



**Deloitte.**

**Local Roads Reconstruction  
Program Design**

**Sturgeon County**

May 23, 2017

# Background

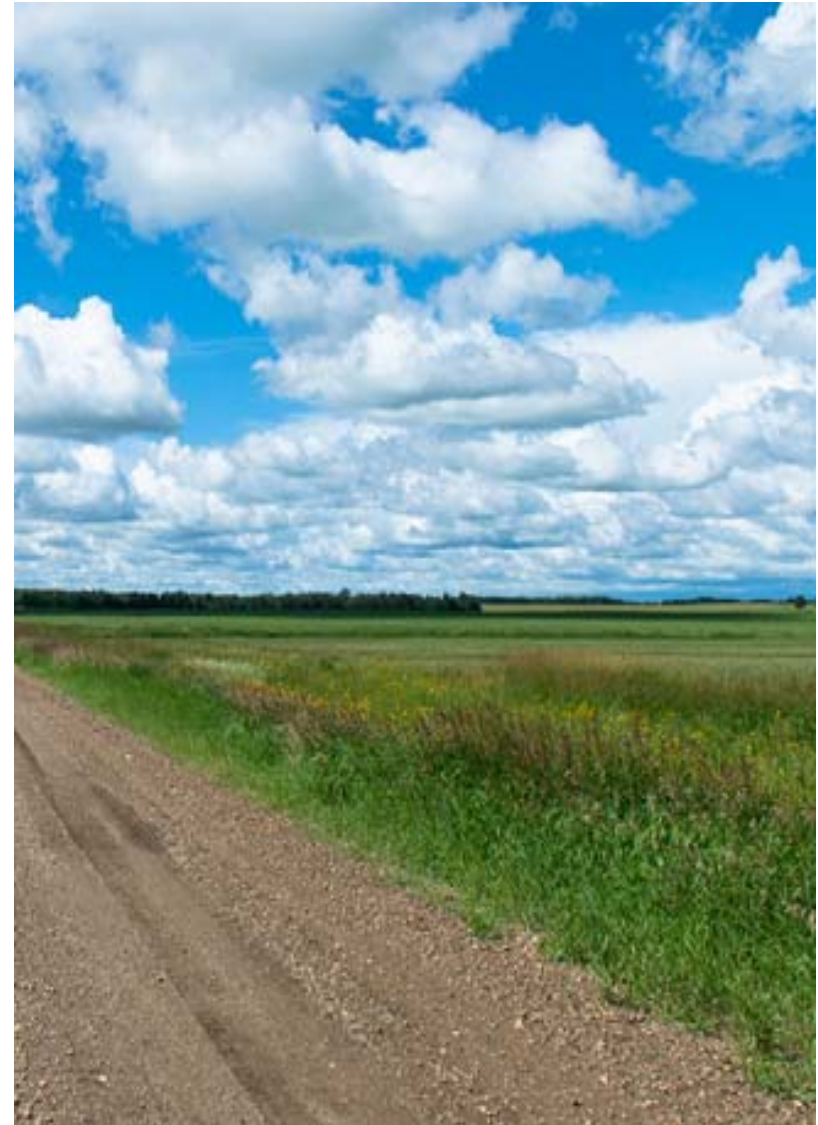
## Deloitte's Scope

In 2016 the County undertook a review of the Local Road Reconstruction Program (the "Program") which was operated internally through the Transportation Services to determine if construction should be maintained with the County resources or contracted services. The results of the review and the subsequent approval of Council has shifted the focus of the County to complete the Program through contracted services managed by Engineering Services.

The Program's objective is to reconstruct at a minimum 128 km of Local Roads over a 10 year period.

## Deloitte's Scope

Assess potential procurement methods for the contracted services, conduct preliminary organizational change impact assessment, provide recommendations, and develop a roadmap for the successful delivery of Sturgeon County's (the "County") Local Roads Reconstruction Program (the "Program").



