



Capital Road Program Update

Electoral Division: All

Project: 4055-665

Date:	March 12, 2024		
Presenter:	Jeannette Lee, Manager		
Department:	Capital & Engineering Services		
Approved by:	<input checked="" type="checkbox"/> Executive Director / Director	and/or	<input checked="" type="checkbox"/> Chief Administrative Officer

REPORT SUMMARY

On November 29, 2023, Special Council Meeting, Council requested that a report to be brought back for consideration on the status of several road improvement projects. This report is intended to cover various aspects of the road improvement projects, such as existing road conditions, budgetary considerations and potential constraints.

*MOVED by Councillor Wright that Administration be directed to prepare a report, to be presented to Council before the end of Q1 2024, that would defer the 2025 expenditure on Bearspaw Road and explore options to:*

- a) *Locate a traffic circle at the intersection of Burma Road and Bearspaw Road; and*
- b) *Signalize the intersection of Lochend Rd and Highway 1A.*

*MOVED by Councillor Boehlke that Administration be directed to prepare a report to be presented to Council/Governance Committee, no later than the end of Q1 2024, on the status of the following roads:*

- *Paving of Township Road 232*
- *Dickson Stevenson Trail at the junction of Highway 9*
- *Range Road 290 – from Highway 72 to Township Road 285*
- *Township Road 285 – East of Crossfield*
- *Bircham Road – North of Highway 9*
- *Township Road 270 – East of Highway 9*
- *Highway 791 – South of Highway 567 (work with the Province)*
- *Township Road 274 – West of Irricana to Range Road 275*
- *Burma Road*
- *Township Road 250 east of Highway 9*
- *Horse Creek Road*

Excluding the roads currently under provincial control, based on the evaluation of the current traffic volumes and current road conditions, do not warrant immediate improvements, with the exception of Burma Road. Administration recommends taking a proactive approach to engage with Alberta Transportation and Economic Corridors (ATEC) regarding initiatives falling under provincial jurisdiction and exploring cost-sharing opportunities to move it forward. Further information will be presented to

## Capital Road Program Update

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Council once conversations with ATEC have advanced. Additionally, further consideration is needed to include Burma Road improvements in the 5 year capital road program with an opportunity to replace it with the Bears paw Road improvements scheduled for 2025.

An intersection assessment was also completed for the junction of Bears paw Road and Burma Road in response to concerns about traffic safety at the intersection. The report concludes that the intersection is expected to operate at an acceptable level of service. However, the County may consider immediate improvements that consist of pavement marking, speed limit reduction, signage and illumination lighting at an estimated cost of \$60,000.

### ADMINISTRATION'S RECOMMENDATION

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THAT Council directs Administration to engage with Alberta Transportation and Economic Corridors for funding on the following projects:

- Highway 791 (Hwy 567 to Twp Rd 270, 3.2km)
- Dickson Stevenson Trail & Highway 2A Intersection
- Signalization of Highway 1A & Lochend Road Intersection

THAT Council directs Administration to amend the capital road program to replace the Bears paw Road project with Burma Road improvements inclusive of a roundabout at the intersection of Bears paw Road and Burma Road for 2025.

THAT Council approves a budget adjustment of \$60,000 from the Road Program Reserve to complete the short-term improvements to the intersection of Bears paw Road and Burma Road as per Attachment A.

### BACKGROUND

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In accordance with Policy C-400, the Annual Road and Bridge Program is reviewed annually. The County uses industry standards to prioritize the roads to be included in Capital Plan, including traffic volumes, asset condition (Pavement Condition Index, PCI), long range transportation network classification, and regional network significance.

Traffic volumes are regularly recorded and monitored by Administration, this includes passenger vehicles and truck traffic.

Asset condition is evaluated by Transportation Services using the Pavement Condition Index (PCI). Inspections are completed by third party consultant on biennial basis – alternating between the east and west half of the County each year. PCI is rated from 1 -100, with 100 the equivalent of a new road.

The Long Range Transportation Network serves as a strategic framework, identifying the road standards required across the County. This network is shaped by the County's traffic model, which considers projected traffic volumes based on background traffic growth and traffic generated by buildout of the Area Structure Plans. This comprehensive approach ensures that our prioritization process is thorough, objective and aligned with the best industry practices.

