



Division of



Nevada Transportation Conference

Glenn Grayson, PE – Director of FAST



What's in a Name?

- **FAST** agency genesis; bred from LVACTS
- **FAST** acronym meaning:
 Freeway &
 Arterial
 System of
 Transportation
- **FAST** acronym genesis – NDOT Director

Continuing Our Dual Mission

- **AMS** = Arterial traffic signal coordination (free)
 - ~20 years, LVACTS
- **FMS** = Operate & maintain NDOT's Intelligent Transportation System on freeways (by contract)
 - ~3 years
- FAST is a Service Provider to 5 "clients"
 - CC
 - CLV
 - CNLV
 - COH
 - NDOT

Traffic Management Center

- Built by NDOT (our landlord) in 2003



FAST's Role in the Valley

- The region's one stop shop for Traffic Management
- We are a Service Provider
- We don't own much 'stuff'
- We provide services to our valued Clients
- **FAST**'s self-preservation will be driven by continued good delivery of services
 - Sometimes that means doing a *rush job* for a client

Two Recent Examples of a ‘Rush Job’

- Midday timing plan overhaul
- I-15 North Design-Build project interaction



Midday Timing Plans

- 140” and 160” cycle lengths developed during Gerry de Camp’s tenure
- Some complaints regarding long red times
- FAST instituted 120” cycle lengths as a mid-day standard over a couple of years
- THEN the complaints really built up
- “Took a ride” with Mayor Oscar Goodman
(turned out to be not a great ride)



Midday Timing Plans (cont.)

- Now cycle lengths were too short to serve many critical intersections; cycle failures were common
- Decision made by Murali to “eat crow” and roll back the 120” midday plans, *rapidly*
- Finished the rework in a matter of weeks
- End results:
 - No more routine cycle failures
 - Happy “Clients”
 - One of *FAST*’s finest achievements

I-15 North Design Build

- Planned interaction:
 - Intimately involved with D-B team for best design of ITS to work with FAST
 - Some signal retiming to accommodate closing of ramps
- The Design-Builder developed a new great idea after award
 - Build in 2 stages rather than 3
 - Cut construction time by many months
 - Request: just reduce main lanes from 6 to 4
(YIKES!)

NDOT asks for *FAST*'s Help

- Is this even do-able, reducing freeway capacity by >33%?
 - Diversion of demand onto parallel routes
 - Within a few days, our answer: “Probably”
 - We elected to wholeheartedly support NDOT's decision, if they agreed
- Commenced on massive retiming effort

“Revised MOT for Early Project Completion”



Accelerated Project Completion



UPDATED - JULY 14, 2008
Construction Phasing and Ramp Closure Summary - Projectwide



Description	2008												2009												2010											
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug						
SEGMENT 1																																				
NB Main - Washington Ramp Open																																				
NB Main - Washington Ramp Closed																																				
NB Main - Traffic Switch																																				
NB Main - Washington Ramp Open																																				
NB Main - Washington Ramp Closed																																				
NB Main - Washington Ramp Open																																				
Finish SE Ramp (SB I-15 to NB US 95)																																				
Finish EN Ramp (NB US 95 to NB I-15)																																				
Final Phase																																				
SEGMENT 2																																				
SB Lake Mead Bridge/Culvert																																				
WB Lake Mead to SB I-15 Loop Construction																																				
WB Lake Mead to SB I-15 Loop Open																																				
NB Lake Mead Bridge Finish (WB to SB Loop Open)																																				
Lake Mead Reconstruction																																				
SEGMENT 3																																				
SB Outside Lane & SB Cheyenne Ramps																																				
Median & SB Inside Lanes																																				
NB Lanes (including Carey)																																				
SEGMENT 4																																				
Median																																				
NB & SB Outside Lanes																																				
Las Vegas Wash Bridge																																				
Northbound Movements																																				
SB 95 to NB I-15 Ramp - Periodic Night Closures Only																																				
NB 95 to NB I-15 Ramp (EN)																																				
D Street NB Off Ramp																																				
Washington NB On Ramp																																				
Lake Mead NB Off Ramp - Periodic Night Closures Only																																				
Lake Mead WB to I-15 NB On Ramp - Periodic Night Closures Only																																				
Carey Over Pass																																				
Cheyenne NB Off Ramp																																				
Cheyenne NB On Ramp																																				
Craig NB Off Ramp																																				
Southbound Movements																																				
Craig EB to I-15 SB On Ramp																																				
Craig WB to I-15 SB On Ramp (loop)																																				
Cheyenne SB Off Ramp																																				
Cheyenne SB On Ramp																																				
Carey Over Pass																																				
Lake Mead SB Off Ramp - Periodic Night Closures Only																																				
Lake Mead WB to I-15 SB On Ramp																																				
Lake Mead EB to I-15 SB On Ramp																																				
Washington SB Off Ramp																																				
D Street SB On Ramp																																				
SB I-15 to NB/95 (SE) - Periodic Night Closures Only																																				