# Approach



## Approach

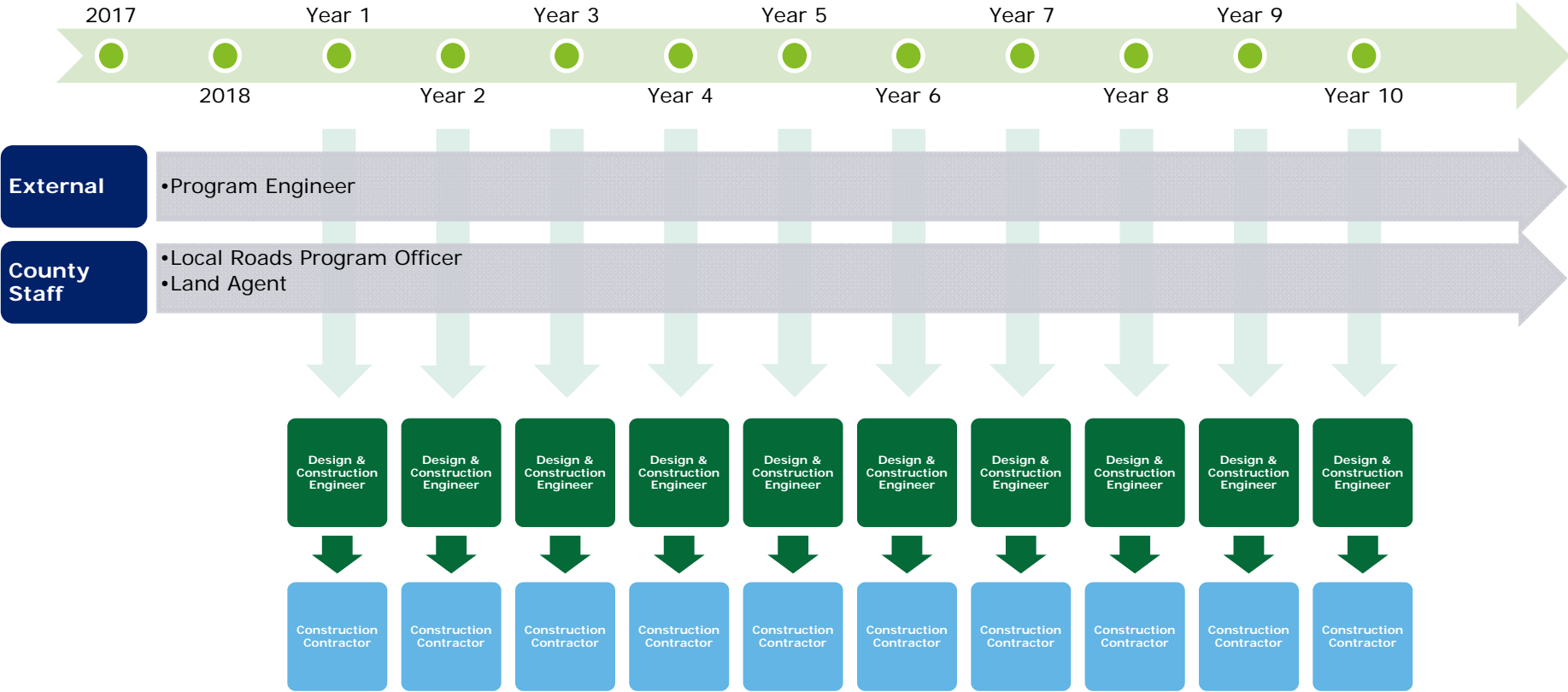
Our approach included five major steps:

- **Consultations and document review** – Conducted workshops and meetings with the County staff, reviewed multiple documents.
- **Multi-Criteria Analysis** – Performed qualitative assessment of procurement methods based on a number of criteria that are aligned with the program objectives.
- **Market sounding** – Conducted interviews with construction contractors and engineering firms to solicit market feedback about the identified procurement methods.
- **Preliminary change impact assessment** - Examined the potential change and impact factors that need to be considered and accounted for in the Program implementation plan.
- **Recommendations & roadmap for implementation** - A number of recommendations pertaining to procurement model and organizational change considerations were made, and a roadmap for implementation was developed.

# Local Roads Reconstruction – Program Design

# Program process overview

The County should underpin the overall Program with a Program Engineer under a professional services contract, and deliver the annual bundle of Projects through the Design-Bid-Build (“DBB”) method which entails a Design & Construction Engineer under a professional services contract and a Construction Contractor selected by tender.

