## **Streets**

Led by: Roads, Transportation Planning & Transportation Infrastructure

## **Description:**

Streets connect places and allow for the movement of people, goods and services throughout Calgary. People and businesses drive, cycle and ride throughout Calgary every day to commute to and from work or school, for social or recreational activities, and to move goods and services. Streets provide critical access for emergency services and the right-of-way for all underground and overhead utilities, and space for on-street parking supports businesses and residential users. Streets support nearly every City service provided to citizens. Streets provide important links for cycling and pedestrians, and support transportation agencies like Calgary Transit, taxis and other private operators.

#### **Customers:**

Street space is used by the traveling public and business users including freight, emergency services, City services like Public Transit, and vehicles for hire. Utilities run overhead or underground infrastructure in the street right-of-way. Street space is also used by businesses as a work space, and to host festivals and special events.

#### What is delivered to customers:

Streets, combined with Sidewalks & Pathways, has infrastructure with a replacement value over \$20 billion. It includes streets and alleys, bridges that provide key connections across varying topographies, traffic signals and other controls provide for safe and efficient travel. Street lights allow for safe activity 24 hours a day.

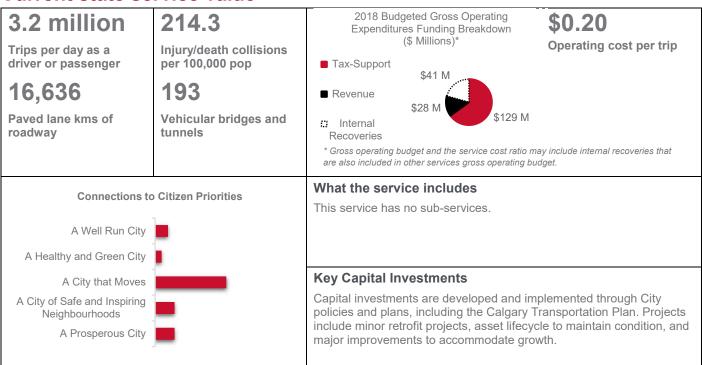
#### **Partners:**

We partner and consult with a large variety of stakeholders to deliver the services that Calgarians need. These include the traveling public, Alberta Transportation, developers, the construction industry, and the goods movement industry. Initiatives are delivered in consultation with Community and Business Associations, Calgary Police Service, Alberta Motor Association, and Alberta Health Services.

## Service need (value proposition):

Calgarians make 3.2 million trips per day by driving or riding in a vehicle. People and businesses need a safe, well planned and maintained street network that adapts to change and allows for predictable travel throughout and beyond Calgary. People want pavement that is smooth, clear in winter and clean in summer, clearly marked, and well-lit at night. Traffic signals and other controls need to provide safe and effective traffic management through intersections, and allow for reasonably smooth traffic flows. Streets need well-signed speed zones and road rules, and convenient wayfinding. On-street parking needs to be available for people to conveniently access their destination. Noise walls ensure that traffic noise does not negatively impact communities. Information about closures, detours and delays needs to be readily available. Permits for special road uses need to be easy to access.

## **Current state service value**





## What we've heard and service outlook

## What we heard: Research & Engagement Results

The Citizen Satisfaction Survey consistently shows infrastructure, traffic and roads at the top of citizens' issue agenda. Citizens rated several activities with high importance, low satisfaction and a high willingness to invest: traffic flow management, road maintenance including pothole repairs, transportation planning, and snow removal. The Roads Annual Survey shows high satisfaction for safety due to road conditions (93 per cent) and travel times due to road conditions (83 per cent). Satisfaction is low for snow and ice control (66 per cent on main roads, 39 per cent on neighbourhood roads), pothole repair (45 per cent), and traffic signal coordination (63 per cent).

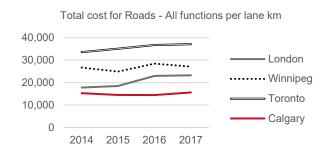
#### What Council has directed

Council's primary concern is for all transportation options to be safe and attractive choices for Calgarians (M1 and M2). We have supported this direction with plans and policies such as the Calgary Transportation Plan, the Safer Mobility Plan and the Goods Movement Strategy. Council wants all travel modes to be desirable and for the needs of people who drive to be balanced with the needs of people who walk, cycle, and take transit. As technology and business models change, we should partner with third parties to facilitate and deliver improvements to transportation options (M3). There is also a desire to identify and adopt innovative solutions that will improve safety and improve peak-hour traffic flows (M4).

