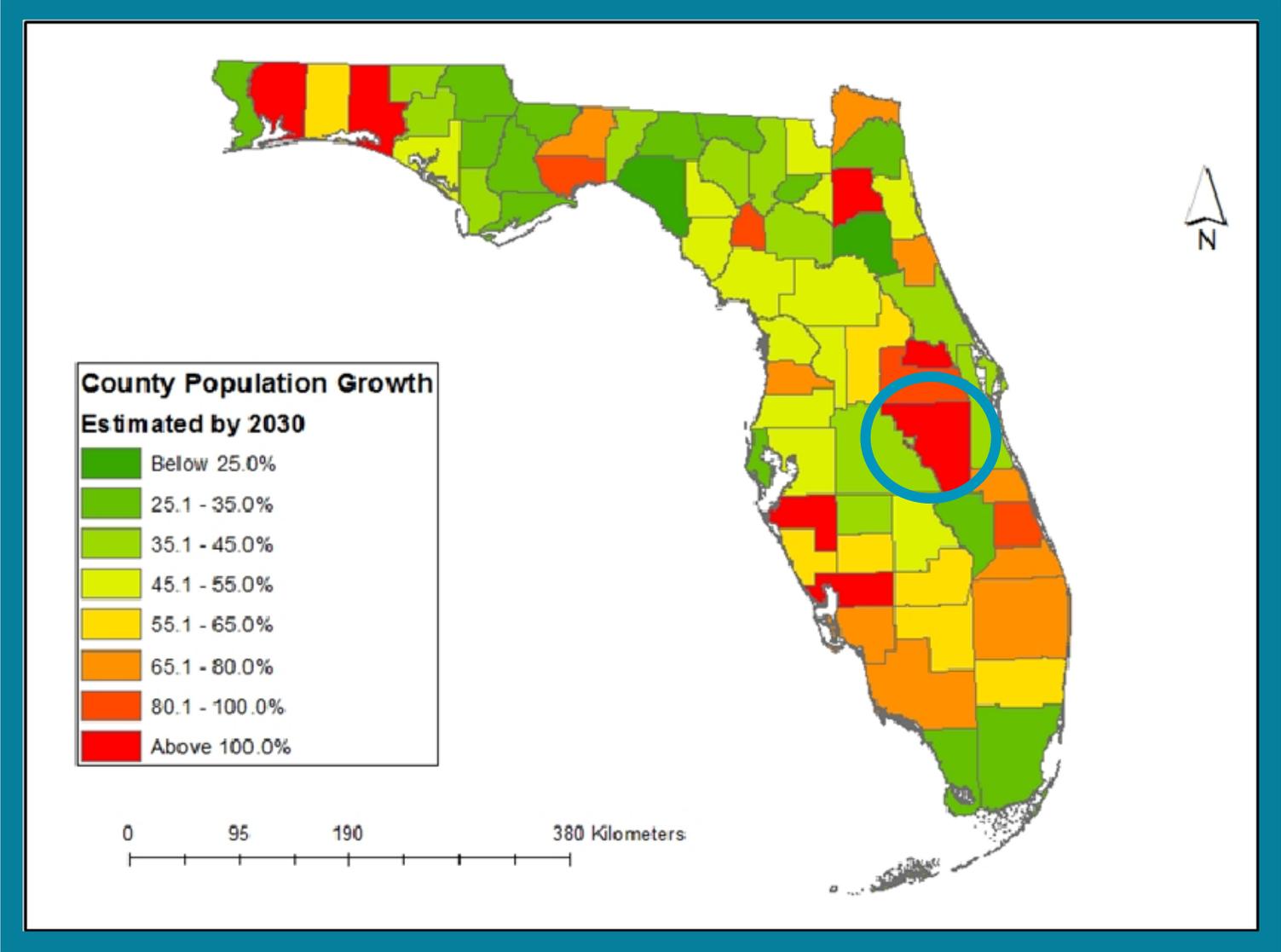


Low Impact Development Symposium in Osceola County

Krista Stump

Natural Resources Extension Agent, UF/IFAS Extension Osceola County

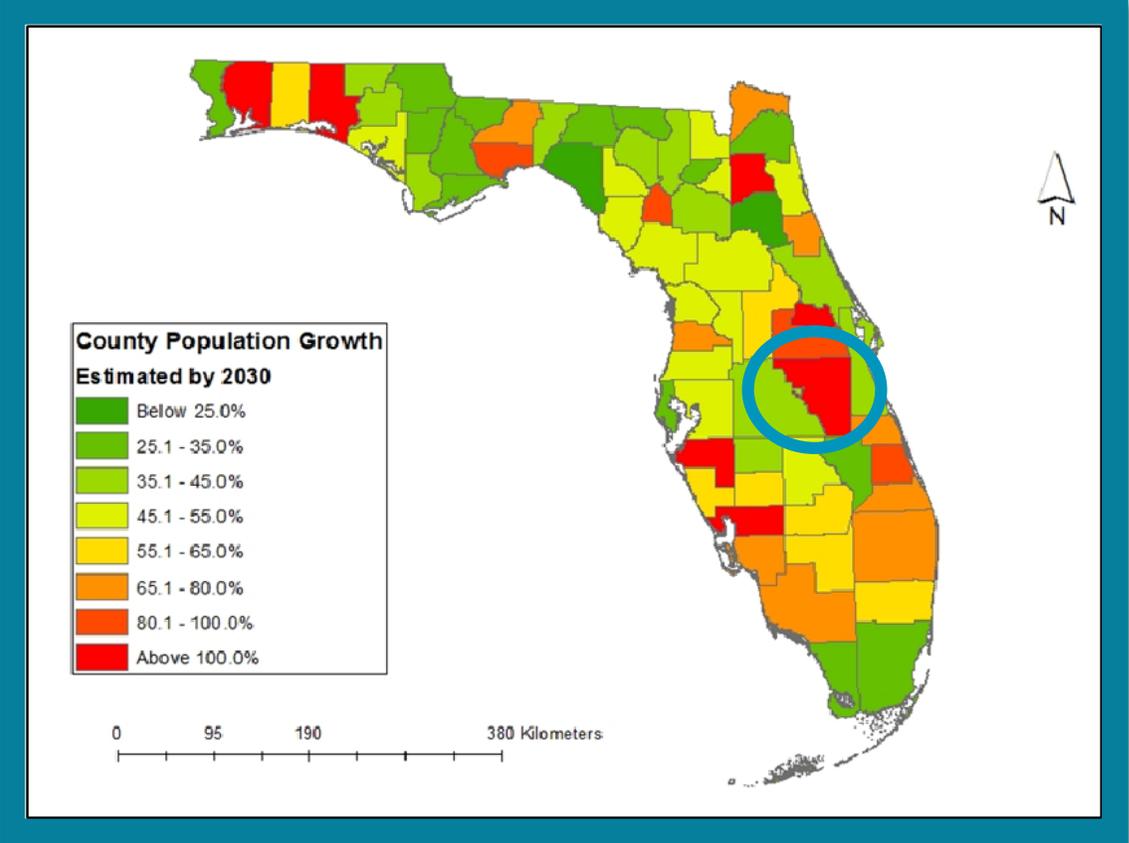
Osceola County, Florida



Osceola County's Rapid Growth

37%

From 2010 to 2018: 37% increase in population (99,307 new residents)



