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**Transportation Board  
Meeting  
May 21<sup>st</sup>, 2010  
Sedona, Arizona**

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# State Route 179 Project

## *Using Innovation to Enhance Safety & Mobility*

Presented by  
Carl Burkhalter, P.E.  
ADOT Senior Resident  
Engineer



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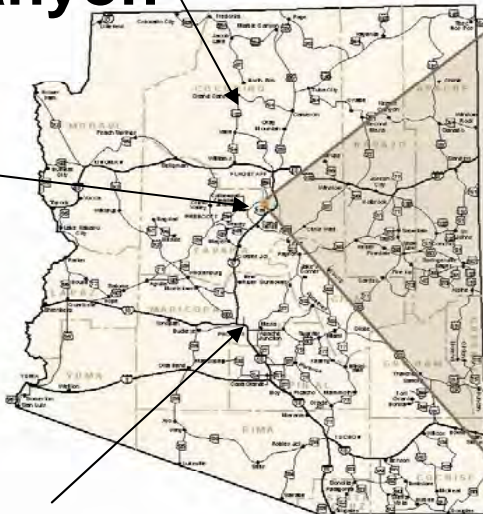


# Location Map

**Grand Canyon**

**Sedona**

**Phoenix**



**State Route (SR) 179 – Connects Sedona to State Highway System; Lifeblood of Sedona Community**

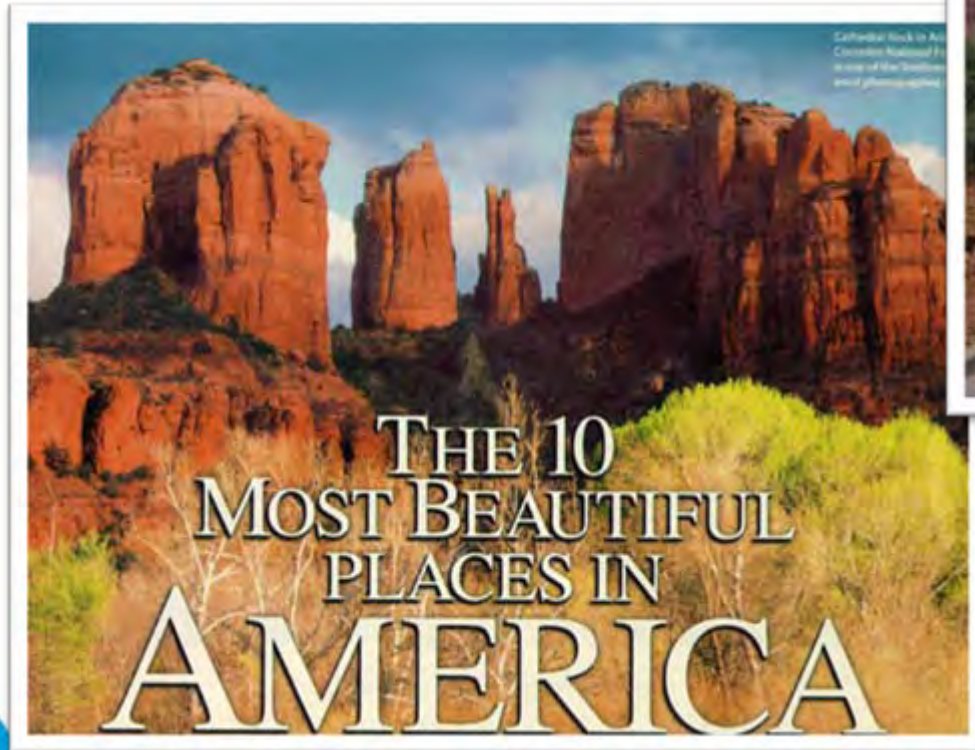


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# The Setting



USA Weekend  
May 2003  
Sedona ranked #1



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# Community Involvement

- 2003 developed Needs Based Implementation Plan (NBIP) program based on Context Sensitive Solutions (CSS)
- 2003 and 2004 NBIP
- 2005 final design



# Agency Stakeholders

- Federal Highway Administration
- Coconino National Forest
- Arizona Department of Transportation
- Coconino County
- Yavapai County
- City of Sedona
- Big Park Regional Coordinating Council



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# Stakeholder Involvement

- Executive Team
- Public Outreach Team
- Project Management Team
- ADOT Technical Team
- Design Advisory Panels

