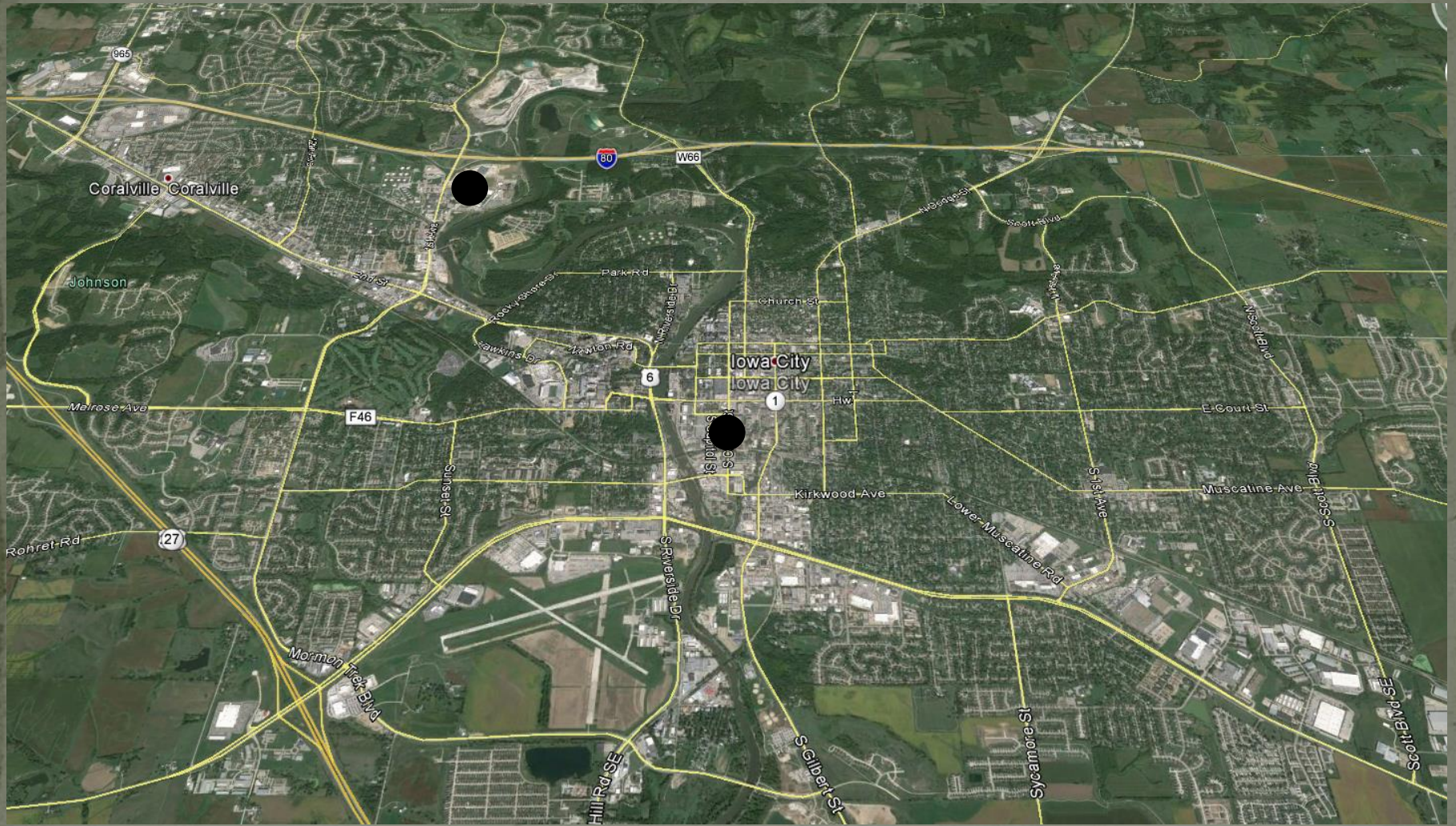
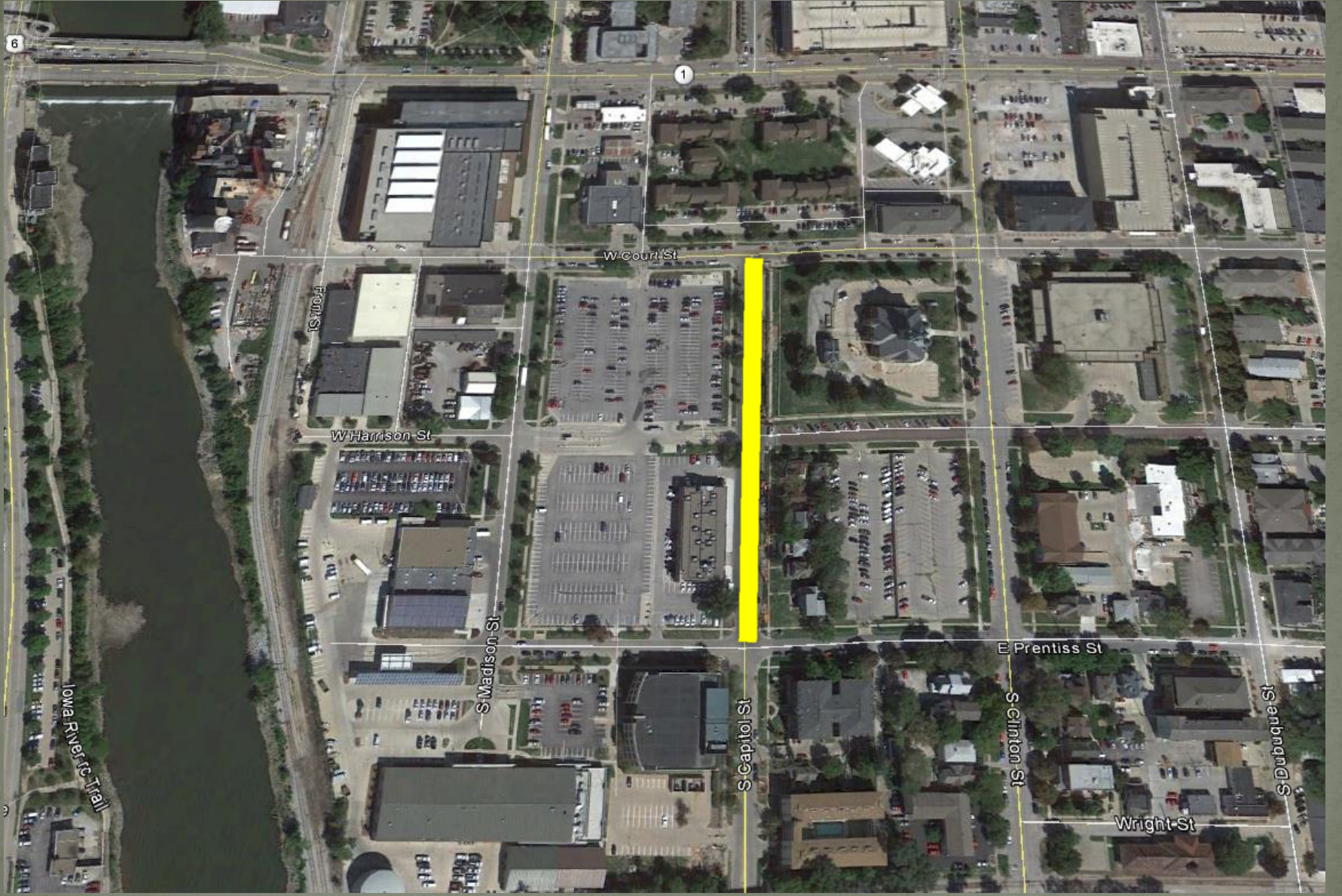