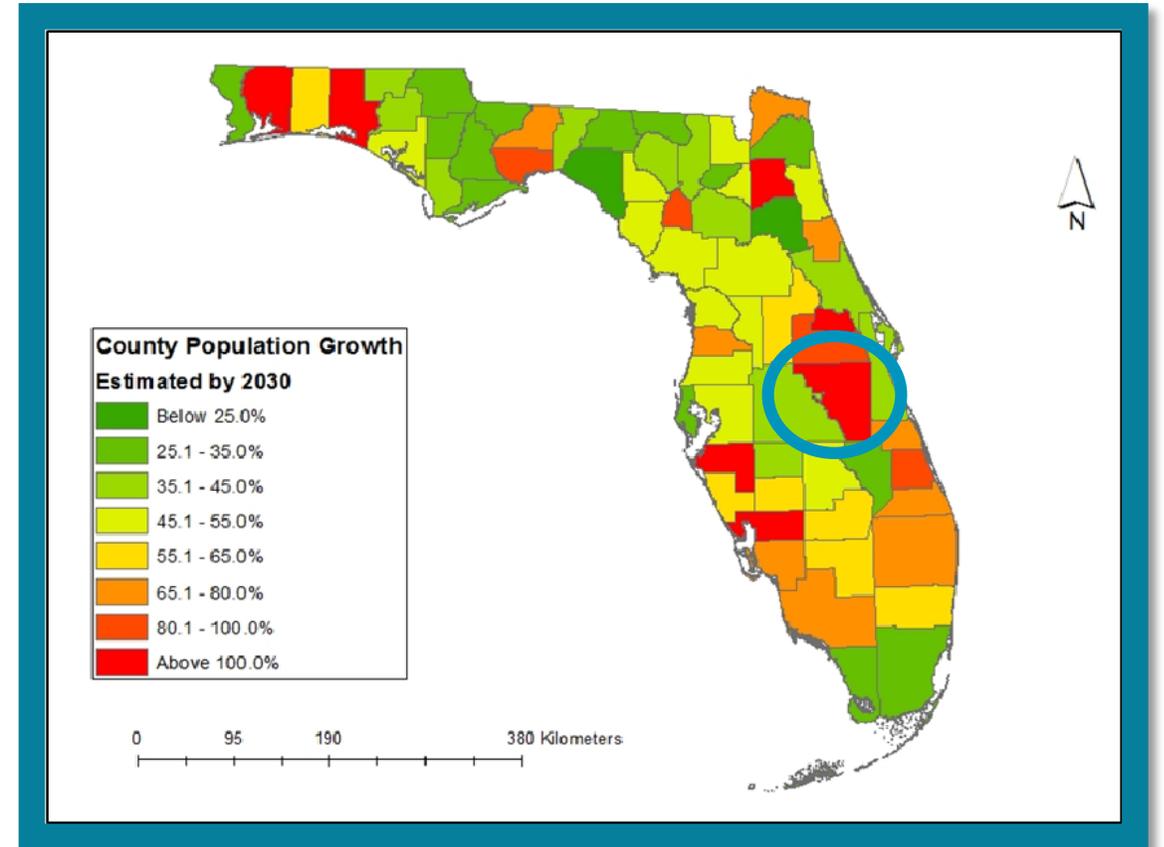
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5th

This made Osceola the fifth fastest growing county in the United States since 2010.



Osceola County's Rapid Growth

