

DELIVERABLES

LAND SUPPLY AND  
CONSUMPTION SKETCH MODELS

Q1 2017

PROJECTIONS  
FOR CITY GROWTH

Q1 2018

IMPACT OF GROWTH ON  
INFRASTRUCTURE COST STUDY

Q2 2018

IMPACT OF  
GROWTH STUDIES

Q3 2018

EDMONTON URBAN  
GROWTH STUDY

Q4 2018

GROWTH  
MODELLING  
FRAMEWORK

c/o  
CITY PLANNING  
SUSTAINABLE DEVELOPMENT

Edmonton





## INTRODUCTION

The goal of the Growth Strategy is to improve how City Administration supports, monitors, and reports Edmonton's growth and change and the impacts of such. One of the outcomes under the Growth Strategy is to develop and provide new analytical tools for staff. A dynamic Growth Modelling Framework is currently under development and will be used to project future growth and its impact, will improve the quality of data used to guide funding decision and growth policies and priorities.

## APPROACH

A number of overarching approaches will be used to develop the Growth Modelling Framework. These approaches will ensure that the framework is innovative, comprehensive and efficient.

### STAKEHOLDER ENGAGEMENT

By collaborating with a wide variety of stakeholders, representing all aspects of the system, we will be able to gather the most comprehensive, in-depth qualitative and quantitative information for use in the new framework.

### COMMUNICATION

Ongoing two-way communication will be used to build awareness and support for the framework, methodology and outputs. Subsequently, this awareness will support understanding of City growth and the impacts of potential decisions.

### LINKING LAND USE AND TRANSPORTATION

The major driving force of urban growth is population change and transportation. Linking land use and transportation is a critical component of the framework used to project growth, change and financial outcomes.

### PROJECTING

The framework will utilize a two lens approach - where we will be, and where we want to be. Both approaches provide vital information in projecting the future of urban growth.

*Forecasting* uses past and current trends to estimate future growth and its impacts. In other words: if we keep following the same road (actions, priorities, decisions) where will we end up (what will our city look and feel like).

*Backcasting*, on the other hand, is the process of deciding where we want to be in the future (what do we want our city to be) and estimating what we need to do to achieve that future state.

### SKETCH PLANNING

Sketch planning uses geographic information systems or data based tools that enable city builders to produce general estimates of transportation and land use demand and impacts. The information from sketch planning may be integrated into more in-depth models.

## IMPLEMENTING THE FRAMEWORK

Using the approaches above, the framework will illustrate various development alternatives supported by in-depth analysis of the impacts of these alternatives.

# 1

### STEP ONE: ESTABLISH THE VISION

The framework is based on the City's vision and principles for land use and transportation established in the Way We Grow and the Way We Move. The vision and principles are expressed in qualitative formats and will be translated into quantitative targets for use in the framework.

# 2

### STEP TWO: DETERMINE THE SCOPE

Determine and set spatial boundaries, as well as duration of the various outcomes such as a 30 year span or a 60 year span.

# 3

### STEP THREE: DETERMINE THE ASSUMPTIONS AND VARIABLES

Assumptions are the expected circumstances or conditions, such as the state of the economy, that provide the context within which projections are developed.

Variables are the changing influences within the framework, those which we wish to analyze. Given that the aim is to analyze different patterns of urban growth, the most common targets and indicators will relate to: the location and density of growth, its homogeneity or heterogeneity (mix) as well as different elements of the transportation system.

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*These variables can be expressed by the Five D's - density, diversity, design, destination accessibility and distance to transit. These characteristics of the built environment have been identified as having the greatest impact on creating a more compact urban form.*

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### GENERATE POSSIBLE OUTCOMES

Using the information from the forecasting, backcasting and sketch planning tools, and applying the various assumptions and variables from step three, the framework will generate various alternative projections.

### PROJECTION ANALYSIS AND IMPACT STUDIES

Each projection will be analyzed to assess the potential qualitative and quantitative impacts of the assumptions and variables on the City. As well as impacts such as housing affordability, transportation system connectivity, employment and health, and cost of growth studies will be conducted by estimating each projection's infrastructure requirements and the associated cost.