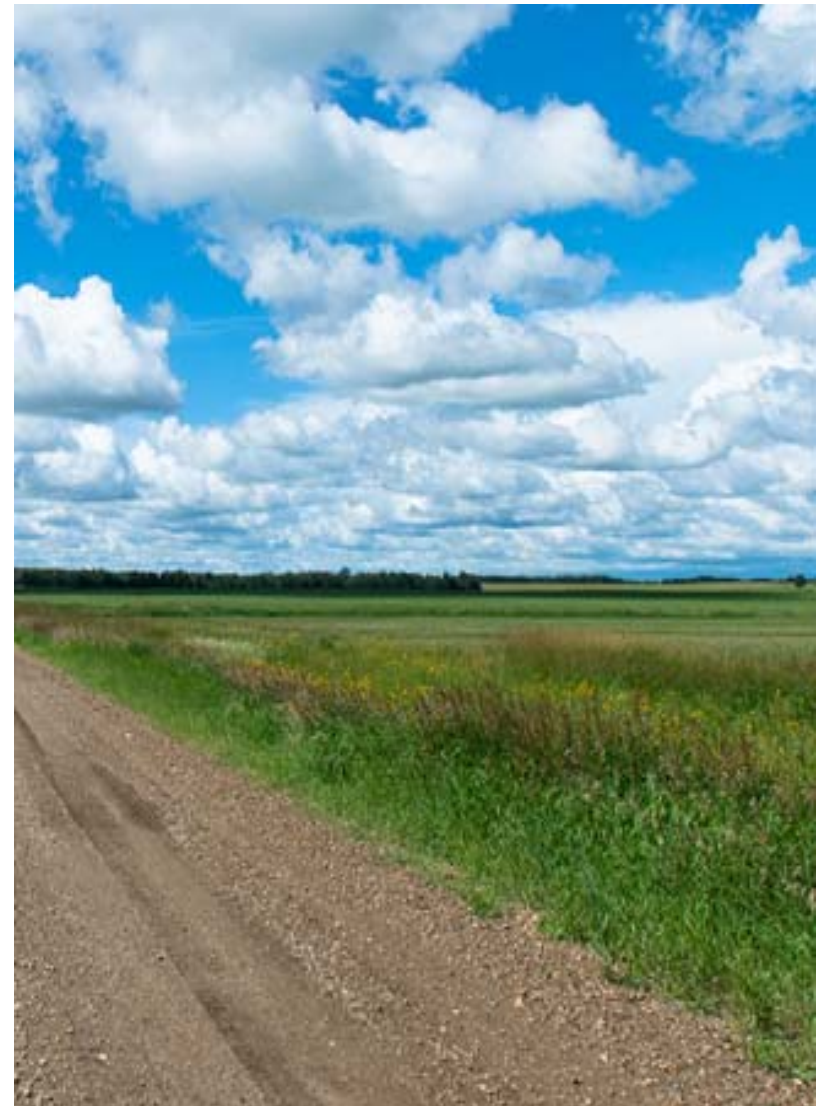


# Recommendation 1 – Engage a Program Engineer

Engage an engineering firm for the role of Program Engineer to undertake Preliminary Engineering activities for the entire 128kms of Local Road. The Preliminary Engineering activities for the first annual bundle of Projects should be ready for construction in 2019; the remainder of the Local Roads can be assessed at a rate that at a minimum is sufficient to meet the annual construction target of 12.8km but could be done as quickly as the County desires, subject to annual budget limitations.

The Program Engineer's tasks are broader than just Preliminary Engineering, and include:

- **Task 1** – Confirming or determining the design standards, material specifications, construction quality assurance / quality control procedures, and other Program-wide technical requirements and standards that will be needed throughout the full duration of the Program.
- **Task 2** – Conduct Preliminary Engineering on the subject roads to determine land/utility/environmental permit requirements, Reconstruction Approach, and planning level budget estimates.
- **Task 3** – Annual Prioritization: assist the County in the initial and subsequent annual Project prioritization process.
- **Task 4** - Project Preparation: for specific planned Projects in an annual bundle, in advance of the design and construction phase.



## Recommendation 2 – Deliver the Projects under a DBB model

The County should consider delivering the design and construction activities of the Program under a DBB model. Delivering the Projects under a DBB model entails the following:

### ▪ Procurement of the Design & Construction Engineer

- The Program Engineer prepares supporting documents and drafts or assists the County in drafting the RFP for detailed design and engineering construction services;
- The County issues the RFP and the Program Engineer assists the County in responding to bidder questions, in evaluating the submissions, and in negotiating with the preferred proponent; and
- The County executes the contract for detailed design and construction engineering services with the Design & Construction Engineer

### ▪ Procurement of a Construction Contractor to perform Local Roads reconstruction

- The Design & Construction Engineer prepares the tender documents for the bundle of Projects;
- The County issues the tender documents to solicit tenders from the market; and
- The Design & Construction Engineer assists the County in evaluating the tenders; and the County executes the contract for road construction with the Construction Contractor.

