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Integrating Sustainability into Airfield Improvements

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Agenda






Overview of Envision and Airports

Project Examples

Takeaways

Questions?

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	 Institute for Sustainable Infrastructure		
	 ZOFNASS PROGRAM FOR SUSTAINABLE INFRASTRUCTURE <small>Graduate School of Design Harvard University</small>		
	<p>The Institute for Sustainable Infrastructure is a not-for-profit education and research organization founded by the American Public Works Association, the American Council of Engineering Companies and the American Society of Civil Engineers.</p>	<p>Envision® was developed in joint collaboration between the Zofnass Program for Sustainable Infrastructure at the Harvard University Graduate School of Design and the Institute for Sustainable Infrastructure.</p>	
			
			

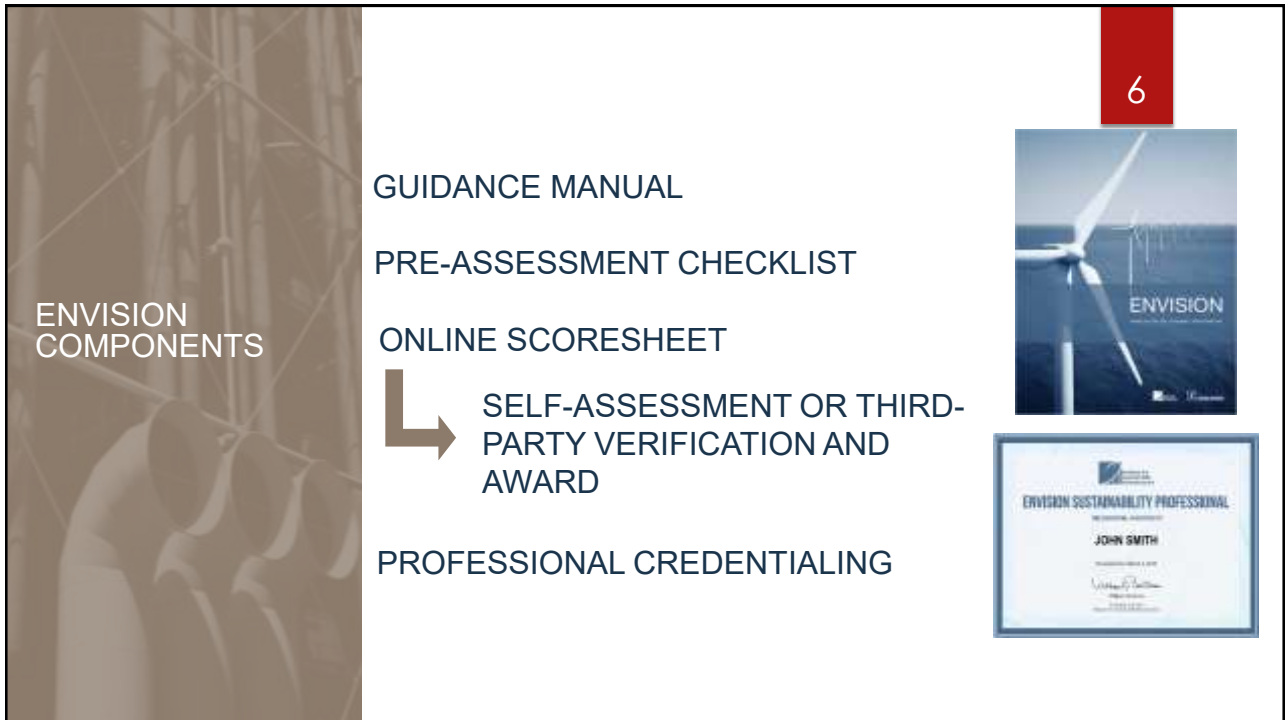
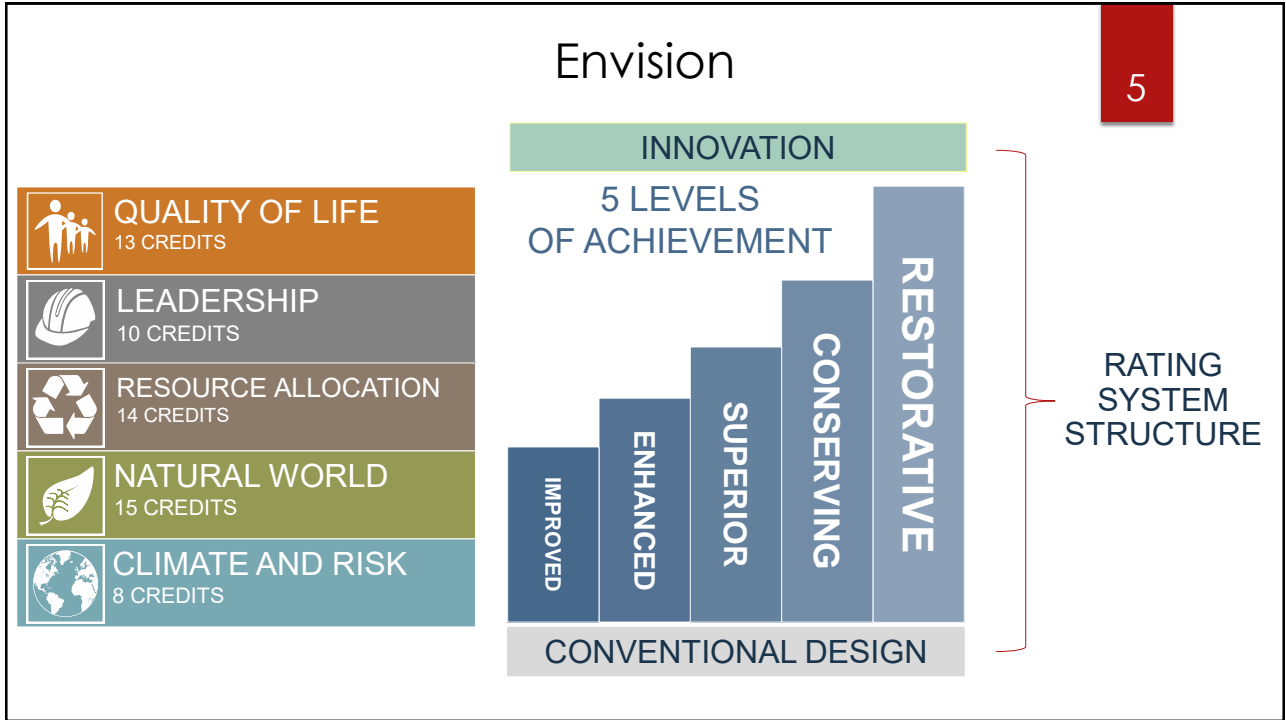
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ISI's MISSION

