



Project overview

The City of Calgary is studying options to reduce total suspended solids (TSS) in stormwater generated within the city, and ultimately the total sediment loading to local water systems. Studies of pollutant loading entering Calgary's waterways revealed that gravel surface lanes are a large contributor to sediment levels. Currently, 1250 km (72%) of Calgary's back lanes use a gravel surface treatment, with new lanes being added each year. Calgary is the only major city in Canada still allowing gravel surfaces for new lanes. Gravel surfaced back lanes are susceptible to weather-related events and conditions, which leads to gravel erosion (direct and carried by vehicles) and development of rutting and potholes. This leads to stresses on maintenance, capital and personnel resources and community dissatisfaction related to potholes, vehicle wear and tear, dust, and muddy surfaces, etc. Sediment and associated nutrient loadings will continue to increase as inner-city land use intensifies, new communities expand and increased rainfall intensity due to climate change exacerbates sediment mobilization. This may lead to additional regulatory measures to meet environmental obligations to protect fisheries and other environmental resources.

The City has a strategic desire to be forward thinking in terms of investing in infrastructure in the right ways, managing the interrelationships between flood protection, water quality, water quantity and land use, as well as managing regulatory risks to protect public health and environment. On this basis, The City commissioned MPE Engineering Ltd. (MPE), along with Kerr Wood Leidal Associates Ltd. (KWL) and Applied Research Associates Inc. (ARA), to complete the "Gravel Lane TSS Abatement Study."

As part of the Gravel Lane TSS Abatement Study, a Triple Bottom Line (TBL) approach was developed to evaluate and recommend preferred treatment alternatives for back lanes based on economic, environmental, and social considerations. The analysis included research on the social benefits for different lane surfaces, but these values were considered the most uncertain in the analysis. To learn more about the uses and perceived benefits of paved lanes compared to gravel lanes, The City conducted online engagement with Calgary residents who had a gravel back lane slated to be paved.

Engagement overview

Residents with gravel back lanes that will be paved were asked to complete an online survey regarding their gravel lane (Gravel Lane survey). After the back lane was paved, residents were invited to complete another survey about the paved lane (Paved Lane survey). The surveys are intended to gather input about gravel and paved back lanes in terms of issues experienced, uses of the back lane and satisfaction with the back lane. This report includes results from both surveys (data collected as of May 31, 2023) to compare pre- and post-paved lane experiences and satisfaction.



Gravel and Paved Lanes

Report Back: What We Heard
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What we asked

The questions asked in the Gravel Lane survey were:

Do you experience any of the following issues with your back lane?

- Ruts or rough lane surface
- Dust or poor air quality
- Water pooling in lane after heavy rain or snowfall events
- Mud and gravel tracking into garage
- Gravel and mud from lane covering sidewalks and roadways
- Vehicles driving through the lane at unsafe speeds
- Vehicle damage
- Increased need for vehicle cleaning
- Unable to access lane due to need for maintenance or maintenance being completed
- Other (please specify)
- No issues with my lane

How do you currently utilize your back lane?

- Recreation (basketball, hockey, dog walking or other)
- Social space (gather with neighbours)
- Pedestrian or cycling access to your property
- Vehicle access to your property
- Garbage pick-up
- Other (please specify)
- I do not use my lane

Please rate your satisfaction with your ability to use your current back lane.





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Is there any other way you would like to utilize your back lane that is currently not an option?

[open text field]

The questions asked in the Paved Lane survey were:

Can you confirm that you currently have a completed paved back lane?

Do you experience any of the following issues with your paved back lane?

- Ruts or rough lane surface
- Dust or poor air quality
- Water pooling in lane after heavy rain or snowfall events
- Mud and gravel tracking into garage
- Gravel and mud from lane covering sidewalks and roadways
- Vehicles driving through the lane at unsafe speeds
- Vehicle damage
- Increased need for vehicle cleaning
- Unable to access lane due to need for maintenance or maintenance being completed
- Other (please specify)
- No issues with my lane

How do you currently utilize your back lane?

- Recreation (basketball, hockey, dog walking or other)
- Social space (gather with neighbours)
- Pedestrian or cycling access to your property
- Vehicle access to your property
- Garbage pick-up
- Other (please specify)
- I do not use my lane



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Please rate your satisfaction with your ability to use your current back lane?



Do you feel your use has been improved with your paved lane?

Yes

No

Same (no real change)

Please provide any additional comments that you may have regarding your paved lane?

