments near airports - necessary reserving right of way corridors
- possible shutting down of streets during the night/early hours
- noise/dust
- reactive to industry changes - dominating industry?
- obsolescence of existing infrastructure resulting from implementation
- If we don't do anything, the issues won't go away
- Maintain separation between residential and industrial areas
- City Planning (government)
- combo of government and industry
  - collaboration between industry and city (government)
  - collaboration between different government sectors
- current traffic or traffic grows
- political pressure - can industry influence the change in truck routing?
  - relieving the traffic to the collector roads?
- currently truck route are following what is available in the bylaw
- Home deliveries
- combo of government (city needs to be aware of what's being delivered) and industry
- industry involvement of interpreting the bylaws is important
- difficult if trucks go out of truck route during home delivery but the bylaw says they can
  - city roads should be redefined well to accommodate home delivery and out of truck route
- high density locations
- can't have policies that will kill industry
- look at efficiencies between product buys
- volume issue
  - better trucks for volume issue
- how to redefine the purpose of major truck routes to accommodate more trucks?
- City of Calgary

- emissions can be reduced if loads are big
  - bigger units, less emissions
  - redefine the load and unload areas
- Separating the industry and residential areas
- City Planning (government)
  - design massive depot
- Harder to operate trucks if it is disturbing residential areas
- status quo also depends on other sectors
- protect the sectors inside the city otherwise we are sending them away
- public may not be aware of goods movement
- government
  - city policies to restrict the size of trucks at residential areas
  - developers in the city should consider factors related to industry and residential needs/conflicts
  - there should be a continuous planning regarding the separation of different land uses
  - all movements are concentrated at the NE part of the city
- requires developers to be transparent during the development stages
- not enough space in most locations
- new projects are costing a lot of money
- traffic movement (N/S and E/W)
- Deerfoot is a mess and no alternative to Deerfoot
- not considering how traffic will change
- high traffic at some routes in the city
- traffic volume
- status quo is not an option because it push away some of the industries
- combo
  - requires alternative routes
  - rerouting some of the traffic to other routes
  - self driving vehicles
  - autonomous vehicles
  - restriction of some movements
  - restriction of traffic at some part(s) of the city and at certain hours of the day (e.g. like Singapore)
  - congestion charging road toll
- enforcement of the law is also important
- existing and future laws
- trucking industry is operating the same way for a long time and it will continue to do so
- bigger trucks/loads
- may be certain areas can change e.g. the changes should be many thing

- e.g. if electric vehicle it will be charging location, battery life, etc.
- weight didn't change for a long time
- sometimes some changes are not allowed according to current regulations or policies
- policy issues
- would the road support the technology (e.g. truck) that comes in the future?
- truck size of the future should also consider the routes, driver, etc. of the future
- government
- allow or devise some policies for more weight
- allow the changes auxiliary power
- changes should also see if changes allow more weight
- policy should be revised time to time to keep up with changes and new technologies
- policy should be proactive, not reactive
- recharging locations/industry
- prototypes
- turning radii
- tracking changes
- city should be open and invite industries in the policy developments
- platooning (efficiency) operator in front, automated in back vehicles, once in city, driver takes over - major advantage, less power in following vehicles
- look at options on Stoney Trail.
- dual tire to single tire to improve consumption
- two single tire to widen tire to improve efficiencies
- maintenance issues regarding tire/axle changes
- super size tire?
- replacing 2 tires with one super single tire
- in the long run this could be efficient and less costly (super single)
- turning radius for trucks in future should be improved
- current roundabouts are not accommodating long trucks
- changes should come in terms of improving reducing travel time or moving trucks faster
- city should looking into the benefit of these changes
- the changes in tire/axle should also consider design of existing roads
- concentration of trucks in some routes may damage the road and this should also be further studied
- semi-mountable roundabouts should be introduced
- or (have a) very big traffic circle
- mini-roundabouts that have no edge
- wear is attributable to city buses vs trucks
- redefine design procedures that can accommodate big/long trucks for turning movements