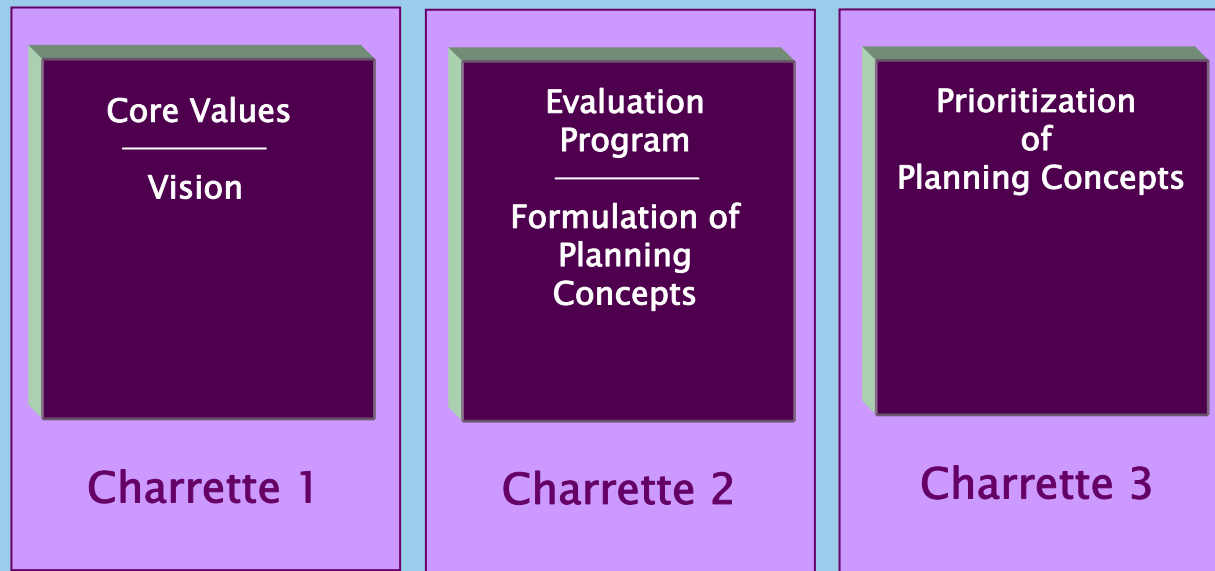


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# Charrette Process



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# Charrette #1 Core Values



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# Project Vision (Core Values)

- Public safety
- Context sensitive
- Economic sustainability
- Multi-modal corridor
- Mobility
- Walkability
- Character
- Roadway footprint
- Regional coordination
- Multi-purpose
- Environmental preservation
- Scenic beauty



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# Charrette #2



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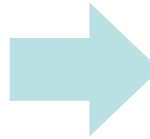




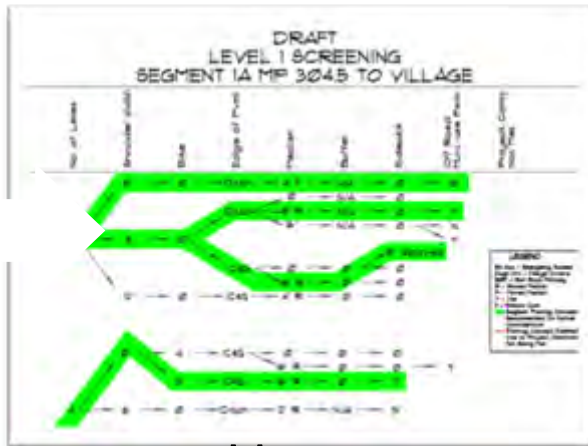
# Charrette #2 Develops Ideas



Planning Concept from Gaming Workshop



Matrix Summarizing Planning Concepts



Fishbone Diagram



Planning Concepts (Level 1 Screening)





# Workshops Lead to Charrette #3

Planning Concept	Components	Segment 1		Segment 2		Segment 3		Segment 4	
		Segment 1	Segment 2	Segment 1	Segment 2	Segment 1	Segment 2	Segment 1	Segment 2
Coyote	Lane								
	Shoulder								
	Edge of Pavement (EP)	Gate with lighting and some landscaping							
	Median	4' Road	4' Road	Shoulder		4' Road to bridge			
	Accommodate Peds	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Landscaping Buffer between EP and Pathway	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Accommodate Bikes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Major Intersection Types	Signal							
	Left Turn Accommodation	Signal	Signal	Signal	Signal	Signal	Signal	Signal	Signal
	Other								

