Reliability and Pricing: SHRP2 C04 Application in SANDAG ABM

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San Diego Region

- **Square miles: 4,261**
- **Population:**
  - 2015-3.23 million
  - 2050-4.07 million
  - 2nd in California
  - 8th in the United States
- **Median HH income:**
  - 2015-$67,320
- **Location**

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Project Overview

- **Objectives**
  - Move research into practice
  - Improve ABM to increase sensitivity to pricing alternatives
  - Incorporate value of travel time reliability(VOR) in ABM
  - Improve value of time (VOT) treatment
- **Schedule**
  - 02/2015-06/2016

SANDAG ABM Timeline

Byear 2010

Byear 2012

ABM Database Version Mgmt.

AT Model

PopSyn III

Byear 2012

ABM Update

| ABM Development 01/09-01/13 | Transition & Enhancements 01/13-12/13 | SD Forward Applications 01/14-10/15 | Enhancements 10/15-08/16 | ABM Update w/ 2017 HHTS Starts in 07/2017 |

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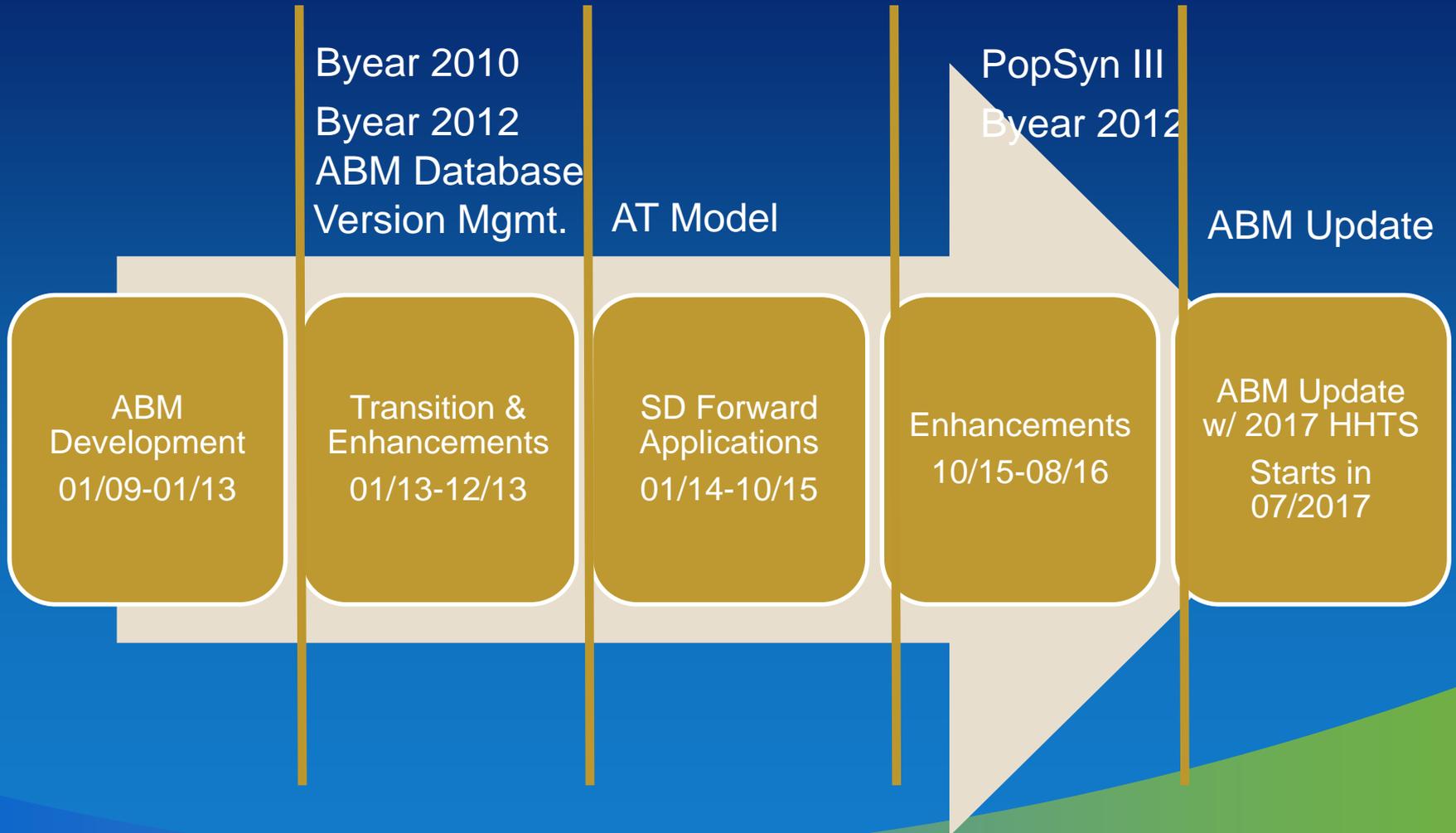
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SANDAG ABM
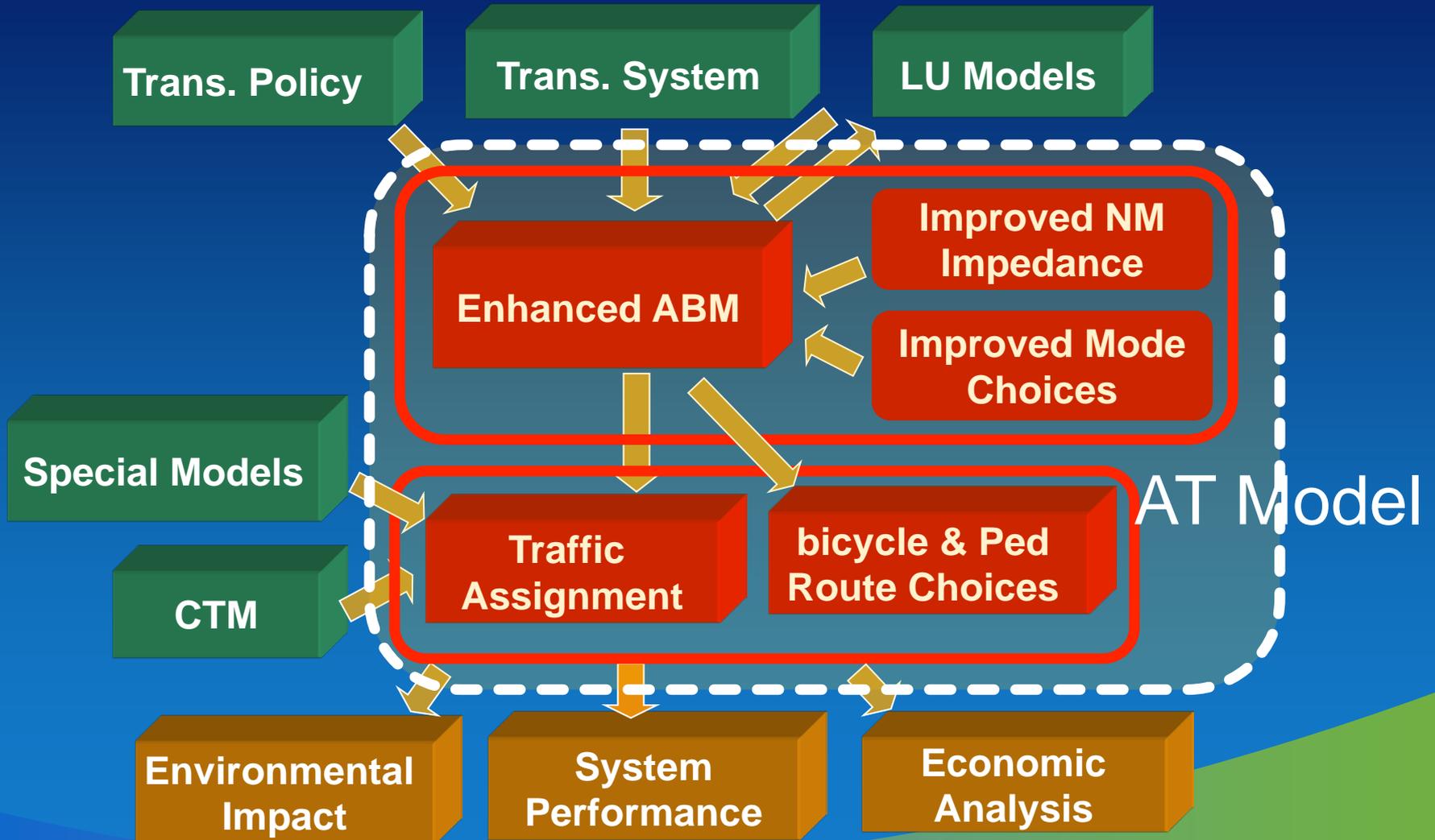
How does SHRP2 C04 benefit SANDAG?