- existing trucks will still be available in the next 20-30 years
- changes/technology should consider this
- start planning ahead of time
- understand goods movements ahead of time
- identify areas that could generate / attract goods in advance
- development around NW landfill is a great example of what not to do.
- industry and residential and commercial are too close with roadways reacting after construction
- continue this conversation after this has passed - review it yearly so it stays actionable
- tech - automated menu vehicles
- technology changes driverless and improved efficiencies and educating public
- find ways to predict traffic in the future and adjust future road development accordingly
- better planning strategies
- City planners
- in conclusion:
- planning has to be done in advance
- delivery with driverless vehicle
- public awareness regarding goods movements (why we need it)
- technology improvements should consider existing policies or vice versa
- separation of residential and industrial areas
- technology regarding tire/axel/fuel
- update the issue time to time (frequently)
- make updates available
- combine truck movements and passenger vehicle measurements
- City should study inter-relation between them (truck and passenger vehicle movements)
- what is happening in Vancouver industries moving out to make way for residential development
- designing truck routes for autonomous vehicles, does it need redesigning of truck routes
- city should be ready for legislation for them
- movement of e-commerce goods through residential area, smaller and frequent shipments
- City should establish car-pool lanes
- strong land use and industrial policy, encouraging industries out of City (high load corridors)
- industries which are old
- developers prefer residence - condos to industries (more profit)
- more high load corridors, respond before external people respond and take advantage
- new studies of interaction between the various modes of traffic
- make updated studies regular
- proper road network
- new truck routes instead of improving the existing road network (Spy Hill in NW)

- deliveries during off peak hours
- existing road geometry mostly suitable for autonomous vehicles
- uncertainty in automation in future, mixed traffic of autonomous and normal vehicles
- establish a common network in industries (e.g. Canada post helps UPS deliver)
- shared vehicles (similar to carpool)
- hub and spoke system
- Do we want industries to move out of YYC, similar to YYV?
- flexible land use planning
- new residences around old industries, industries losing land to residences
- east/west connection to YYC (Airport Trail)
- infrastructure issues
- road network through the city, is it suitable for warehouses etc.
- government/municipality should look at issues
- need some form of combination to 'fix' issues, govt only looks 4 years down the road until they're re-elected industries look 30 years down the road
- need funds from province
- regulations for the new technology, accidents, licenses for the vehicles
- car pool lanes, allowing drones
- automation of work at the site
- land use problems, engagement between industry and govt
- city should formulate regulations
- have a plan in place before changes come up
- city should provide (alternative fuel) facilities
- govt and industry need to talk more
- getting people (workers) to their workplace outside the city
- provide infrastructure for the new facilities
- conflict of drones and aeroplanes
- industries moving to rockyview (rural area has different road network) how will technology adapt
- government needs to be responsible for 'fixing' issues
- province should set common regulations to address connectivity issues
- city bound to change rules more frequently
- Council should be more concerned about the jobs
- keep the engagement going on.
- Industry might move out if it is too late to work with the city
- policy needs to move in the right direction
- identify corridors for the autonomous vehicles, new traffic Origin/Destination (O/D) surveys
- city and province should have consistent rules to allow industry to adapt



- clear policies to allow industry to adapt
- more engagement with industry
- city should be proactive to help industries, should not be too late for industry to adapt
- facilities to provided by the City (Transit, road access)
- charging stations
- change land use regulations if industry wants to use alternative fuels like hydrogen
- set up corridors
- technology will be able to adapt in the right environments
- look at old rules (like aviation rules) and see what needs to be updated
- Calgary has to be pro-active to keep its consideration as a hub
- NW Calgary (Spyhill) - City of Calgary changed infrastructure without notifying industry
- things to look out for considering industrial areas and networks - the big picture
- long term things to look out for - transportation infrastructure
- uncertainties of future automation within trucking companies
- would delivering at night or off-peak hours be a solution?
- what is happening in Vancouver industries moving out to make way for residential development
- Are there logistics people involved? (Bison, DHL, Fedex)
- consumer perspective: staying same will make business slow because limiting advantage and opportunity
- waiting until global change will make business reluctant because market is seen as reactive not proactive.
- market needs to be prepared business wants to have the opportunity to take risk in the future
- global markets are far changing we need to be as proactive as possible
- what will global markets see us as? If (we) have reluctant/reactive legislation will have a smaller market
- if on top end will be more engaged and have people more willing to take risks
- Calgary's reputation - to fix needs to be combo of legislation and industry
- infrastructure is one of the reasons we are so competitive
- legislation around infrastructure is both a provincial and municipal issue
- industry drives the technology increase and increased warehousing
- reputation is a combination of legislation and tech improvement
- was bike lanes for a goodness of health or takes away from traffic? Was it balanced well?
- are governments taking into account industry balance when making legislation and economic decisions?
- bike lanes:
- are the green movements worth it?
- lost economic improvement and limits market opportunity
- limits access
- limits parking
- looks good from an international perspective but not communicated well enough for Calgarians
- increased costs in industrial area and negatively impacts tenants