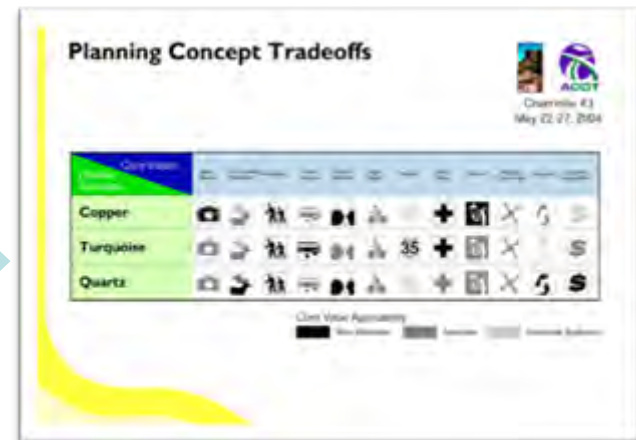
Planning Concepts  
(Level 2 Screening)



Screening Workshop #1



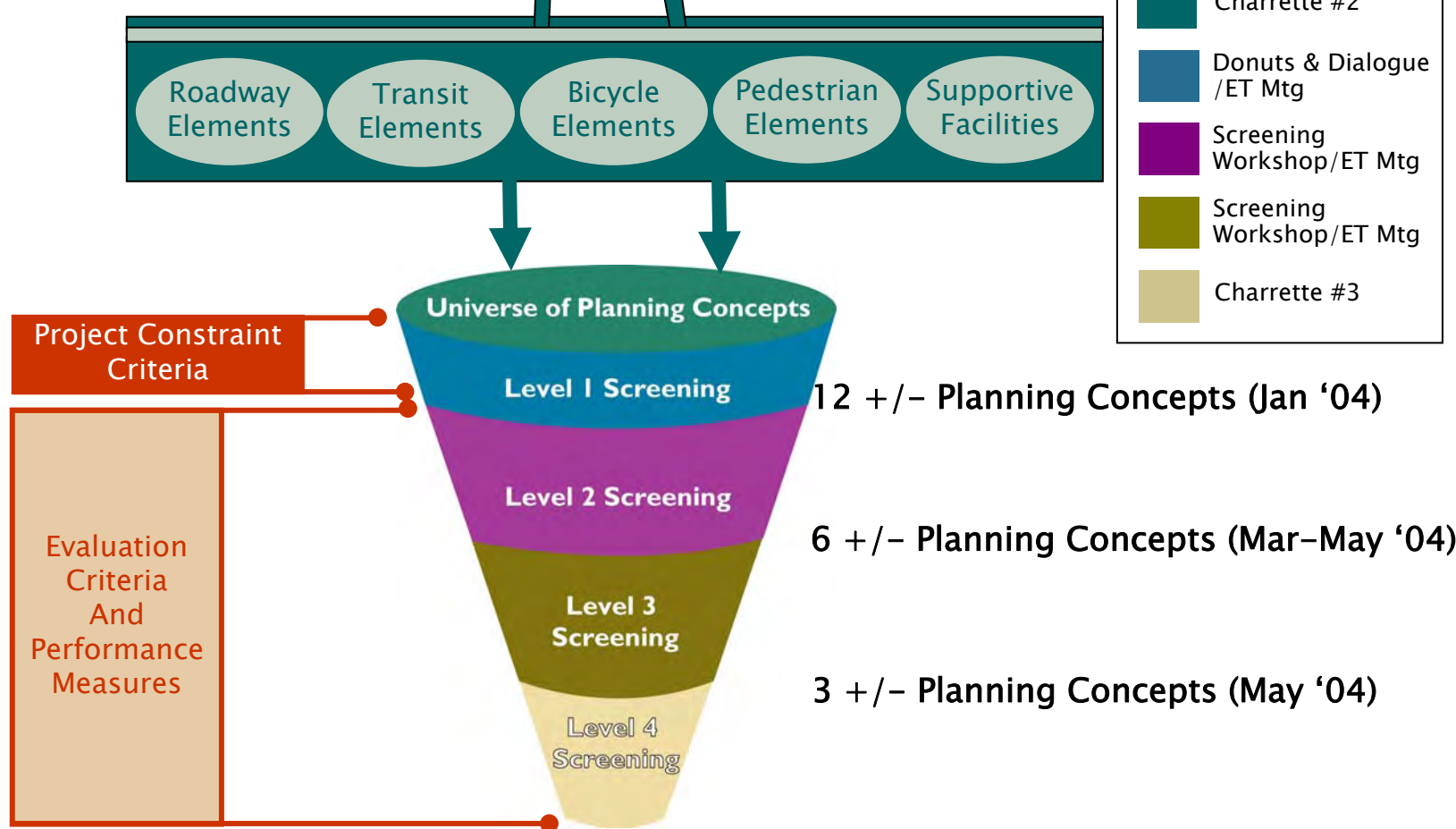
Screening Workshop #2



Charrette #3



# Screening of Planning Concepts



## Preferred Planning Concept– Corridor–Wide Design Framework



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# SR 179 Improvements

- 9 miles (6 miles in project 1 and 3 miles in project 2)
- 2 lanes (12' each)
- 8' shoulders
- Curb and gutter
- Raised median
- Roundabouts
- Pedestrian and bicycle accommodations
- Landscape enhancements



# SR 179 Improvements

- New left and right turn lanes
- New USFS southbound alignment
- USFS northbound on existing roadway
- Northbound and southbound passing lanes
- 2 new scenic pullouts
- Upgrade of existing scenic pullouts
- 2 new bridges on southbound for wildlife
- New Oak Creek bridge



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# Safety Benefits of Roundabouts

- 11 Total Roundabouts
- Typical speeds of 15-30 mph
- Shown to have fewer crashes than traffic signal
- Fatal accidents reduced by 90%\*
- Injury accidents reduced by 76%\*
- Facilitates safe U-turns

\*Insurance Institute for Highway Safety



# SR 179 Schedule

- Pre-design and PR 2003 and 2004
- Final design 2005
- ROW acquisition 2005 and 2006
- Project 1 construction 2006 to 2008
- Project 2 construction 2008 to 2010
- Highways for LIFE grant \$1M



# SR 179 HfL Innovations

- **Safety:**
  - 🕒 Achieving a low Work Zone crash rate: training local law enforcement, extensive PR program and a motorists assist patrol
- **Move traffic through work zone:**
  - ▷ Fulltime TC personnel and 24 hr MAP
  - ▷ Extensive use of civilian and Uniformed flaggers