WHY USE ENVISION?

To help infrastructure owners make more informed decisions about the sustainability of their infrastructure projects

- Apply best practices
- Triple bottom line benefits
- Transparency, Accountability
- Good governance



Relevance to Airports



QLE 2 - MINIMIZE NOISE AND VIBRATION

QLE 3 - ADDRESS CONFLICTING REGULATIONS AND POLICIES

QLE 4 - PREPARE FOR SHORT TERM IMPACTS

QLE 5 - CLIMATE AND RISK

QLE 6 - LEADERSHIP

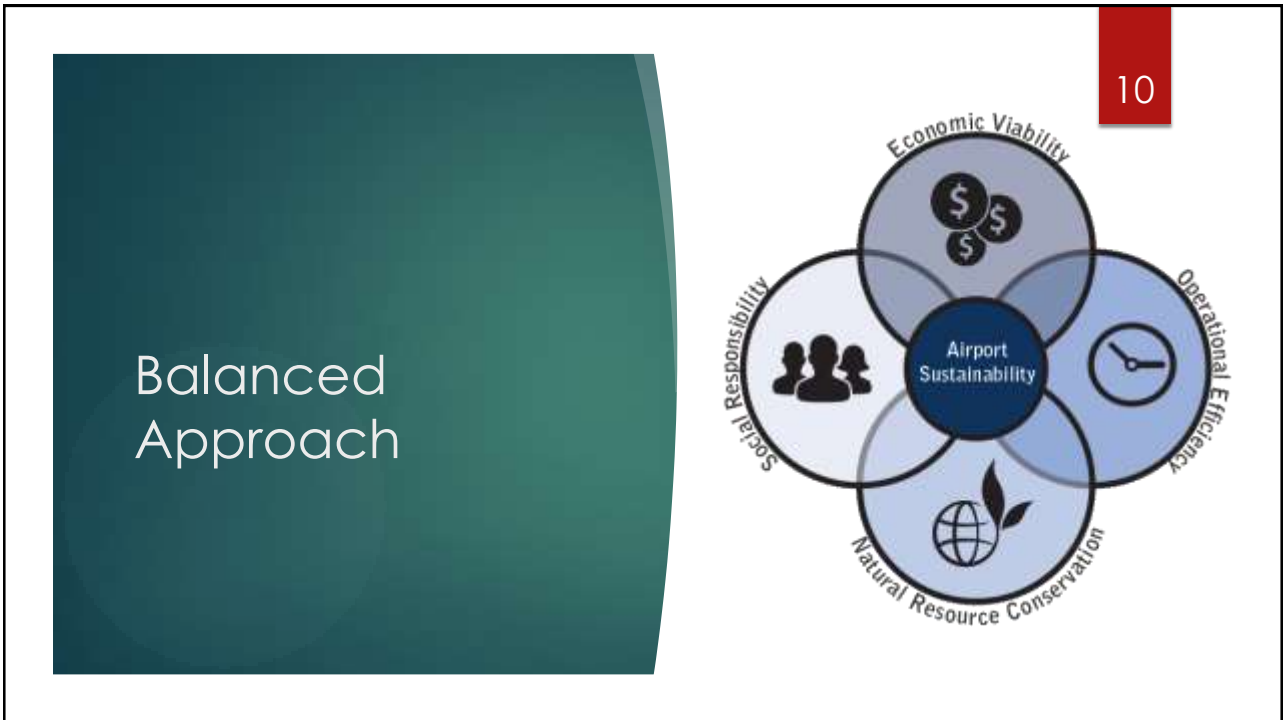
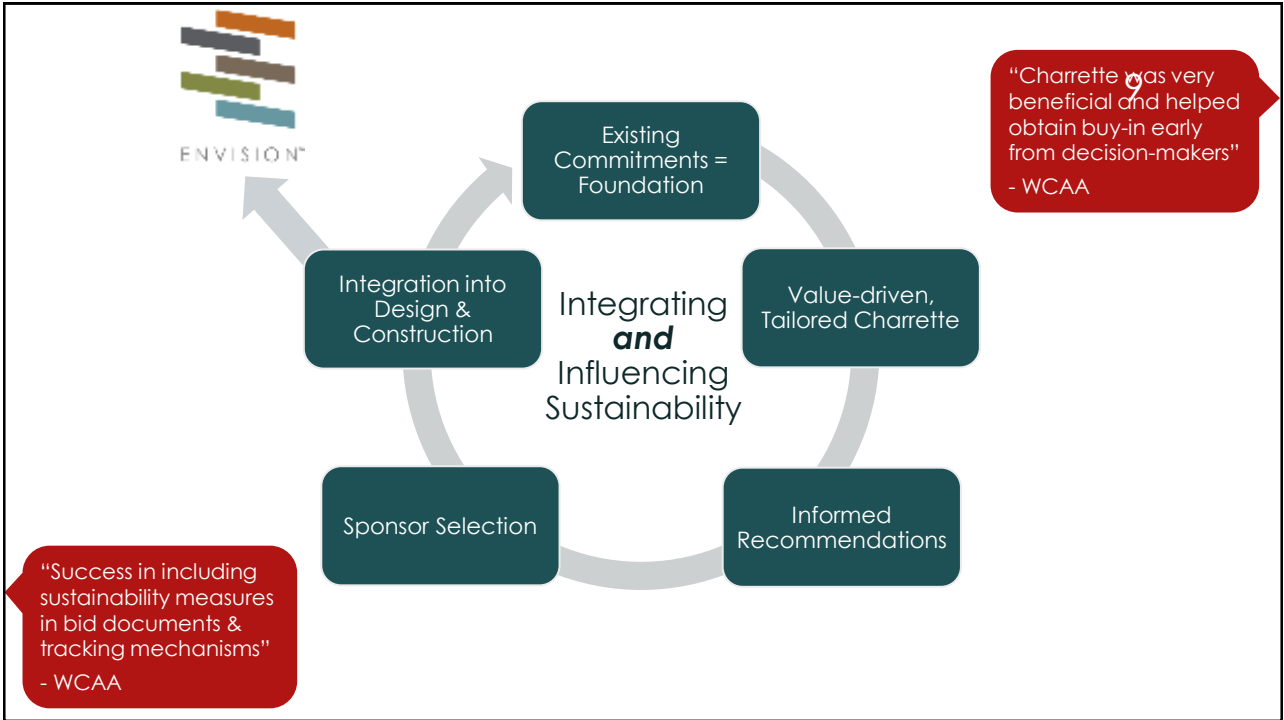
QLE 7 - QUALITY OF LIFE