- reluctant to engage in new business development
- government involvement is crucial in the industry to making long term impacts
- maintain competitiveness as a City in development, increased tech, solar power
- maintain status quo is not an option, need to improve competitive edge
- renewable energy
- need legislation, infrastructure, logistics that need to be set up properly in order to actually make a difference
- in transportation, buildings, need to engage the community
- renewable energy - 800 km doesn't get you far in Canada we do not have the infrastructure to support expansion
- e-commerce - increased small parcels
- what are we going to do to improve missed deliveries?
- FedEx, DHL 3/4 times to deliver packages
- industry and government can drive issues in delivery
- sometimes market will drive issues
- drop offs in apartment complexes
- old retail being used as drop offs
- New Zealand very good at destination tracking for all modes of transport
- Canada does not have this data
- what is the city expense for keeping up infrastructure maintenance?
- New Zealand tracks all transport data and then money goes into the infrastructure (transponder system)
- tech change needed for transportation tracking
- virtual grocery stores - order online and then bike or car delivery driver drops off
- we are reverting to the catalog days
- cost for legislation - import from US has no carbon tax where Canadian based plant does get taxed so disadvantaged
- safety - all drivers have IBMS cams - rushing makes accidents happen
- want to see shared fee for late delivery so no pressure and less accidents, fee shared between shipper and buyer
- if we stay status quo, market place is still changing.
- more letters, parcels move trucks onto the road
- now if delivery is late by a few minutes, will be turned away
- rideshare unsafe and unknowledgeable drivers so truck drivers now have to deal with this group of drivers that aren't used to driving and the road conditions
- car drivers are the biggest challenge for truck drivers
- consumer drivers have big impact on truck drivers
- should we better educate young drivers?

- drivers think trucks can stop (quickly) but can't
- even though today the market is pushing for everything to be online, in the future we will once again want to physically go out and buy things in malls and stores so we need to facilitate both
- using smaller vehicles to deliver packages and people simultaneously
- automation tech is here but it isn't set up the best to be most efficient
- automation will be used for long term, but no short term because management isn't ready
- infrastructure perspective on automation - how many cars will a family have? We think this will reduce but will society let children drive cars? No difference than the school bus but society needs to shift
- automation - technical difficulties with the technology?
- if we go from BC to AB, how much information does the automated vehicle pick up in the infrastructure? Things like changes in speed, road conditions, intersections.
- How well will this technology be able to function?
- can't have half of the truck drivers actually driving and half of the trucks automated because increases chances of accidents
- new tech takes about 10 years to integrate into common use
- new tech absorption is slow because it is very expensive
- <Comment redacted due to discriminatory language>
- driving in the winter, truck is still being tested in cold temperatures. How will we deal when snow or water is covering sensors? We have to balance new and old tech
- platooning - is on truck not trailer and where do all the trucks wait?
- currently infrastructure is not good for highway driving, nowhere to safely stop and a lack of truck stops on Stoney trail
- security - platooning happening, but if someone hacks the lead truck what will we do?
- hacking trucks hasn't happened yet we will need to look at that technology
- Canada post using drone delivery - not sure if an efficient option
- not practical right now because of how many regulations there are with drones - can only drive drones as far as you can see.
- if you have to be able to see drone, you will rather just go and do it without the drone because it's not efficient
- these regulations are Federal laws and they need to change
- drone delivery service is not practical yet but Canada Post is exploring
- baby boomers losing their licenses will speed up automation technology
- autonomous trucks still need to be repaired
- even if automation happens there will still need to be a driver to supervise
- we think that automation will reduce vehicles but really there will probably be more vehicles
- how do artificial intelligences mesh with automation?
- data transmission - will need a whole new security protocol, infrastructure, regulations etc.

- what would happen to data transmission in blackout areas?
- will we encourage shared autonomous vehicles or personal autonomous vehicles?
- this will have an impact on parking revenue and gas prices
- Boston/Pittsburgh will be first to use this tech so does Calgary want to have this tech edge in the marketplace?
- we over-emphasize safety which makes it harder for us as a whole
- safety and privacy are the biggest issues for autonomous technology
- automation - commercial privacy will be gone
- this will eliminate illegal activities
- legislation around automation in Europe is changing now
- legislation is here already, if you order something on Amazon already providing lots of personal information to anyone who is skilled enough to use it
- if we can track data for movement of goods we can control goods, minimize thefts and decrease costs
- automation will take a while because companies need to collaborate and communicate until there is one main manufacturer
- when there is an accident (with automated vehicles) - we will need someone to blame
- this tech is very dependant on millennials using it <comment redacted due to discriminatory language>
- how will younger generations (Gen Z) respond to this tech, will they use it?
- everything in society is changing but there are still aspects that refuse to so how will automation and other tech be integrated
- we don't know what will happen in society in the future
- we don't know what will happen in the global market
- businesses will push away if no large leaps are taken and status quo is maintained
- changes in US legislation e.g. larger truck spaces if truck stopped at border for storage
- industry and government should partner on economic diversity in Calgary
- Calgary is a major hub for goods movement
- hub moved from Winnipeg to Calgary because of government
- government changes every 4 years might change the flow of earlier processes (e.g. bike routes not working)
- should make decisions made on reality - truck lanes, turning lanes
- it's too late for you to wait for global changes
- businesses favour proactive decisions
- block chain technologies
- need to honor decisions made earlier (bike routes in industrial areas is an additional cost for business and industry)
- Cost is a major factor to move businesses and maintain competitiveness
- urban parcel movement increases with e-commerce
- safety - rushing deliveries

