

Implementation Of Superpave

ALBERTA

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Alberta Transportation

- ◆ Conservative approach to the adoption of the Superpave system
 - Marshall method is still the preferred system of choice on Provincial Highways
- ◆ Alberta Transportation (1995 to 2002)
 - 25 projects with total tonnage greater than 1.5M tonnes.
 - Lead Canadian agency at that time
 - LTPP SPS-9 test sections on Hwy 3 (1995)
 - Wide range in traffic and geographic locations
 - All types of construction :overlay and new construction
 - Conventional and modified PG asphalts
 - Most "Coarse designation, two "fine
 - End Product Specifications

Superpave Alberta Transportation

Observations

- Improved Rut Resistance –Mixed Results
- First stage pavements susceptible to premature rutting
- Softer asphalt cements still susceptible to flushing and rutting
- Appeared to offer increased resistance to wheel path rutting on very heavily loaded pavements
 - ◆ Based on very limited number of projects

Superpave Alberta Transportation

Observations

- Poor durability performance on a number of projects
- Increase pavement and surface damp spots
- Eventual deterioration due to moisture damage
- Most superpave pavements have since been seal coated

Superpave Alberta Transportation

After 2002 Alberta Transportation
Stopped using Superpave based on
what they believed to be

- Increased aggregate costs and resource usage
- Performance
- And also due to overall cost premiums

Superpave Alberta Transportation

Moving Forward

- Alberta Transportation at this time appears not to have an appetite to specify Superpave mixes though they do have a Superpave specification.
- A few projects were constructed at adhoc in Alberta over the last few years
- We have seen Superpave mixes used on P-3 projects for the ring roads around Edmonton and Calgary with great success

City of Edmonton

Stone Mastic Asphalts Superpave

- City of Edmonton (C.O.E.) has had extensive experience and use of SMA as a regular part of their program
- Since 2002 the C.O.E has laid approximately 400,000 tonnes of SMA on major and minor collector and arterial roads

City of Edmonton SMA

Issues & Challenges

- The availability of zero grind mineral filler
- High quality aggregates till this year were supplied by the city from a quarry in the Rocky Mountain House area (very expensive to import and produce)
- As of 2015 contractors are supplying their own aggregates that must meet all the aggregate consensus testing

City of Edmonton SMA

Moving Forward

- Many challenges in the early years with plant control, lay down, segregation, and compaction. However over the years contractors and consultants have become better equipped and knowledgeable in these areas
- Overall beside some compaction, flushing and lay down issues SMA has been performing above expectation with very good performance.
- The City of Edmonton will continue using SMA into the foreseeable future

City of Edmonton Superpave

Superpave

- Besides a few Superpave projects over the last 15 years, the City of Edmonton has not used superpave extensively
- As of 2015 the city has gone to superpave mixes for all asphalt projects

City of Edmonton Superpave

Issues & Challenges

- Initially the Industry had some mix design problems till consultants and contractors got a better handle on the products and processes
- Problems with compaction were experienced by all contractors.
- Overall the plant and lay down has been going well with some minor issues

City of Calgary

SMA and Superpave

- Between 2005 – 2012 the City of Calgary began experimenting with the use of SMA and Superpave mixes on various projects
- In 2012 the City of Calgary changed their specs to include superpave on all major roadways
- Since the beginning the City of Calgary went through the same growing pains as the Edmonton

City of Edmonton and Calgary Superpave

Moving Forward With Superpave

- The city of Edmonton and Calgary are monitoring the mixes
- The City's have and will conduct Performance testing
- Going forward it looks like the City of Edmonton and Calgary will continue using superpave mixes.

Thank You !