Acknowledgments

- Projects Owner
  - Regina Region TDM update
  - Regina Bypass Planning
- Regina Region TDM Partner
- Sub Consultants
Outline

- Regina Bypass Project Plan
- Regina Region Travel Demand Model
- Regina Bypass Traffic Forecast
Proposed Regina Bypass
MHI desire to use better forecasting tools for highway planning
- Recent rapid growth and future demand
- Key infrastructure planning initiatives

City of Regina interest in working with MHI
- Regional impacts on City infrastructure
- To inform OCP/TMP processes
What is a TDM?

Simply: A forecast of future travel.
- Where do people and goods travel to and from
- What routes do they choose to get there
- A decision making tool for strategic infrastructure investment

The Input:
- Trip characteristics; traffic counts, road network, trip diaries
- Population and employment (Current and Forecast)

The Output:
- Future travel demand in terms of future traffic volumes, travel time
- User cost savings analysis
Four-Step Modelling Approach

- **Trip generation**: How many trips? (trips produced by and attracted each TAZ; fcn pop, empl)
- **Trip distribution**: Where are trips going? (exchange among and within TAZs)
- **Mode choice**: Which mode(s)? (choice is function of time and cost)
- **Trip assignment**: Which route is used?
An EMME Foundation to Work With

- First developed in 1989 by City of Regina
- Periodic road network and land use updates
- New calibration and forecast in 2010, based on 2006 OCP
Scope of Work

- Update the City of Regina’s EMME model to make it more usable for highway planning
  - Auto and truck travel surveys
  - Rural Traffic Analysis Zones and Road Network
  - Base year land use to 2012
  - External trip tables
  - Develop 2020 and 2040 forecast scenarios
  - Training
Data Sources

- Traffic Counts - AADT & TAADT
- MHI Truck OD Surveys (multi-year)
- 2013 Auto & Truck Surveys
- 2013 Industry Surveys
- 1993 External Trip Tables
- 2009 Household Survey
- 2006 Census - Place of Work/
  Place of Residence Data

- Regional & City Zones and Network
- Census Population Data
- SAMA & City Assessment Data
- Interviews with municipalities
- Traffic Counts (2009 and previous)
- 2009 Household Survey
- 2006 Census - Place of Work/
  Place of Residence Data
Forecast method – How much growth

POPULATION FORECAST

- Fertility
  - Births
- Mortality
  - Deaths
- Immigration Policy
  - Natural Increase
  - Net Migration

REGINA CMA POPULATION FORECAST

REGINA CMA FAMILY / NON-FAMILY HOUSEHOLD FORECAST

UNIT TYPE PROJECTIONS

- Singles/Semis
- Rows
- Apartments

Average HH Size

POPULATION BY TAZ

EMPLOYMENT FORECAST

- Participation Rates
- Unemployment Rates
- Net In-Commuting

REGINA CMA EMPLOYMENT

HISTORIC & SECTOR ANALYSIS

- Population Related Employment
- Employment Lands Employment
- Major Office Employment
- Rural Based Employment

EMPLOYMENT BY TAZ
Land Use Forecast

- Overall growth driven mainly by broad economic factors
- Location of growth determined through local planning processes
- In a rapidly growing area, development planning and infrastructure need to be well-coordinated and integrated
The GTH – An Inland Port

- 1800 Acre state-of-the-art transportation and logistics development
- Connect to global markets through direct road and rail transport services
Is it a good investment?
Regional TDM provided higher-level basis for forecasting

Micro Level Forecast for Regina Bypass
- Business Case
- Turning Movements for design
Land Use Forecast - Refinement
Auto Forecast
Truck Forecast
Turning Movement Forecast

- 48 turning movement forecasts
  - AM and PM peaks
  - Three forecast horizons
- Transfer from EMME to Excel
- Manual adjustments
Conclusion

- MHI is working closely with municipalities in the Regina Region to plan for continued rapid growth
- Regina Bypass will be a high speed free flow facility
  - Increase Safety
  - High Mobility
  - Limited Access
- Traffic forecast was developed from a recently updated RRTDM and further refined for micro-analysis
QUESTIONS?