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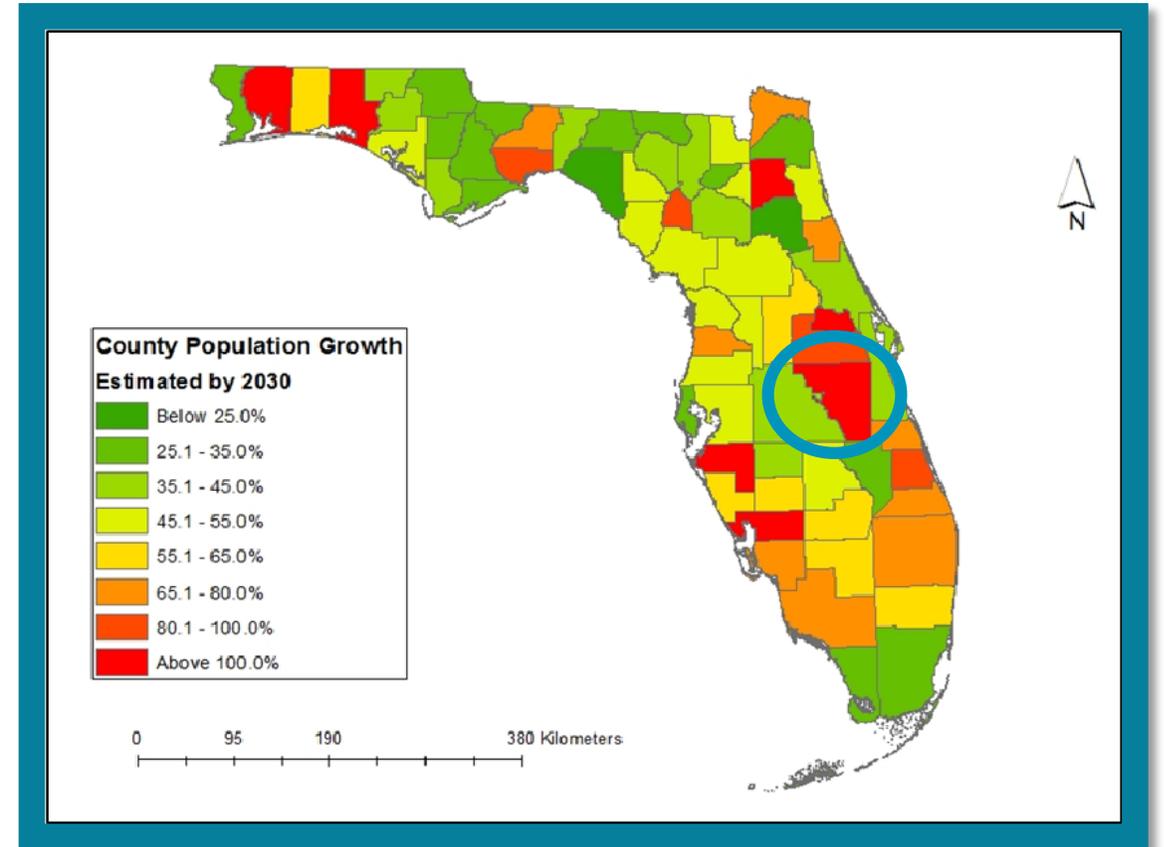
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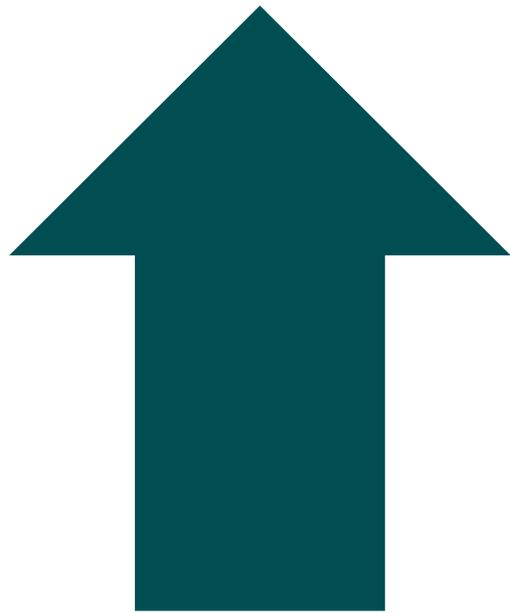
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367k