First Warm Mix Asphalt Construction in Iowa City

Capitol Street – August 15, 2011





8

1

W Court St

Fort St

W Harrison St

S Madison St

S Capitol St

E Prentiss St

S Clinton St

S Dubuque St

Wright St

Iowa River to Trail

Capitol Street – Warm Mix Asphalt

Capitol Street Features

- Local Street with City Transit Services
- 50 feet wide
- Asphalt over Brick and PCC Sections
- 1400 ADT

Capitol Street – Warm Mix Asphalt

Why Warm Mix Asphalt

- University of Iowa – Dr. David Lee
- Environmental Benefits
- Cost Savings
- Public Benefit

Capitol Street – Warm Mix Asphalt

Capitol Street Rehabilitation Project

- “ Mill and Fill” Project
- 1 – 1.5” HMA Base Coarse
- 1 - 1.5” WMA Surface Coarse
- 327 Tons of 1 Mill ESAL Surface
- 10% RAP
- PG 64-22

Capitol Street – Warm Mix Asphalt

WMA Key Feature

- Additive - LEADCAP
 - Wax based with Crystal Controller
 - Development and Production
 - Korea Institute of Construction Technology
 - Kumho Petrochemical Co.
 - Installed by LL Pelling Company
 - First Use in United States for WMA Application