[open text field]

What we heard

Overall, survey results indicate that respondents report far fewer issues with paved back lanes, more various uses of the back lane and much higher satisfaction and improved use of the back lane when paved. As reported by respondents, benefits of a paved lane include:

- Cleaner in general as well as cleaner for garages, vehicles, adjacent sidewalks and roadways
- Less water pooling/better for water drainage
- Less damage to vehicles and other property
- Improved air quality/less dust
- Increased and safer use of the back lane for walking, recreation (particularly for children) and social gatherings

While a large majority of respondents to the Gravel Lane survey reported being dissatisfied with their back lane, most respondents to the Paved Lane survey were satisfied and indicated their use of the back lane has improved as a result of being paved.

Although fewer respondents report issues with paved lanes than with gravel lanes, some mention vehicles driving through the lane at unsafe speeds, water pooling in lane after heavy rain or snowfall events, and ruts or rough lane surfaces as issues with their paved lane.

Note that the results of these surveys represent only the perspectives of those who chose to respond and are not generalizable to Calgarians overall.



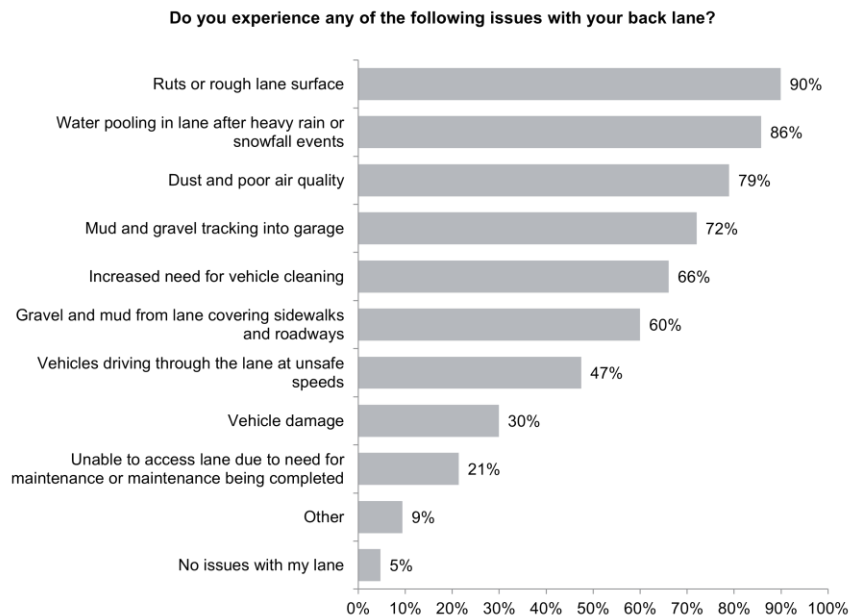
Gravel and Paved Lanes

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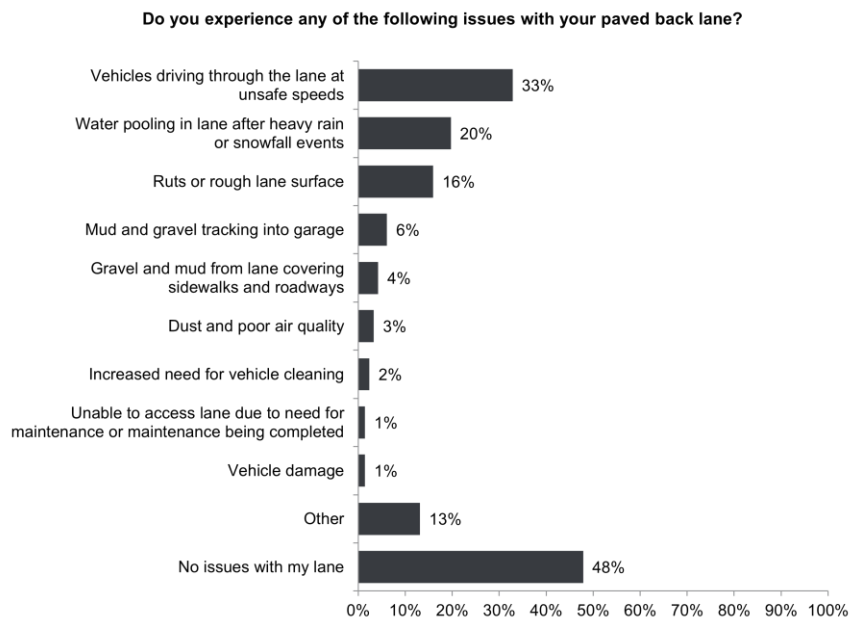
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Issues Experienced with Back Lane

Gravel Lane – Issues (Multi Choice | Skipped: 2 | Answered: 575 (99.7% response rate))



Paved Lane – Issues (Multi Choice | Skipped: 4 | Answered: 213 (98.2% response rate))





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“Other” issues with gravel back lanes, as reported by some respondents to that survey, are below. Example comments for each theme are also provided and is presented as written by the participant with no changes to spelling, punctuation or grammar.