- **Improved quantitative analysis tools for *San Diego Forward: The Regional Plan***

- **Analysis of innovative pricing policies**
  - Managed lane (ML) policies
  - Toll road policies

Managed Lanes and Toll Roads in San Diego

- **Managed lanes**
  - Express lanes; Carpool lanes (aka HOV lanes); Transit-only lanes

- **Existing ML and toll facilities**
  - I-15 and I-805 (30 miles)
  - SR-125 (toll road)

- **Planned ML and toll facilities**
  - I-5, 15, 805; SR 52,54,78,94 (160 miles)
  - SR11, I-5, and I-15 (toll roads)

Treatments of Time and Cost

SANDAG ABM			
		Current	**with C04**
Travel Time	Quantity	Yes	Yes
	Quality	Yes	Yes
	Reliability	No	Yes
Travel Cost	Actual cost	Yes	Yes
	Affordability	Yes	Better

Resources Needed for the Application

- **Mobile device-based data (INRIX)**

- **Traffic counts on ML/toll facilities**

- **Computers with large memory and fast processing speed**

Accomplishments

- **Implemented SHRP2 C04 recommendations in SANDAG ABM**

- **Improved assignment results on managed lanes**

- **Potential benefits to other agencies**

Lessons Learned

- **ABM & C04 application**

- **New data sources for VOR**

- **Localization of C04 recommendations**

- **Static traffic assignment/DTA in incorporating travel time reliability**

- **Computational and runtime impacts**

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