### ▪ Undertake construction of Local Road projects

- The Construction Contractor undertakes road reconstruction activities, based on the detailed design prepared by the Design and Construction Engineer; and
- The Design & Construction Engineer oversees the work of the contractor, performs quality assurance during construction, reviews and provides recommendations on the contractor's monthly progress payment applications, and prepares as-built drawings of the completed work.

## Recommendation 3 – Recruit Local Roads Program Officer

A commercially savvy and technically competent, experienced resource should be assigned full-time to lead the Program. The Local Roads Program Officer should be the point of contact, managing the Program Engineer and the Design and Construction Engineer, on behalf of the County. Other responsibilities of the Local Roads Program Manager include, but are not limited to:

- Conduct the procurement process to engage the Program Engineer;
- Conduct the procurement process to prequalify Design & Construction Engineers, with assistance from the Program Engineer;
- Prioritize Local Road Projects for reconstruction on an annual basis, in coordination with the Transportation department and the Program Engineer;
- Review and approving the payment applications of the Program Engineer, and the Design & Construction Engineers;
- Provide regular Program status updates to the Engineering Manager, Program Sponsor and the Steering Committee;
- Engage with the Engineering Manager, Program Sponsor and the Steering Committee to resolve issues with the private sector participants, if any;
- Provide recommendations to the finance department to issue progress payments to the Construction Contractors;
- Liaise with Transportation department and Communications to issue public notifications pertaining to road closures and Program status; and
- Receive, review and process/file as-built drawings and other construction/quality information received from the Design and Construction Engineers

*It is expected that the Local Roads Program Officer will be engaged full-time in the Program for most part of the year; however, there may be some instances where the subject resource may have availability to support other County initiatives. The level of effort is likely to decline after the Preliminary Engineering is done.*



## Recommendation 3 – Recruit Land Agent

A Land Agent be hired to undertake Land Related Activities related to the Program. The market participants highlighted the importance of having a dedicated County resource to undertake Land Related activities. The responsibilities of the Land Agent include, but not limited to:

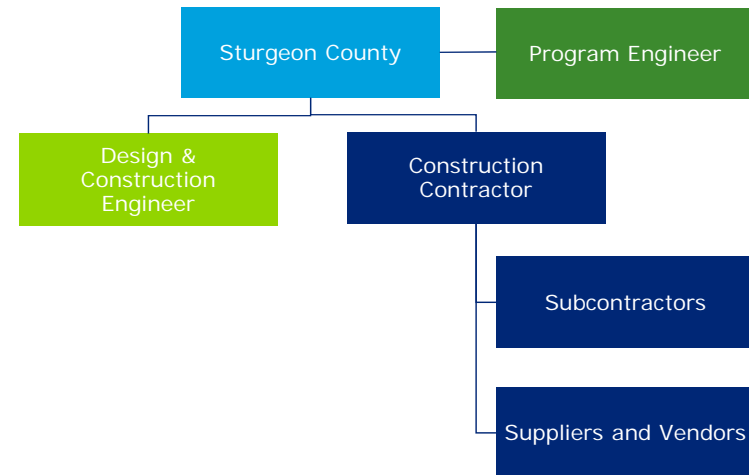
- Contact and conduct negotiations with landowners, as required for purchase or other access to necessary lands;
- Make agreements related to backslope, disturbed area compensation, temporary stock piles, trees in the ROW, correction of road alignments for safety and existing encroachment onto County lands, custom fitting solution to address drainage issues, and other structures located in the ROW. (e.g.: mail boxes, gates, fences);
- Registration of legal documentation pertaining to these agreements;
- Liaising with the Legal Department and Finance Department as necessary to develop agreements and make payments;
- Provide land-related advice to the Program Engineer and Local Roads Program Officer to assist with Program Engineering;
- Communication with landowners throughout the construction phase; and
- Post-project interactions with landowners to address concerns (if any) related to non-compliance with agreed agreements