Theme	Verbatim comment examples
Garbage and weeds	“Increased dumping by residents of household items as the back alley looks like a good place to dump stuff as it ALREADY looks [bad].” “The weeds also become overgrown and they migrate onto properties.”
Lane surface issues (muddy, potholes, uneven surfaces)	“Huge gulley on a steep area. Huge potholes on other area.” “I am a year round cyclist and typically avoid using back alley because of mud, potholes, gravel.”
Seasonal issues (muddy, snow drifts and ruts and ice build-up in lane and on adjacent sidewalks)	“Not just muddy vehicles, but muddy to walk through. Tried to use to practice bike riding (4 year old daughter) but too muddy/rough.” “In spring our garage isn’t accessible to us, due to deep ruts in the ice buildup on the lane.”
Water drainage issues (pooling, flooding)	“poor drainage leading to garage flooding” “Creates dam of gravel that prevents my yard from properly draining off the back of my property.”



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“Other” issues with paved back lanes, as reported by some respondents to that survey, are below. Example comments for each theme are also provided and is presented as written by the participant with no changes to spelling, punctuation or grammar.

Theme	Verbatim comment examples
Lane surface issues (potholes, poor paving, gravel tracked from adjacent gravel areas)	“Potholes in it, never being repaired” “The alley was not paved properly so all the cars lean too much to one side and slide in winter almost hitting the neighbours garage.”
Seasonal issues (snow drifts and ruts and ice build-up in lane and on adjacent sidewalks)	“Doesn't get cleared in winter and deep ruts form in snow from trucks driving through, rendering it unusable for my sedan because the undercarriage gets damaged.” “Ice build-up because of freeze/thaw during chinooks.”
Water drainage issues (pooling, flooding)	“The drainage is insufficient, causing my garage to flood every spring.” “The way the lane was paved causes my garage to flood during spring thaw.”



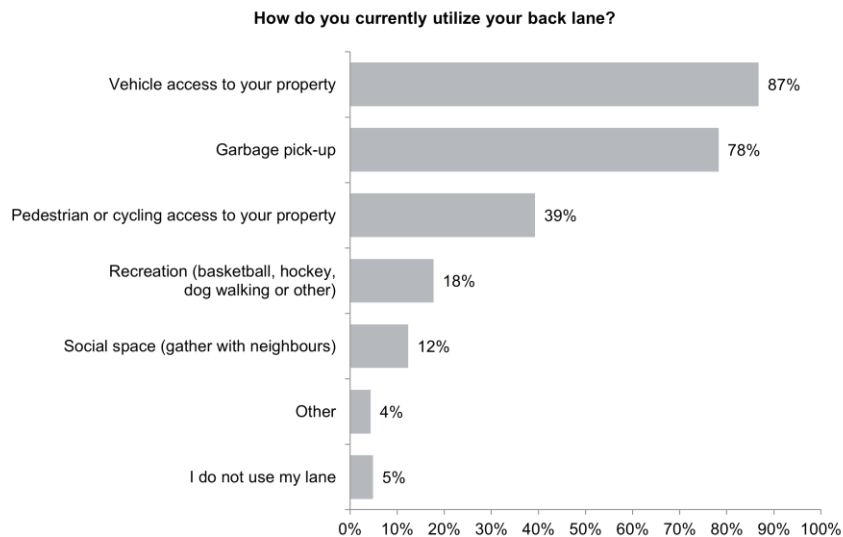
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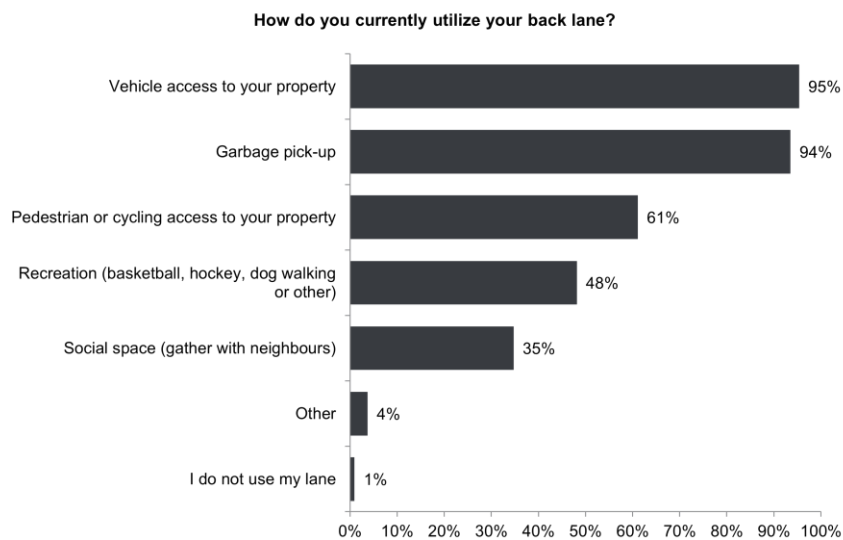
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Uses of Back Lane