## What are we watching

We are monitoring and adjusting to many trends that impact the delivery of streets, including: increasing focus on safety, the impact and frequency of severe weather events, and legislative issues such as the impact of the City Charter on policies and processes. Citizen expectations are changing as demographics and behaviours evolve. Changes such as the increase in distracted drivers, emerging technologies such as electric and autonomous vehicles, and changing business models such as Transportation Network Company (TNC) services are changing the way we move. Businesses are also looking for new and creative ways to use street space. We are collecting increasing amounts of transportation data to support decision making, and assessing asset investment risks resulting from unfunded network growth and lifecycle management.

## Benchmarking



Source: Municipal Benchmarking Network Canada

Cost per lane km provides a consistent unit of measure against other municipalities. While different cities deliver different service levels and respond to different conditions, we have maintained a low cost per lane km for roadway functions relative to other Canadian cities that participate in the Municipal Benchmarking Network Canada (MBNC). This is partly due to the lower cost of winter roadway maintenance in Calgary, where we spend far less per lane km (\$2,544 in 2016) than cities like Winnipeg (\$6,147) and Toronto (\$5,872). This can impact service levels when winter conditions outpace capacity.

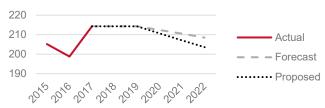
## What matters to Calgarians

VALUE DIMENSION	DESCRIPTION
Safety	The customer is and perceives themselves to be protected from danger, risk or injury.
Accessibility	Streets, sidewalks and pathways are designed for use by everyone.
Connectivity	People are able to reach their destination using streets, sidewalks and pathways.
Responsiveness	Projects respond to the needs of the community. The City responds to service requests in a timely manner.
Reliability	Infrastructure is in good repair, and meets the changing needs and expectations of users.

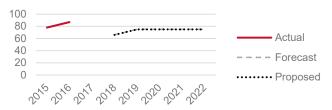


## How is the Service performing? Where we are headed and where do we want to go?

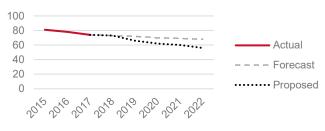
Casualty Collision Rate (Number of collisions resulting in injuries and deaths for all travel modes per 100,000 residents)



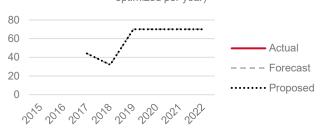
Citizen Satisfaction with Snow & Ice Control on Streets
(Percent citizens satisfied with level of snow and ice
control)



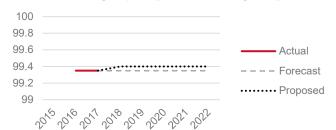
Pavement Condition (Percent pavement in good or very good condition)



Signal Timing Optimization (Number of signals optimized per year)



Street Light Uptime (Percent of streetlights on)



## Story behind the curve

Casualty Collision Rate: Safety is Council's top concern for all modes of transportation. While everyone has a role to play in safety, we target improvements through engineering, education and enforcement. The term of the Safer Mobility Plan (SMP) saw a reduction of 3.6 per cent in casualty collision rate/100,000 population. We will increase our investment in safety-focused projects to address high priority intersections during the One Calgary business cycle.

Citizen Satisfaction with Snow and Ice Control: Council's Snow and Ice Control policy sets out the standards for keeping Calgary's roads clear during the winter. Citizen satisfaction with snow and ice control on main roads is related to the frequency and severity of snow falls that occur in a given winter season. We will continue to deliver snow and ice control per Council's policy.

Pavement Condition: Pavement represents a replacement value of over \$9.8 billion. Lifecycle funding from 2015-2018 was not sufficient to maintain overall pavement condition, and during this period citizen satisfaction with road condition also dropped from 79 per cent in 2016 to 68 per cent in 2018 for main roads; and from 89 per cent to 81 per cent for neighbourhood roads. Lifecycle funding through 2019-2022 will result in accelerated deterioration and a heavier burden on maintenance activities.

Signal Timing Optimization: Citizens have rated traffic flow management as a high priority for more investment. 70 per cent of Calgary's traffic signals are on major roads and have a significant impact on citizens, especially during peak hour periods. Signal timing optimization of major corridors benefits travel time reliability, however benefits can be short-lived as traffic volumes and travel patterns change. Our goal is to increase the rate of corridor retiming to optimize 10 per cent of major intersections per year, with enhanced service starting in 2020.