*The extent of Program workload for the Land Agent is unclear at this stage; however, it is expected that the Land Agent may have availability to support Land Related Activities for the remainder of the Engineering Services' capital plan activities.*

# Recommendation 5 – Contracted Services Approach

## Program Engineer

- **Duration:** Initial contract should include completion of Task 1 plus Preliminary Engineering for full 128kms of Local Roads (Task 2), plus additional Tasks as needed to support the Program during the initial contract period. Suggest 3 years plus option to renew for 2 years;
- **Procurement process:** RFQ, shortlist based on qualifications, RFP. Select based on value: proposed workplan and cost;
- **Key term:** Program Engineer not permitted to serve as Design and Construction Engineer. If this limits interest in the Program Engineer opportunity, consider relaxing the restriction after Task 2 is complete; and
- **Payment:** Hourly rates, indexed to CPI. Each year’s workplan and budget to be approved annually by the County.



## Design & Construction Engineer

- **Duration:** As necessary to complete the tasks for a single year’s bundle of Projects or multiple years’ bundle of Projects, dependent on the number of annual bundles that are ready to move to detailed design and construction phase. The pace of the Program Engineering (all tasks) will dictate this;
- **Procurement process:** Initial RFQ to shortlist firms to be put on a vendor list, with shortlisting based on respondent’s proven experience on rural road reconstruction with appropriate Reconstruction Approaches, proven roster of in-house and/or subconsultant resources for all aspects of the Design and Construction Engineer role (e.g. designers, surveyors, inspectors, etc.), and ability to stamp and sign all designs, drawings, specifications, and similar documents in accordance with APEGA requirements. RFP for each year (or multi-year) of design and construction engineering services, selected largely on price. RFP to include the Project Descriptions developed by the Program Engineer. RFP process is intended to be a relatively short and simple process that is standardized for each year; and
- **Payment:** Hourly rates and disbursements to an upset limit for each year’s Project bundle. This is predicated on thorough Program Engineering having been done, with concise Project Descriptions that will give the engineering firms comfort to be able to be bid an upset fee limit. Indexing rates to CPI if contracts are multi-year duration may be considered.

## Construction Contractor

- **Duration:** Either annual (for an annual bundle of Projects), or multi-year if the Design and Construction Engineer can complete the design and tender documents needed for more than one year’s worth of Projects;
- **Procurement process:** standard tender process; and **Payment:** monthly progress payments

# Change Impact Assessment

# Change Impact Assessment

## The change

The Program involves the transfer of responsibility for Local Roads Reconstruction from the Transportation Department to Engineering Services Department, along with hiring of external engineering firms/construction contractors to support the Local Roads Reconstruction. Overall, the Program is intended to provide improved road services for the public.

## The potential challenges

Key stakeholders feeling that the change is happening to them

Managing expectations with the public and council

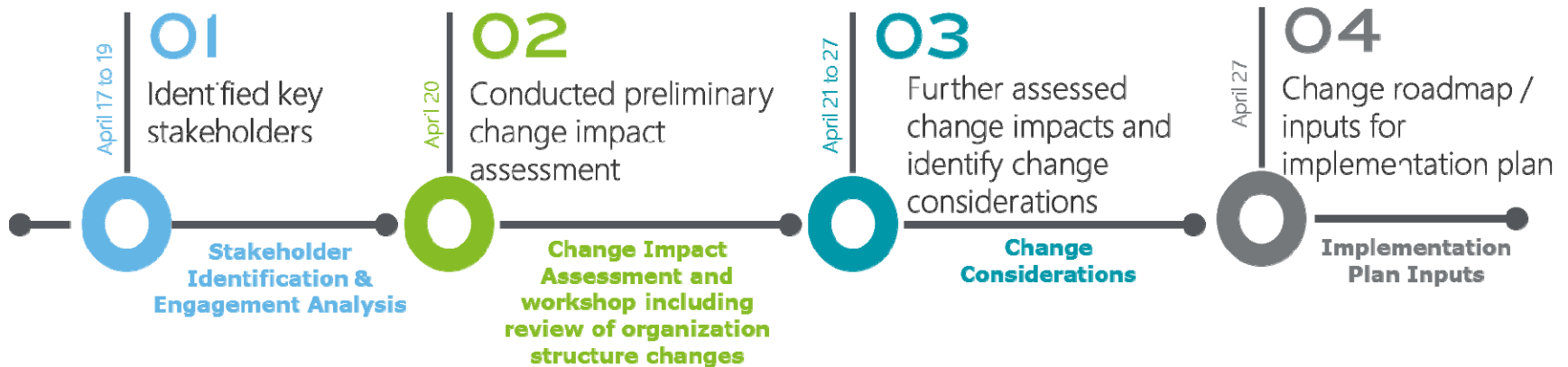
Sturgeon staff anticipating additional outsourcing which may impact their productivity