- late deliveries
- more deliveries means more trucks on the road
- industry - drop box areas for deliveries
- address legislation for renewable energy
- infrastructure for renewable energy technology
- carbon taxes on Canadian plants, no taxes for imports
- tracking technologies - origin/destination data
- sharing of costs to mitigate late deliveries
- need charging stations for the electric vehicle both on highway and city trucks
- issues with increased number of trips
- increased online orders
- more mid range retailers moving online
- changes in trip generation patterns
- more accidents while rushing deliveries
- consumer expectations with advent of e-commerce (e.g. Amazon Prime)
- impact of car drivers (Car2Go) on truck drivers
- sharing of deliveries (Uber Rush)
- Autonomous trucks
- new tech - artificial intelligence
- platooning of trucks
- drones for delivery
- federal government should relax rules
- quick transition period for full autonomy through policies
- cost prevents more people from adopting new technology
- more truck stops to accommodate platoons
- relaxation of rules regarding drones
- physical infrastructure in DT core an issue
- changes needs for infrastructure
- fewer cars and vehicles but more trips made
- what will society's acceptance of new technology be?
- malfunctioning technology
- no driver option, various levels of autonomy
- resistance of new technology
- tech can be hacked
- parking concerns for platoons both in urban areas and on highways
- safety aspects and operational range of drones
- transmission of data for autonomous vehicles and for collection

- policies of government
- safety and privacy of the data
- legislation to reduce areas with no connectivity
- encourage seamless integration
- shared vs individual autonomous vehicles
- encourage technology research
- legislation changes
- collaboration between different manufacturers
- watch out for black out areas, especially in rural locations
- loss of parking revenue - user fees?
- accept commercial privacy is gone
- increased security of goods
- copyrighted technology

### What we did

The stakeholder engagement has provided valuable insights throughout the course of the Goods Movement Strategy. The issues that form the basis of the Strategy's analysis were defined by stakeholders during the advisory group and focus group meetings. This guided us in researching possible opportunities that jurisdictions elsewhere have implemented and in a literature review of best practices.

Stakeholders also identified potential opportunities for improving the road and highway networks, which we are currently examining.

The public engagement findings and preferences will inform the development of the framework, policies and actions that will define the Goods Movement Strategy.

| What we heard  | What we did  |
|--|--|
| Work with industry to improve the efficiency of goods movement.                      | We are examining various opportunities to improve the efficiency of goods movement. This includes improvements to the road and highway networks that were suggested by stakeholders. |
| Work with industry to anticipate and implement emerging technologies.                | We are examining various opportunities and approaches for introducing emerging technologies, and for positioning Calgary to adopt future technologies as the need arises.            |
| Account for changing consumer and business purchasing practices, such as e-commerce. | We are examining opportunities for improving deliveries, looking at building design, on-street parking and other elements of the last kilometre of delivery for a product.           |
| Think long-term and strategically about development and the                          | We are exploring policies to land uses related to goods movement activities, to try and prevent new development from impeding the  |

|  |   |
|--|---|
| transportation network in Calgary 30+ years in the future. | function and viability of infrastructure, such as the airport, rail terminals and rail corridors.<br>We are also looking at ways to ensure transportation network connectivity between Calgary and the surrounding region.  |
| Protect infrastructure and corridors for goods movement.   | We are examining policies to manage development adjacent to goods movement infrastructure.<br><br>We are also exploring operational improvements to help trucks and other traffic move more smoothly tighter and for ways to avoid conflicts between trucks and other traffic.                |
| Consider policy and bylaw changes.                         | We will be developing policies aimed at improving the efficiency of goods movement, while ensuring consistency with existing development, transportation, sustainability and economic development policies and aspirations. We will also will look at consolidating the truck route policies. |

### Next steps

- ▶ Spring 2018
  - meet with advisory groups to discuss potential solutions
- ▶ Summer 2018
  - develop policy framework for goods movement
  - propose draft list of infrastructure and non-infrastructure actions and investments
- ▶ Fall 2018
  - Review framework and draft list with advisory groups, finalize and set priorities
  - Final review with the public
  - Present the Goods Movement Strategy to committee and Council