Street Light Uptime: Street lights are a critical safety feature along major roads and in communities. There are 95,000 street lights in Calgary and 500-1000 lights are out at any given time, resulting in 0.5-1 per cent downtime for street light assets. The LED retrofit program has reduced the electricity costs and the number of outages. Our goal is to improve our responsiveness to outages to achieve and sustain an uptime of 99.4 per cent, which will be supported by increased investments to increase responsiveness to bulb failures, and through capital investments to repair underground wire faults.

## What we propose to continue doing

#### **STRATEGY**

Forecast future needs and plan long-term improvements to the street network.

Provide snow and ice control in accordance with Council's policy.

Seek innovative solutions to improve efficiency and effectiveness.

Monitor traffic conditions and coordinate incident response.

Support new development as the city grows.

Provide permits for projects and events that use street space.

#### Why?

Streets are critical to the functioning of any city. We will continue to plan improvements that accommodate Calgary's growing and changing needs. Continued operations and maintenance will ensure that Calgarians can reach their destinations. Continual improvements will be pursued to ensure that we continue to deliver cost-effective service.

## What we propose to do less of

#### **STRATEGY**

Lifecycle work on streets and bridges.

Invest in major transportation upgrades such as interchanges, corridor expansions, and major road reconstructions.

Engineering studies and land acquisitions that advance current and future work and allow for shovel-ready projects.

#### Why?

Constrained capital funding for the 2019-2022 budget cycle will result in reduced capital planning, lifecycle work and major upgrade projects. No major projects will be pursued in Calgary's established areas, which will result in lower service levels as the city grows, placing an increased burden on maintenance such as pothole repair, and higher long-term costs as more expensive lifecycle treatments become required.

## What we propose to do more of or include as a new offering

#### **STRATEGY**

Targeted safety improvements aligning with the Safety Mobility Plan.

Traffic signal optimization on major corridors.

Responsiveness to street light outages.

Enhanced maintenance along existing Main Streets projects.

#### Why?

Calgarians and Council have identified improving safety as a key outcome for walking, biking, driving and taking transit. We will make additional investments to increase the number of safety improvement projects and improve our responsiveness to street light outages. Increased traffic signal optimization will improve traffic flows on major road corridors.



# What Operating Budget do we need to achieve these results and strategies?

SERVICE PERFORMANCE RESULTS FOR 2019-2022	CURRENT	TREND
Casualty Collision Rate (Number of collisions resulting in injuries and deaths for all travel modes per 100,000 residents)	214.30	<b>\</b>
Citizen Satisfaction with Snow & Ice Control on Streets (Percent citizens satisfied with level of snow and ice control)	66	$\leftrightarrow$
Pavement Condition (Percent pavement in good or very good condition)	73	<b>\</b>
Signal Timing Optimization (Number of signals optimized per year)	32	1
Street Light Uptime (Percent of streetlights on)	99.35	$\leftrightarrow$

## Breakdown of net operating budget (\$000s)

	2019	2020	2021	2022
Previous Year's Budget	128,607	129,817	139,562	145,298
Less Previous Year one Time	(1,709)	1	(2,000)	(2,000)
Base	126,898	129,817	137,562	143,298
Revenue Changes	(1,749)	(580)	(597)	(515)
Internal Recovery Changes	(944)	-	-	-
Inflation	2,481	3,330	2,927	2,927
Operating Impact of Previously Approved Capital	101	135	150	-
Operating Impact of New Capital (Incremental)	139	2,379	1,803	1,349
Efficiencies	(397)	(863)	(691)	(300)
Service Reductions	(200)	-	-	-
Service Increases	3,488	3,344	2,144	2,144
One Time	-	2,000	2,000	2,077
Realignments	-	-	-	-
Total	129,817	139,562	145,298	150,980

## **Total Operating Budget (\$000s) for Approval**

	2018 Budget	2019		2020			2021			2022			
	At Mar 31	Base	One- Time	Total									
Expenditure	197,939	202,081	-	202,081	210,406	2,000	212,406	216,739	2,000	218,739	222,859	2,077	224,936
Recoveries	(40,910)	(42,843)	-	(42,843)	(42,843)	-	(42,843)	(42,843)	-	(42,843)	(42,843)	-	(42,843)
Revenue	(28,422)	(29,421)	-	(29,421)	(30,001)	-	(30,001)	(30,598)	-	(30,598)	(31,113)	-	(31,113)
Net	128,607	129,817	-	129,817	137,562	2,000	139,562	143,298	2,000	145,298	148,903	2,077	150,980