Gravel Lane – Uses (Multi Choice | Skipped: 2 | Answered: 575 (99.7% response rate))



Paved Lane – Uses (Multi Choice | Skipped: 1 | Answered: 216 (99.5% response rate))





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Among the few respondents who indicated they use the gravel back lane for other purposes, the main uses are related to parking and vehicle and garage access.

Respondents to the Gravel Lane survey are asked “Is there any other way you would like to utilize your back lane that currently is not an option?” Desired uses include:

Theme	Verbatim comment examples
Recreation for oneself and/or for children	“I would really like my kids to use it for recreation. I.e. learn to ride a bike, play street hockey.” “If paved we would use it for sport/activity area, and cycling.”
Social gatherings	“My friends in areas with pave lanes often have impromptu “lane gatherings” with neighbours.” “Would also be nice to sit out back and gather with neighbors.”
Vehicle-related (improved access for vehicle, smooth driving surface, less damage to vehicle, parking)	“I’d like to be able to drive on it without being jarred and my vehicle bouncing everywhere at less than 10km per hour because of the ruts and mud.” “Parking because there is no street parking out front but it’s awful back there.”
Improved mobility	“I would like to be able to walk and cycle back to my house using the back alley.” “Access for disability with a scooter... it’s not possible with the rocks and gravel and potholes.”
Gardening/planting trees	“Temporary raised garden beds - flowers - community beautification” “I would like the back lane to be a more pleasant green space”
General support and desire for a paved lane	“Back alleys are awesome but not gravel. We would love for it to be paved!” “Paved lanes would be a significant improvement for our citizens.”



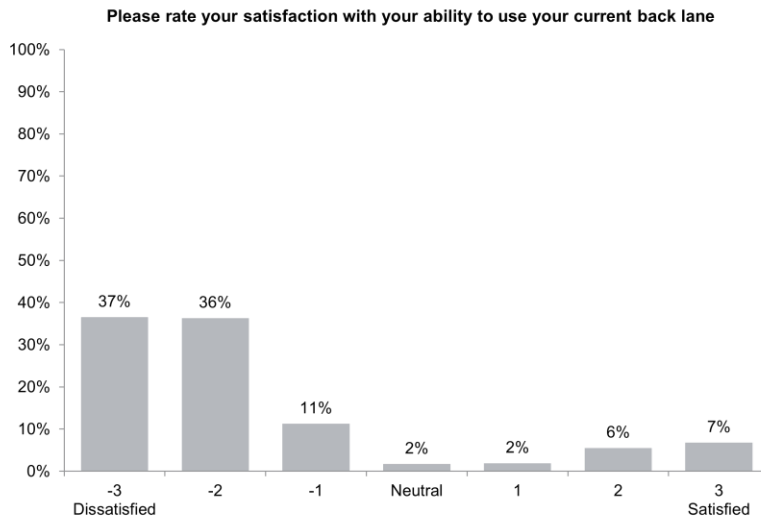
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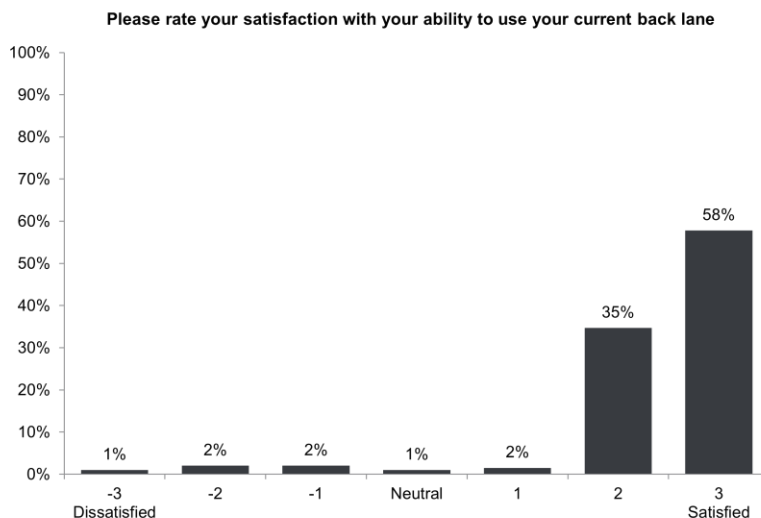
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Satisfaction with Back Lane