- **Quality of Life** → Considers Impacts and Benefits to Community
- **Leadership** → Encourages Sustainable Commitments and Actions
- **Climate & Risk** → Helps Address Long-term Resilience and Durability of Our Infrastructure

Project Example



Detroit Metropolitan Wayne County Airport Reconstruction of Runway 4L and Associated Taxiways





Stormwater Reuse:

- >75% water used = recycled
- \$100,000 saved
- Truck trips drastically reduced
- Municipality and agency satisfaction

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City/agency relationship building "helped the project run smoothly"
- WCAA



LED Lighting:

- ROI justified WCAA investment for HIRLs
- Reduced maintenance
- Airport-wide adoption

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On-site Batch Plants and Crushing Yard:

- Reduced traffic
- Increased efficiency / schedule adherence
- Facilitates material reuse



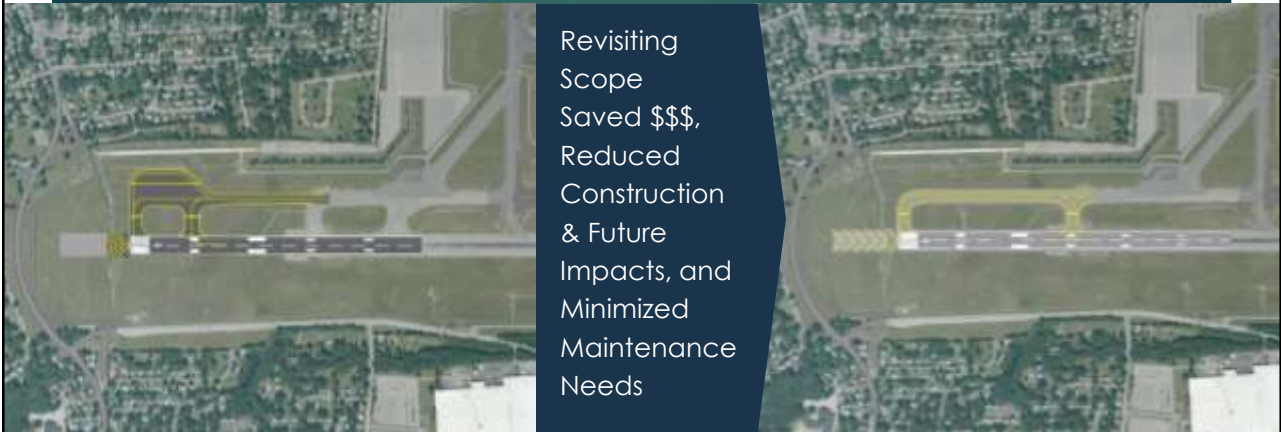
Construction Waste Management:

- >99% material diverted from landfills
- Helped solve material concerns
- Unintended consequences with contractor

One Size Fits All?