X = CLOSED (traffic redirected to adjacent interchanges)
R = REDIRECTED (traffic redirected within the interchange)

Massive Retiming for Diversions

- Many arterials under capacity, but only with the current traffic volumes
- Added volumes would overload the existing progression plans
- New timing plans needed
 - Targeted corridors
 - Longer cycle lengths (back up to 160", or more)
 - Special emphasis for some movements
 - Some uni-directionality allowed

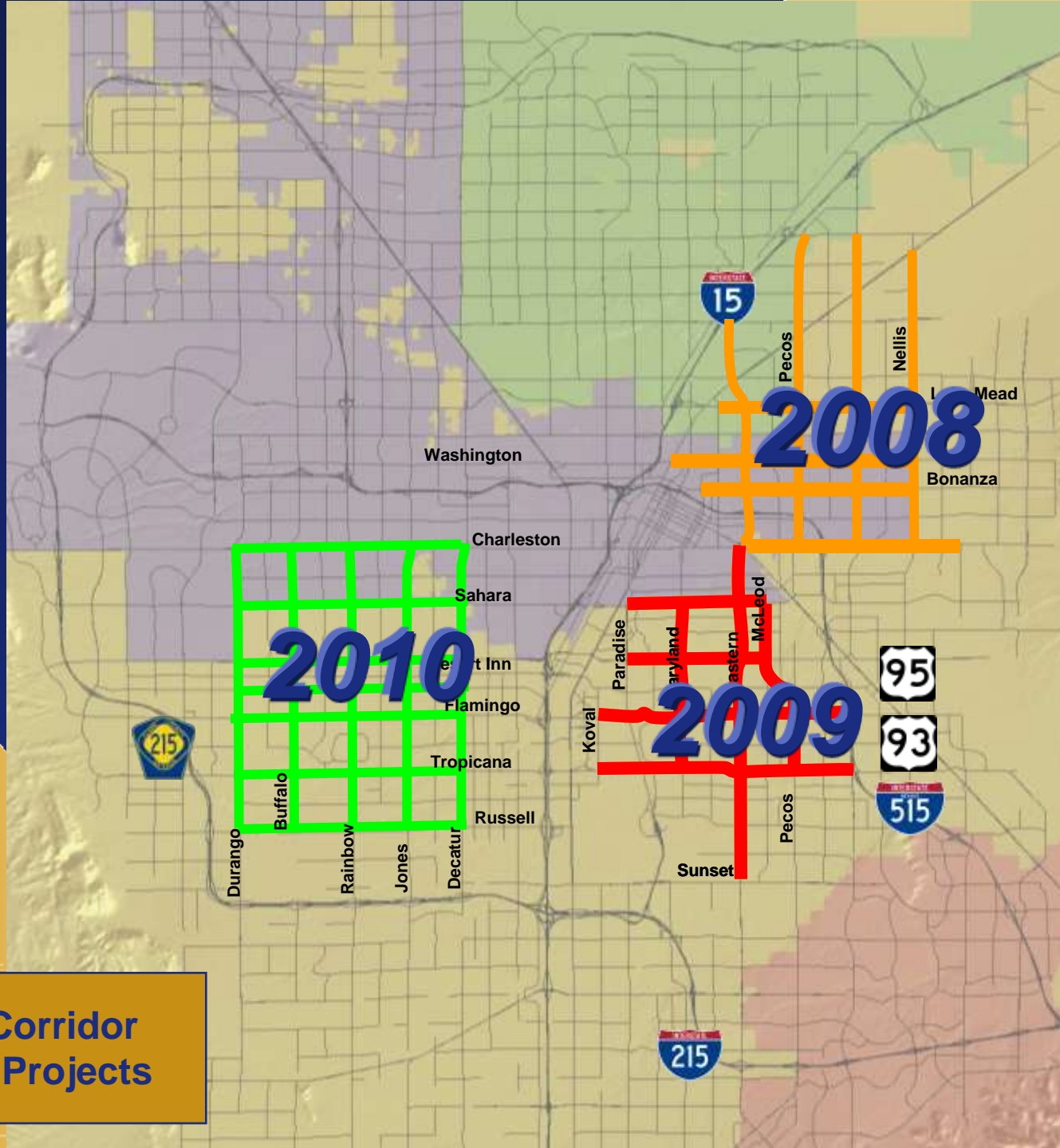
The Retiming Effort

- Completed massive (about 1/3 of entire FAST system) retiming and implementation in about four weeks' time
- All FAST signal timing staff were re-routed to this effort
- Two key consultants brought in to work side-by-side with FAST staff:
 - Gerry de Camp
 - Jim Simo

I-15 North Freeway Reductions

- Massive public outreach effort by NDOT and the DB team to convince drivers to use alternate routes
- Construction began ...
- Freeway lanes were reduced from six to four
 - Traffic obviously diverted
 - Congestion remained at previous levels on I-15 (i.e., bad)
 - Traffic flows on arterials increased, but was handled
- End Results:
 - No massive complaints, and no bad press
 - Another Happy Client
 - Another of **FAST's** finest hours
(so far; not yet done)