  - ▷ Lane rental incentive
  - ▷ Innovative Roundabout construction



# SR 179 HfL Innovations

- **Maintain 100% access to businesses and residents**
  - ▷ Extensive PR to reach all
  - ▷ Highway advisory radio
- **Reduce Noise**
  - ▷ full coverage of ½” rubberized asphaltic concrete friction course (Arizona quiet pavement)
- **Improve Environmental Quality**
  - ▷ Oil water separators on storm drain to protect Oak Creek from first flush







2009.07.04 11:46





2007.02.06 10:50





15  
M.P.H.

2010.03.04 10:21







2007.11.09 09:27





2007.11.09 09:30





2007.11.09 09:28





2008.08.05 13:21





HT Trail  
Bridge

2010.03.04 15:23





2010.03.04 10:27





2010.03.04 15:26





815

Atroyo Roble

Chevron

Sedona  
Visitors  
Center

aler's  
Bldg

Cedar  
Reson

Robert  
Shields













2008.08.19 14:34





2010.05.19 09:49





2010.05.19 09:49

Hyatt Dr





2008.03.06 13:53





2008.09.19 09:17





2008.10.29 19:27





2009.01.08 15:11





2009.06.02 10:36





2009.12.08 13:46





2010.01.07 15:41





2010.05.19 10:58













2010.05.19 14:16





2010.05.19 14:19





2010.05.19 14:22





2010.05.19 13:58





2010.05.19 14:27





2010.05.19 14:13





2010.05.19 14:12





2010.05.19 14:04





2010.05.19 14:02





2010.05.19 14:09



# SR 179 Completion Dates:

Schnebly Roundabout  
Done Before Memorial Day

Canyon Roundabout  
Done By Mid June

All Landscaping, Signing, Creek  
Restoration and Final Asphalt Layer  
Done by End of July.





The City and Chamber  
Are Preparing A Celebration  
On  
August 20<sup>th</sup> and 21<sup>st</sup> , 2010





# Thank You!

# Questions?



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