**T.F. Green Airport
Runway 5 Extension**



Revisiting
Scope
Saved \$\$\$,
Reduced
Construction
& Future
Impacts, and
Minimized
Maintenance
Needs

- Enhanced Historic Resource
- LEDs Where Sensible
- Material Reuse
- Interns

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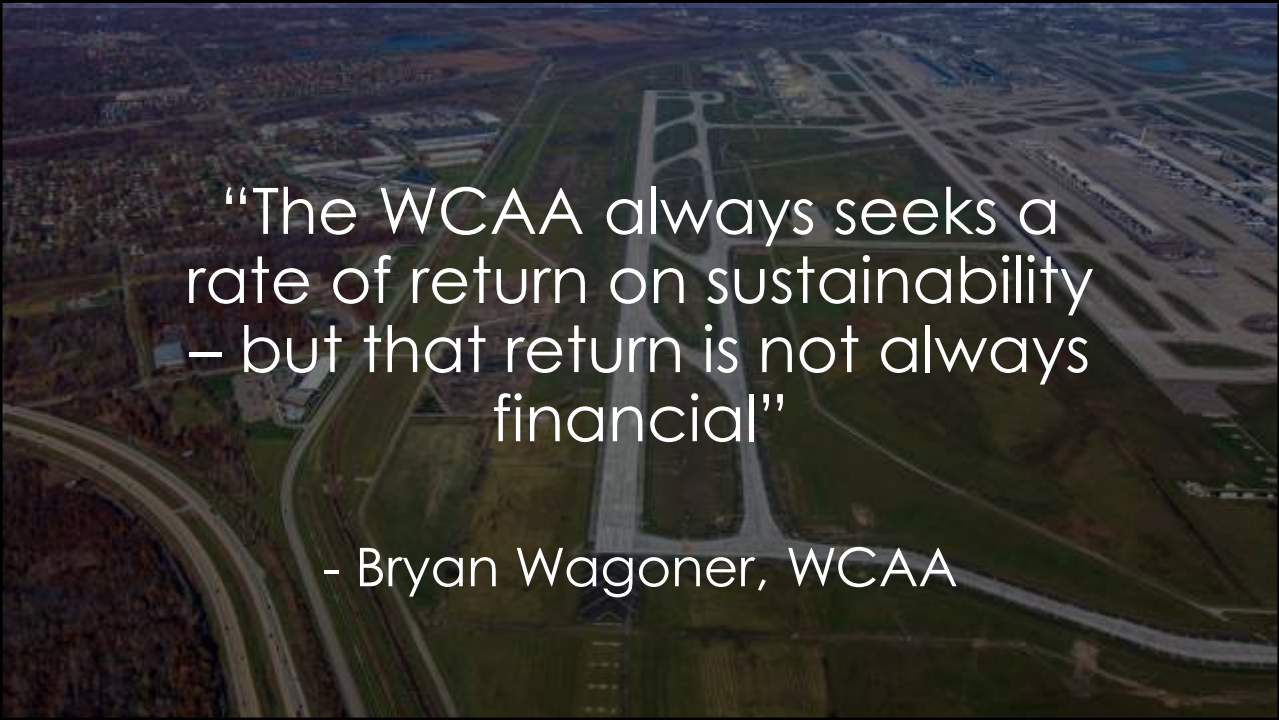
Additional Client Take-Aways

- Demonstrated leadership in community and industry
- Cost savings in construction + operation
- "Able to apply measures airport wide and integrate these into dynamic [sustainability management plan] and future tracking/reporting"
- "Didn't affect budget, quality or schedule!!"

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Design Team and Contractor Take-Aways

- "Although a major project, measures and approach can be applied elsewhere and at smaller scales"
- Holistic approach → Found synergies, avoided conflicts
- "Some constraints with FAA requirements, but there are strategies to address these"
- Contractor understood that this experience is helping position them for future success



“The WCAA always seeks a rate of return on sustainability – but that return is not always financial”

- Bryan Wagoner, WCAA

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Questions?