9/2011
2012

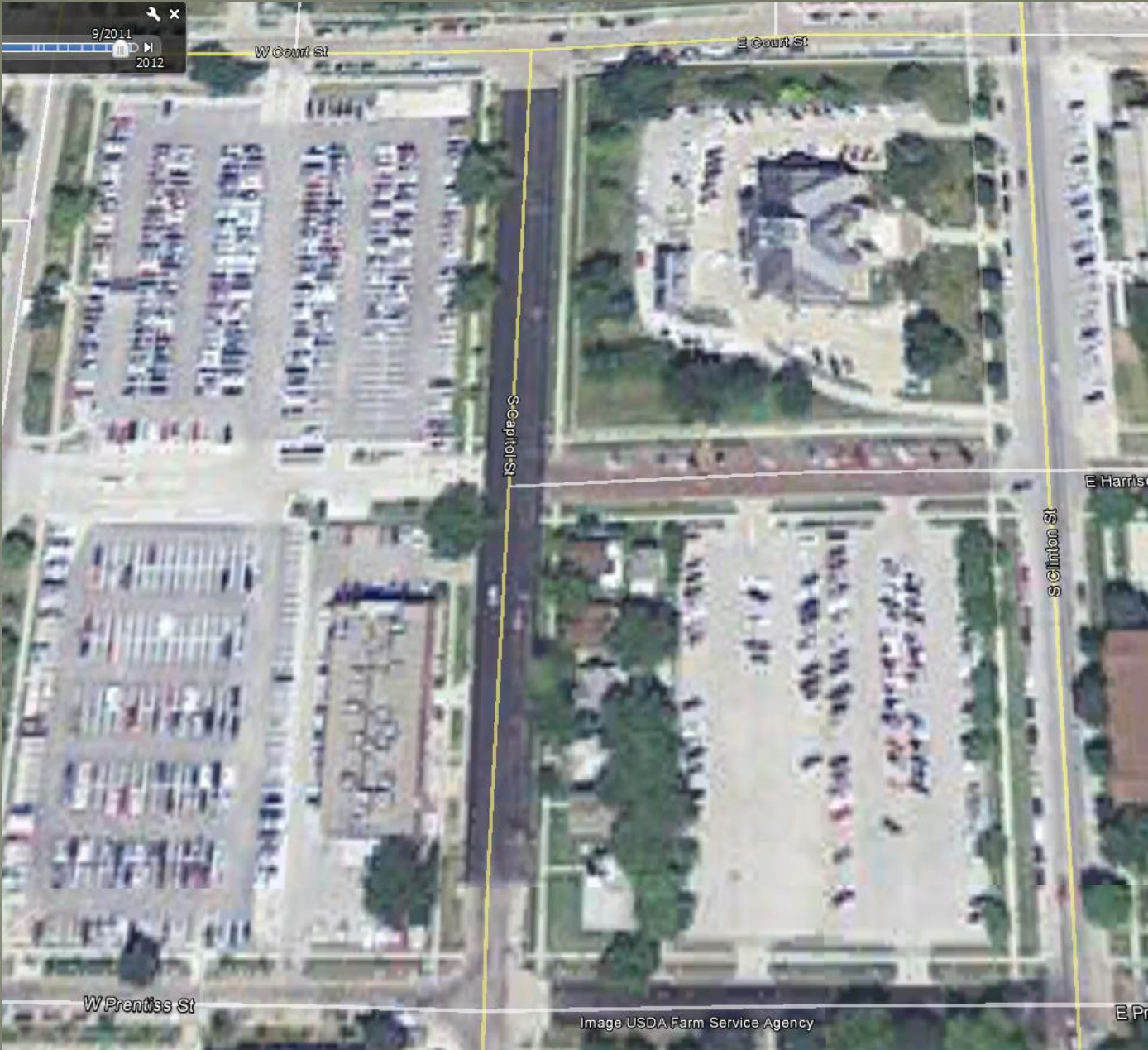


Image USDA, Farm Service Agency





























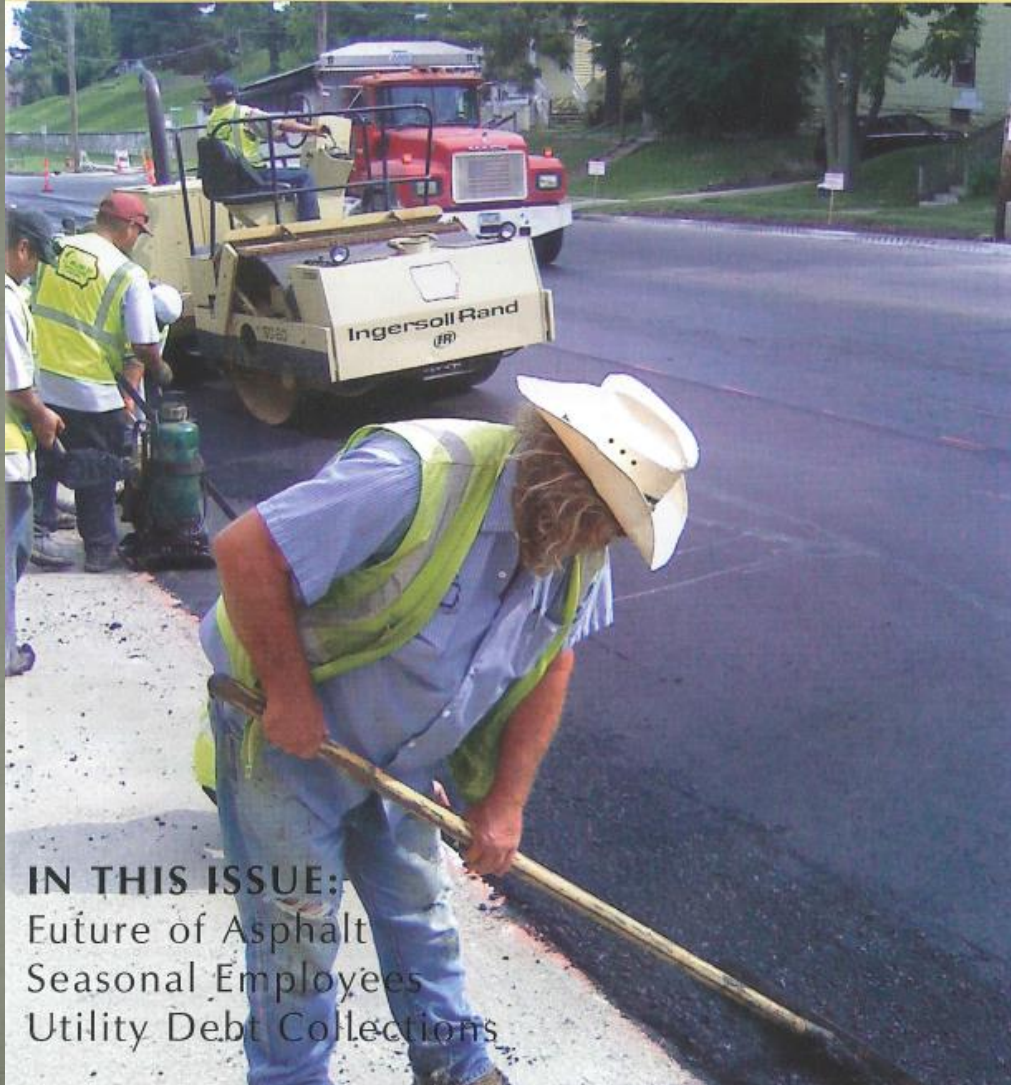
VISIONS FOR LOCAL LEADERSHIP IN IOWA

CITYSCAPE

Iowa League of Cities

www.iowaleague.org

April '12



IN THIS ISSUE:
Future of Asphalt
Seasonal Employees
Utility Debt Collections





Capitol Street – Warm Mix Asphalt

Capitol Street - Field Temp Data

- Binder and Aggregate Heated 135° C (275° F)
- Held in Storage and Mixed 130° C (266° F)
- Placed 115 ° C (239° F)
- Compaction 110 ° C (230° F)

Capitol Street – Warm Mix Asphalt

City Observed Benefits

- **Environmental**
 - Less Heat = Less Energy to Produce
 - Less Vapor and Fumes
- **Cost Savings**
 - Capitol Street - No Cost Difference to City
 - Less Heat
 - Less Energy to Produce = Lower Price ? Volume Based?
 - Less Compaction Effort = Less Labor
- **Public**
 - Cost + Environmental
 - Less Delay with Construction

Capitol Street – Warm Mix Asphalt

- Capitol Street - Unexpected Replacement
 - September 27, 2012
 - University of Iowa – Underground Utility Work
 - 100 Tons – LEADCAP WMA Replacement



W Court St

E Court St

S Capitol St

S Capitol St, Iowa City, Johnson, Iowa 52240 S Capitol St, Iowa City, IA 52240, USA

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Capitol Street – Warm Mix Asphalt

- Lab Results – University of Iowa

Job Site	Miami (HMA)	Capitol 1 (WMA)	Capitol 2 (WMA)
% RAP	10%	10%	10%
Actual Virgin Binder Content (%)	4.60	4.60	5.40
Actual Total Binder Content (%)	5.17	5.17	5.85
Dust (-No. 200) (%)	4.1	4.1	5.7
Dust-Binder Ratio	0.84	0.84	1.12
Lab Compacted Gmb	2.366	2.369	2.402
Gmm	2.476	2.467	2.480
			3.10
VTM (%) of Lab compacted Specimens	4.4	3.97	
Gmb of Field Cores	2.302	2.240	2.331
VTM (%) of Field Cores	7.0	9.0	6.0

Capitol Street – Warm Mix Asphalt

- Final Comments
- Questions?