**Arterial Corridor
Retiming Projects**



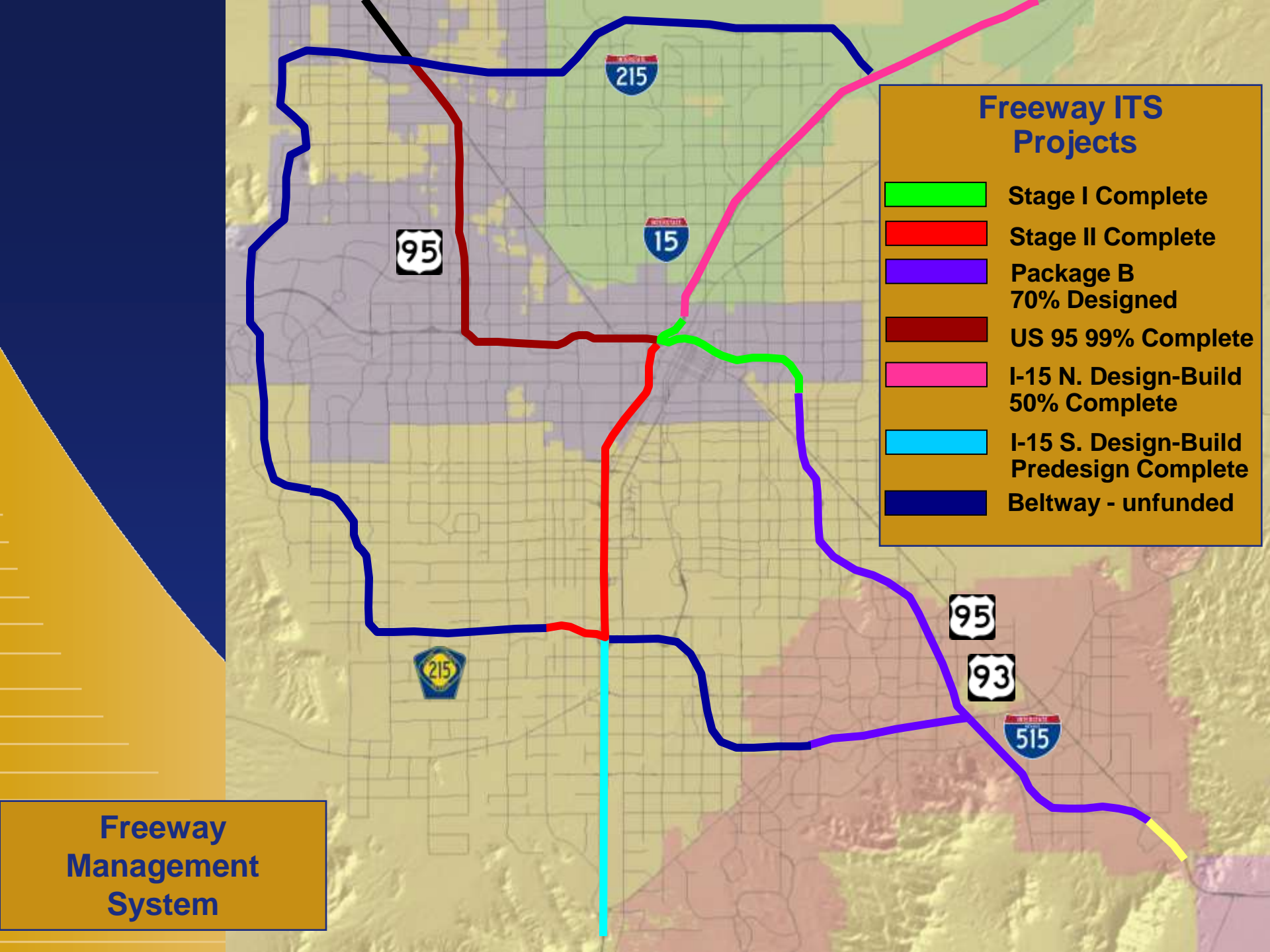
Adaptive TCS Pilot Deployment

- SCATS (...Sydney Coordinated Adaptive Traffic System) by TransCore
- Installed and Tuned at 10 Intersections
- Completed January 2009
- Before + After Evaluation underway










AMS Service to Outlying Areas

- Primm – 3 signals now served
 - 1 Mbps on Cheetah Wireless
- Mesquite – put a comm hub there (in process)
 - 5 Mbps
- Laughlin – 11 signals + CCTVs on fiber
 - 5 Mbps
- Others interested ... Reno? ... Carson City?
 - Limited only by an adequate data “pipe”
 - Remote comm hubs allow for entire remote system,
 - But, little TCS infrastructure needed



Freeway ITS Projects

-  Stage I Complete
-  Stage II Complete
-  Package B
70% Designed
-  US 95 99% Complete
-  I-15 N. Design-Build
50% Complete
-  I-15 S. Design-Build
Predesign Complete
-  Beltway - unfunded

Freeway
Management
System

Freeway Ramp Meters

- 17 in operation, about 8 hours daily
- Soon to be 10 more (US 95)
- Proven outcome = better mainlane flows
- Ramp 'flush' safety valve:
 - When queues grow back to near the arterial, the ramp meter shuts off for 90 seconds
 - Heavy discharge does degrade main lane
 - Will be working on a better solution
- Good public acceptance! (81%)





DMS Time Travel Postings Launched September 2008

Travel Time Postings on DMS

- Pilot deployment
 - On 5 signs in the I-15 Resort Corridor
 - 15 hours per day
 - Great publicity received
 - Public likes very much (90%)
- Expert system feature within the FMS