## Capital Road Program Update

### ANALYSIS

#### 1. Township Road 232 (Rge Rd 272 to Rge Rd 274, 3.2km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Gravel	11	130	N/A	Network A

Capital improvement is not currently warranted due to low traffic volumes. As re-grading was completed in 2022, the next desirable improvement would be a subgrade preparation and a base and pave. The estimated cost is \$3,070,000. This section was re-graveled by Transportation Services in 2023.

#### 2. Range Road 290 (Hwy 72 to Twp Rd 285, 4.8km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Chip Seal	6.7	107	52	Local

Capital improvement is not currently warranted due to low traffic volumes and low network classification. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be grade widening and an asphalt overlay. The estimated cost is \$4,710,000.

#### 3. Township Road 285 (Hwy 2 to Rge Rd 290, 4km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Paved	7.6 - 10	682	53	Network A

Transportation Services is planning to complete an asphalt overlay on Township Road 285 from Crossfield boundary to Range Road 291 in 2024 as part of the road maintenance program. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be a partial grade widening of the narrow sections, and an asphalt overlay. Relocation or replacement of approximately 500 metres of guardrail would be required to accommodate the widening with an estimated cost is \$3,450,000.

#### 4. Bircham Road (Hwy 9 to Rge Rd 290, 6.4km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Chip Seal	6.7	111	66	Local

Capital improvement is not currently warranted due to low traffic volumes and low network classification. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be grade widening and an asphalt overlay. The estimated cost of this is \$6,080,000.

## Capital Road Program Update

### 5. Township Road 270 (Hwy 9 to Rge Rd 262, 4km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Gravel	10.8	238	N/A	Network B

Capital improvement is not currently warranted due to low traffic volumes. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be subgrade preparation and a base and pave. The estimated cost is \$4,020,000.

### 6. Township Road 274 (Rge Rd 264 to Rge Rd 272, 6.6km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Chip Seal	7.7	254	45	Local

While capital improvement is not currently warranted due to low traffic volumes and low network classification, it is noted that Transportation Services is budgeted to re-chip seal this section of Township Road 274 in 2024. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be an asphalt overlay. The estimated cost is \$2,840,000.

### 7. Township Road 274 (Rge Rd 272 to Rge Rd 275, 4.8km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Gravel	8.7 - 9.4	205	N/A	Local

Capital improvement is not currently warranted due to low traffic volumes and low network classification. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be subgrade preparation and a base and pave. The estimated cost is \$4,580,000. This section was re-graveled by Transportation Services in 2022.

### 8. Burma Road (Range Road 24 to Bearspaw Road, 3.2km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Paved	7.2	2318	73	4 Lane

Based on the current traffic volumes, upgrading of this section of Burma Road to a Regional Collector standard is warranted at this time. A Regional Collector has a 9 metre finished surface within a 30 metre road allowance. While land for road widening has been dedicated from many parcels during past subdivision, acquisition from several parcels is still required to achieve a 30 metre road allowance for this section of Burma Road. Capital improvements would include grade widening and an asphalt overlay to achieve a finished width of 9 metres. The estimated cost is \$3,360,000, excluding land acquisition.

## Capital Road Program Update

### 9. Bearspaw Road & Burma Road Roundabout

Recent review of this intersection including traffic modelling, has identified that short term, safety could be improved with revised pavement markings, speed reductions to 60km/h, additional signage, and illumination. It is anticipated that the existing intersection will function at an acceptable Level of Service C at the 2044 horizon, without triggering the need for a roundabout or traffic signals. These improvements are estimated to cost \$60,000.

Long term, a roundabout would provide a more suitable improvement for this intersection than traffic signals. Traffic modelling indicates that a single lane roundabout would function at Level of Service A at the 2044 horizon. The estimated cost of constructing a roundabout is \$2,940,000.

While both options above do operate at an acceptable Level of Service at the 2044 horizon, a roundabout does provide enhanced traffic flow and greater safety when compared to the existing two-way-stop-controlled intersection.