## **Capital Budget for Council Approval**

	Baagot for Goain						
ACTIVITY	DESCRIPTION	2019 REQUEST (\$000s)	2020 REQUEST (\$000s)	2021 REQUEST (\$000s)	2022 REQUEST (\$000s)	2023+ REQUEST (\$000s)	Total REQUEST (\$000s)
Annual Investment Program(s)		44,612	48,750	52,550	54,600	-	200,512
432200	Streetlight - Upgrade & Maintenance	5,000	5,000	5,000	5,000	-	20,000
432240	New Traffic Signals and Pedestrian Corridors	3,000	3,000	3,000	3,000	-	12,000
432260	Traffic Signals/Ped Corridors Lifecycle	3,600	3,600	3,600	3,600	-	14,400
432271	Pavement Rehabilitation	12,500	13,500	13,500	14,000	-	53,500
432290	Roads Equipments & Systems	400	400	400	400	-	1,600
432300	Plants Capital	750	800	1,000	1,000	-	3,550
481356	Signal Communications	1,500	1,500	1,500	1,500	-	6,000
433095	Various Street Improvements	500	500	500	500	-	2,000
481357	Roads Facilities and Depots	880	3,950	7,550	9,100	-	21,480
433150	Bridge Rehabilitation and Protection	12,000	12,000	12,000	12,000	-	48,000
464170	Major Road Reconstruction	4,000	4,000	4,000	4,000	-	16,000
481351	Sound Wall Lifecycle	482	500	500	500	-	1,982
Project(s)		19,479	68,414	57,500	23,500	-	168,893
481402	Crowchild Tr Wide 24- 32AVNW	2,779	114	-	-	-	2,893
481403	Richmond-Sarcee Improvement	1,000	6,000	-	-	-	7,000
481405	194 AV S-MacLeod TR Improvs	-	-	4,000	-	-	4,000
481406	Stoney Trail Improvements	10,000	38,500	34,500	23,500	-	106,500
481407	144 AV NW at W Nose Creek	1,000	5,000	19,000	-	-	25,000
481408	88 Street SE Extension	4,700	18,800	-	-	-	23,500



# Recommended Capital Investment to Support Service Delivery

ACTIVITY	DESCRIPTION	2019 REQUEST (\$000s)	2020 REQUEST (\$000s)	2021 REQUEST (\$000s)	2022 REQUEST (\$000s)	2023+ REQUEST (\$000s)	Total REQUEST (\$000s)
Program(s)		22,525	29,160	30,250	14,500	-	96,435
432390	Slope Stabilization	400	400	400	400	-	1,600
432514	Safety Improvements	4,750	4,750	4,750	4,750	-	19,000
433160	Subdivision Construction	725	725	725	725	-	2,900
481355	Operational Improvements	250	250	250	250	-	1,000
481401	Optimization	500	500	500	500	-	2,000
481404	Comm Mobility Imp - Streets	1,250	2,125	2,125	2,125	-	7,625
481352	Dev Infrastructure - AD	14,350	12,050	7,750	3,750	-	37,900
481353	Dev Infrastructure - NC	300	2,360	7,750	2,000	-	12,410
481501	Main St Stscape Street	-	6,000	6,000	-	-	12,000
Sub-Total (New Budget Requests)		86,616	146,324	140,300	92,600	-	465,840
Previously Approved Budget Remaining		212,117	22,896	-	-	-	235,013
Total Capita	al Investment	298,733	169,220	140,300	92,600	-	700,853

## **Explanation of Capital Budget Requests**

#### **Annual Investment Program(s)**

#### Activity 432200: Streetlight - Upgrade & Maintenance

New Budget Request of \$20,000 thousand to fund replacement of critical street light infrastructure such as poles, bases, relays, luminaires, cabinets and overhead wires.

Funding from Federal Gas Tax Fund (\$18,000 thousand) and Pay-As-You-Go (\$2,000 thousand)

Operating Impact of Capital: This request requires \$500 thousand base funding of operating costs starting in 2021.

#### Activity 432240: New Traffic Signals and Pedestrian Corridors

New Budget Request of \$12,000 thousand to fund the construction of new traffic signals, traffic cameras, pedestrian corridors and RRFBs relative to established warrants for signalization.

Funding from Federal Gas Tax Fund (\$10,800 thousand) and Pay-As-You-Go (\$1,200 thousand)

Operating Impact of Capital: This request requires \$32.5 thousand base funding of operating costs starting in 2019.