Confusion between responsibilities over communication and information flow

Leadership misalignment around implementation plan

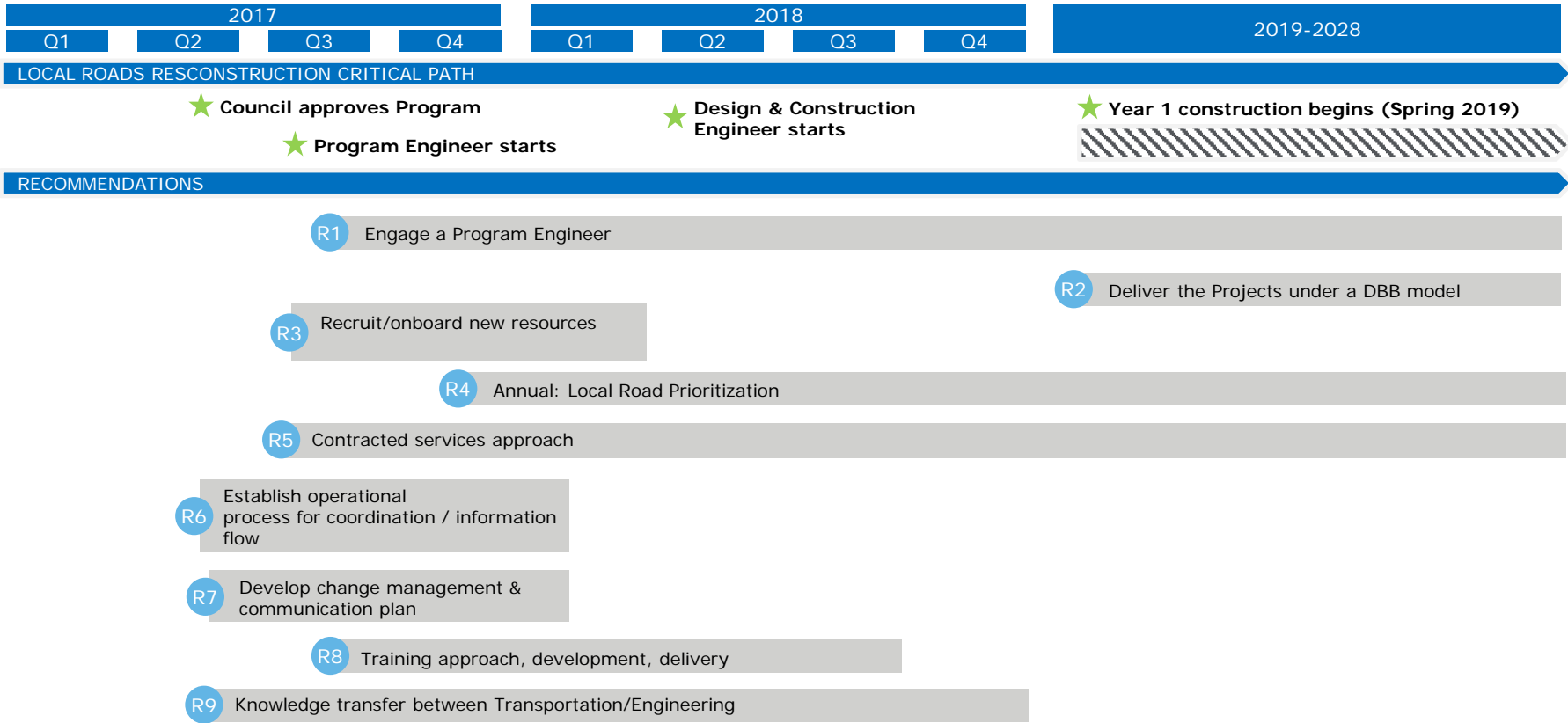
Lack of capacity to execute on tasks

## The change approach



# Roadmap

# Roadmap for Implementation



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