### 10. Township Road 250 (Rge Rd 270 to Rge Rd 271A, 2.4km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Gravel	10.1	113	N/A	Local

Capital improvement is not currently warranted due to low traffic volumes and low network classification. If it is determined that an upgrade is to be implemented, the next stage of the capital improvements would be subgrade preparation and a base and pave. The estimated cost is \$2,360,000. This section was re-graveled by Transportation Services in 2020.

### 11. Horse Creek Road (Twp Rd 280 to Twp Rd 290, 9.6km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Chip Seal	8.2 – 8.4	646	68	Local

The next phase of capital improvements would be an asphalt overlay. The estimated cost is \$4,090,000. However, capital improvement is not currently warranted due to low traffic volumes and low network classification. The current Capital Plan includes Horse Creek Road, which is scheduled for an asphalt overlay from Township Road 280 to Township Road 283 in 2029.

### 12. Highway 791 (Hwy 567 to Twp Rd 270, 3.2km)

Surface Type	Surface Width (m)	Vehicles Per Day	Pavement Condition Index (0-100)	Long Range Network Classification
Gravel	7.5	100	N/A	N/A

As this is a highway under provincial jurisdiction, the scope of any capital improvement would be decided by Alberta Transportation and Economic Corridors. The likely capital improvements would be subgrade preparation, and a base and pave. The estimated cost of these improvements is \$4,820,000.

## Capital Road Program Update

### 13. Dickson Stevenson Trail & Highway 2A Intersection

This intersection is under provincial jurisdiction. After conducting an intersection treatment warrant analysis, it was determined that upgrading of this intersection to a Type 4a is warranted. This would provide widened acceleration and deceleration lanes, improved radii, and improved paint markings. The estimated cost of intersection improvements is \$675,000.

Initial discussions with ATEC indicate there is potential for cost sharing, but further discussions between administrations would be required. Should the County wish to proceed with the improvements, a roadside development permit application can be submitted to ATEC.

### 14. Signalization of Highway 1A & Lochend Road Intersection

This intersection should be signalized and upgraded similar to the intersection of Bearspaw Road and Highway 1A. Due to the close proximity of the fire station, a signal pre-emption system is recommended, which allows emergency vehicles to trigger a green light when approaching the intersection in an emergency. The scope of work would also include illumination, concrete medians, pavement markings and line painting. The estimated cost of the signalization and corresponding intersection improvements is \$1,970,000.

Initial discussions with ATEC indicate that this intersection is nearing the warrant for traffic signals.

## COMMUNICATIONS / ENGAGEMENT

No communication or engagement is required.

## IMPLICATIONS

### Financial

Advancing projects as outlined in this report in fiscal year 2024 would require a budget adjustment in accordance with the respective estimated budget for each project. There may be opportunities for cost sharing with Alberta Transportation and Economic Corridors for the projects which are on provincial highways.

### Safety

Proceeding with capital improvements of any of the road projects will provide enhanced user safety.

## STRATEGIC ALIGNMENT

Key Performance Indicators		Strategic Alignment
Effective Service Delivery	SD1: Services levels are clearly defined, communicated and transparent to citizens	SD1.1: Percent of services with defined service levels
Effective Service Delivery	SD2: Services are resourced and delivered to specific groups as intended, and citizens	SD2.2: Percent of citizens satisfied with the County's defined service levels
		The County's Annual Road and Bridge Program defines the standards to prioritize roads for Capital improvements. The Long Range Transportation Network clearly defines road standards across the County and ensures that prioritization is thorough, objective and follow best practice.
		The Annual Road and Bridge Program is reviewed regularly and considers traffic volumes, asset condition, long-range

## Capital Road Program Update

Key Performance Indicators		Strategic Alignment	
	are satisfied with the outcomes		transportation network classification, and regional network significance, toward ensuring a high level of service for citizens.
Effective Service Delivery	SD4: Services are continually assessed for improvements in cost efficiency, effectiveness, and customer experience	SD4.1: Percent of services that are assessed annually for innovation opportunities and have demonstrable efficiency improvements	Regular review of the Annual Road and Bridge program and re-prioritization of projects ensures an efficient approach to capital improvement. Collaboration with Alberta Transportation and Economic Corridors creates opportunities for cost sharing.

### ALTERNATE DIRECTION

No alternate options have been identified for Council's consideration.

### ATTACHMENTS

Attachment A: Budget Adjustment Form