#### Activity 432260: Traffic Signals/Ped Corridors Lifecycle

New Budget Request of \$14,400 thousand to fund infrastructure improvements to existing signalized intersections to improve safety, accessibility and efficiency for users of the network. Includes critical signal infrastructure such as poles, bases, and ducts.

Funding from Pay-As-You-Go Operating Impact of Capital: None

#### **Activity 432271: Pavement Rehabilitation**

New budget request of \$53,500 thousand to fund lifecycle investments and maintenance of the City's roadway network to provide a safe transportation network for all users.

Funding from Federal Gas Tax Fund (\$48,150 thousand) and Pay-As-You-Go (\$5,350 thousand)

Operating Impact of Capital: This request requires \$70 thousand base funding of operating costs starting in 2019, \$2,119 thousand base funding of operating costs starting in 2020, \$1,283 thousand base funding of operating costs starting in 2021 and \$1,339 thousand base funding of operating costs starting in 2022.

For Council Approval

#### Activity 432290: Roads Equipments & Systems

New Budget Request of \$1,600 thousand to fund small equipment and software utilized by Roads. Funding from Federal Gas Tax Fund (\$1,440 thousand) and Pay-As-You-Go (\$160 thousand)

Operating Impact of Capital: None

#### Activity 432300: Plants Capital

New Budget Request of \$3,550 thousand to fund maintenance and upgrade of equipment at the City's asphalt and aggregate crushing plants.

Funding from Capital Reserves Operating Impact of Capital: None

#### **Activity 481356: Signal Communications**

New Budget Request of \$6,000 thousand to invest in critical upgrades to the technology and systems utilized by the Traffic Management Center and signals infrastructure such as cabinets and controllers.

Funding from Federal Gas Tax Fund (\$5,400 thousand) and Pay-As-You-Go (\$600 thousand)

Operating Impact of Capital: None

#### **Activity 433095: Various Street Improvements**

New Budget Request of \$2,000 thousand for construction of various street and active mode improvements in all areas of the Citv.

Funding from Federal Gas Tax Fund (\$1,800 thousand) and Pay-As-You-Go (\$200 thousand)

Operating Impact of Capital: This request requires \$6.5 thousand base funding of operating costs starting in 2019 and \$10 thousand base funding of operating costs starting in 2020, 2021 and 2022.

#### Activity 481357: Roads Facilities and Depots

New budget request of \$21,480 thousand to fund required lifecycle maintenance and to meet environmental regulations for maintenance depots, salt storage and other facilities.

Funding from Federal Gas Tax Fund (\$19,332 thousand) and Pay-As-You-Go (\$2,148 thousand)

Operating Impact of Capital: This request requires \$250 thousand base funding of operating costs starting in 2020.

#### Activity 433150: Bridge Rehabilitation and Protection

New Budget Request of \$48,000 thousand to maintain and rehabilitate the City's network of vehicle and pedestrian

Funding from Federal Gas Tax Fund (\$43,200 thousand) and Pay-As-You-Go (\$4,800 thousand)

Operating Impact of Capital: This request requires \$2,000 thousand one-time funding of operating costs from 2020 to 2022.

#### **Activity 464170: Major Road Reconstruction**

New Budget Request of \$16,000 thousand to reconstruct major roads that require lifecycle renewal.

Funding from Federal Gas Tax Fund (\$14,400 thousand) and Pay-As-You-Go (\$1,600 thousand)

Operating Impact of Capital: None

#### Activity 481351: Sound Wall Lifecycle

New Budget Request of \$1,982 thousand to fund lifecycle replacement and critical repairs of sound attenuation walls city-wide.

Funding from Lifecycle Maintenance & Upgrade Reserve

Operating Impact of Capital: None

#### Project(s)

#### Activity 481402: Crowchild Tr Wide 24-32AVNW

New Budget Request of \$2,893 thousand for widening an additional lane on Crowchild Trail from south of 24 Ave to 32 Ave, and a signalized dual right turn from westbound 24 Ave NW to northbound Crowchild Tr. Funding from Pay-As-You-Go

Operating Impact of Capital: This request requires \$10 thousand base funding of operating costs starting in 2021.



#### Activity 481403: Richmond-Sarcee Improvement

New Budget Request of \$7,000 thousand for at-grade improvements to the intersection of Sarcee Trail at Richmond Road SW.