 - Traffic flow detectors every 1/3 mile
 - Segment's speed → time to cover segment
 - Summed for many segments for an O-D pair

Incident Postings on DMS

- DMS Messages – Posting Priority
 - (NEW) Traffic-related public service messages
 - Travel Times
 - Roadway construction-caused delays
 - AMBER Alerts
 - Accidents blocking lanes ahead
- E-mail & text “blasts” of freeway incidents
 - March ‘09: public invited
 - Future: Subscriptions to DMS messages



Major FO & ITS Improvements

- RTC's 2007 project: \$9M
 - 13 arterial segments, 25 miles new FO
- RTC's 2008 project: \$7M
 - 7 arterial segments, 30 miles new FO
- All 5 entities have also built new infrastructure and ITS devices (50 mi. FO)
- Allows for beginning the transition to IP-addressing all the way to the controller



← Partnership →



- RTC nearing end of final (3rd) year of inaugural agreement w/ NDOT
 - Operate FMS in TMC theater
 - Maintain ITS devices
 - Maintain FO communications system
- In negotiation for 4-year extension
 - Will include “Performance Measures” metrics
 - Big increase in infrastructure anticipated
 - More intense & active mgmt of fwy incidents

Traffic Incident Mgmt Coalition

- Ongoing NDOT project bringing together all emergency responders
- Goal = clearing freeway incidents quickly
- Overall goal = more RELIABILITY in the freeway system
- Zero-to-full operation agreement in 1 year



FAST – sometimes meaning *Rapid*



**Traffic Management Services Provider for
the Las Vegas Valley ... *and Beyond***





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Questions?