Gravel Lane – Satisfaction (Single Choice | Skipped: 106 | Answered: 471 (81.6% response rate))



Paved Lane – Satisfaction (Single Choice | Skipped: 18 | Answered: 199 (91.7% response rate))





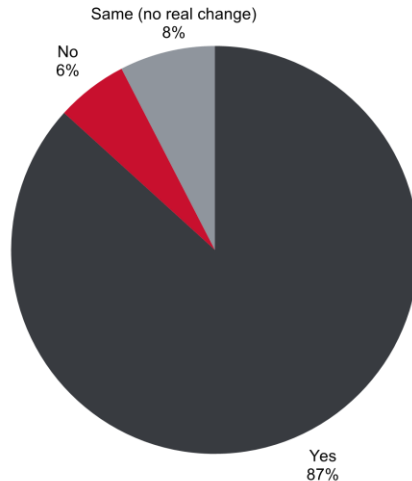
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Use has been Improved with a Paved Back Lane

Paved Lane only (Single Choice | Skipped: 6 | Answered: 211 (97.2% response rate))

Do you feel your use has been improved with your paved lane?



Verbatim responses

Respondents to the Paved Lane survey were invited to provide additional comments they have regarding their paved lane. We have provided a sampling of comments, categorized into general themes to reflect those responses, on the pages below.

Verbatim responses are in unedited format (no changes to spelling or grammar) unless there is offensive language or inappropriate commentary, in alignment with The City of Calgary's Respectful Workplace Policy, or personal information. To view all verbatim responses please [click here](#).



Gravel and Paved Lanes

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Positive comments include:

Theme	Verbatim comment examples
General support for paved lanes	"All lanes should be paved if possible, it's so much nicer." "I've had both paved and gravel, paved is better."
Improved usability (the paved lane being a more usable space and providing better access to the back of their property, easier to use/safer in the winter, increased enjoyment of their property and better for social gatherings)	"Life changing when we can add a hoop, play street hockey, learn to ride bikes, etc!" "We have met many neighbours since having a paved lane as most of the young kids will play out there."
Better surface conditions (less dust/gravel/dirt/mud, fewer or no ruts and potholes)	"It's free from ruts and gravel." "I enjoy having our back lane paved. I used it less when it was gravel as my car often was unable to get through the ruts."
Less damage to vehicles/property	"We were pleased to have the back lane paved as it protects our vehicles." "Paved lane is cleaner for my house and cars. It keeps my garage in better shape"
Cleaner/neater in general	"The lanes are cleaner. People are less inclined to let debris accumulate." "Having a paved lane is cleaner"
Easier maintenance (snow clearing)	"paved alleys are easier to maintain for homeowners - sweep up leaves, shovel snow, etc." "Also it makes winter snow clearance much easier in the alley."



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Negative comments/criticisms include:

Theme	Verbatim comment examples
Maintenance issues (lane not maintained/plowed/swept clean of debris)	"My only suggestion for improvement would be if it could be plowed in the winter as it gets icy." "As they are not maintained during winter months, snow accumulation and ruts become a problem."
Cost/fees	"cost to homeowners does not justify having a paved lane" "I think the cost of paving was excessive"
Vehicles speeding and increased traffic flow	"It's also encouraged much heavier, and faster, traffic flow through the alleyway so utilizing it for anything other than access to the house is very restricted" "People use it as a shortcut from one street to another and far exceed the speed limit."
Surface issues (snow and ice build-up and associated ruts, potholes, gravel/dirt/mud tracked from adjacent road or gravel lane)	"As they are not maintained during winter months, snow accumulation and ruts become a problem." "In the winter time, the ruts from the snow and ice build up can cause difficulty going down the alley and in some cases damage to the vehicle."
Water drainage issues (pooling, flooding of property)	"Paved lane drainage to sewer drain needs proper grading to empty water." "Garage floods in winter only after paving"
General opposition to the project/paved lane	"I was against it but my neighbours did a petition and I had no choice." "I think the City of Calgary should be giving serious consideration to whether these should even be allowed, let alone encouraged."

Next Steps

Please note this is an ongoing study and process, these results show responses collected up to May 31, 2023. These results will be utilized to assess and report on impacts of back lane surfaces in relation to costs, environmental impacts, and social benefits as outlined in the engagement process.