Funding from Pay-As-You-Go Operating Impact of Capital: None

#### Activity 481405: 194 AV S-MacLeod TR Improvs

New Budget Request of \$4,000 thousand for improvements to the intersection of MacLeod Trail and 194 Avenue South. Funding from Pay-As-You-Go (\$1,588 thousand) and Developer & Other Contributions (\$2,412 thousand) Operating Impact of Capital: None

#### **Activity 481406: Stoney Trail Improvements**

New Budget Request of \$106,500 thousand for improvements to multiple points of access along Stoney Trail. Funding from Pay-As-You-Go (\$41,713.5 thousand) and Developer & Other Contributions (\$64,786.5 thousand) Operating Impact of Capital: None

#### Activity 481407: 144 AV NW at W Nose Creek

A New Budget Request of \$25,000 thousand for a 144 Avenue NW crossing over West Nose Creek and the construction of 144 Avenue from Symons Valley Road to west of Panorama Road.

Funding from Pay-As-You-Go (\$9,925 thousand) and Developer & Other Contributions (\$15,075 thousand) Operating Impact of Capital: None

#### Activity 481408: 88 Street SE Extension

New budget ask for \$23,500 thousand for the extension of 88 Street SE south from the interchange at Stoney Trail and Highway 22X.

Funding from Pay-As-You-Go (\$9,329.5 thousand) and Developer & Other Contributions (\$14,170.5 thousand) Operating Impact of Capital: None

#### Program(s)

#### Activity 432390: Slope Stabilization

New Budget Request of \$1,600 thousand to fund investigation, design and implementation of slope failure mitigation measures at city-wide locations.

Funding from Pay-As-You-Go Operating Impact of Capital: None

#### **Activity 432514: Safety Improvements**

New Budget Request of \$19,000 thousand to fund actions to address traffic collisions and safety related initiatives identified in the Calgary Safer Mobility Plan.

Funding from Federal Gas Tax Fund (\$17,100 thousand) and Pay-As-You-Go (\$1,900 thousand)

Operating Impact of Capital: None

#### **Activity 433160: Subdivision Construction**

New Budget Request of \$2,900 thousand to fund the City's share of development charges for all areas of the City which include boundary payments, road right-of-way and other non-recoverable payments.

Funding from Municipal Sustainability Initiative (\$611.5 thousand) and Lifecycle Maintenance & Upgrade Reserve (\$2,288.5 thousand)

Operating Impact of Capital: None

#### **Activity 481355: Operational Improvements**

New Budget Request of \$1,000 thousand to fund projects to deliver low-cost, high benefit improvements that will enhance operations and safety for all modes of transportation.

Funding from Pay-As-You-Go Operating Impact of Capital: None

#### **Activity 481401: Optimization**

New Budget Request of \$2,000 thousand to develop, plan, design, and implement high-benefit, medium-cost projects to benefit the transportation network.

Funding from Pay-As-You-Go Operating Impact of Capital: None

#### Activity 481404: Comm Mobility Imp - Streets

New Budget Request of \$7,625 thousand for planned community mobility and active transportation infrastructure, equipment, materials and testing.

Funding from Pay-As-You-Go

Operating Impact of Capital: This request requires \$30.5 thousand base funding of operating costs starting in 2019.

#### Activity 481352: Dev Infrastructure - AD

New Budget Request of \$37,900 thousand for construction and funding of future infrastructure related to development in 27 'Actively Developing' communities.

Funding from Pay-As-You-Go (\$28,855 thousand) and Developer & Other Contributions (\$9,045 thousand)

Operating Impact of Capital: None

#### Activity 481353: Dev Infrastructure - NC

New Budget Request for \$12,410 thousand for construction and funding of future infrastructure related to development in 14 'New Communities'.

Funding from Pay-As-You-Go (\$9,410 thousand) and Developer & Other Contributions (\$3,000 thousand) Operating Impact of Capital: None

#### Activity 481501: Main St Stscape Street

New Budget Request of \$12,000 thousand for the Streetscape Masterplan Design and Construction for Main Streets. Funding supports the Council approved land use framework for the Main Streets Program.

Funding from Lifecycle Maintenance & Upgrade Reserve (\$9,000 thousand) and Reserve for Future Capital (\$3,000

Operating Impact of Capital: This request also requires \$76.8 thousand one-time funding of operating costs for 2022.

#### **Notes**

New Budget Requests that incorporate Actively Developing and New Communities:

Activity 481352: Dev Infrastructure - AD Activity 481353: Dev Infrastructure - NC

Activity 481405: 194 AV S-MacLeod TR Improvs Activity 481406: Stoney Trail Improvements Activity 481407: 144 AV NW at W Nose Creek Activity 481408: 88 Street SE Extension