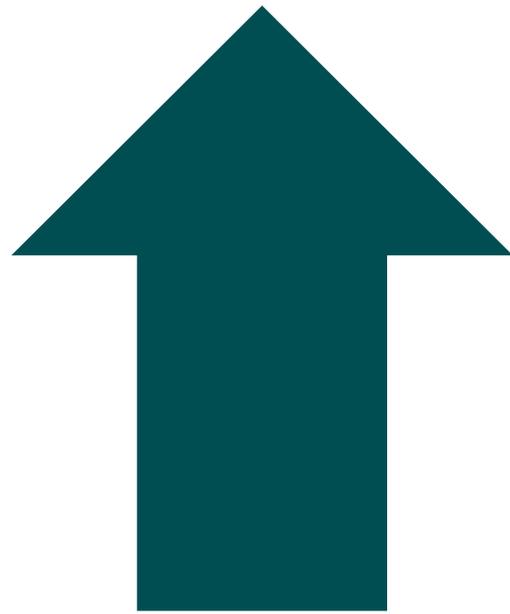
As of July 2018, 367,990 people call Osceola County home



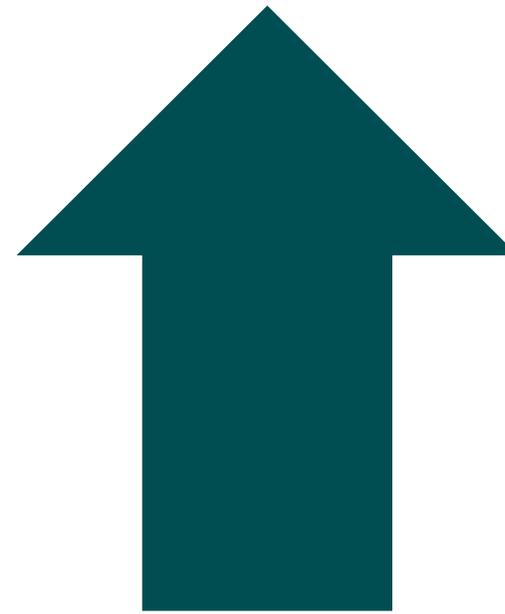
Osceola County's Rapid Growth



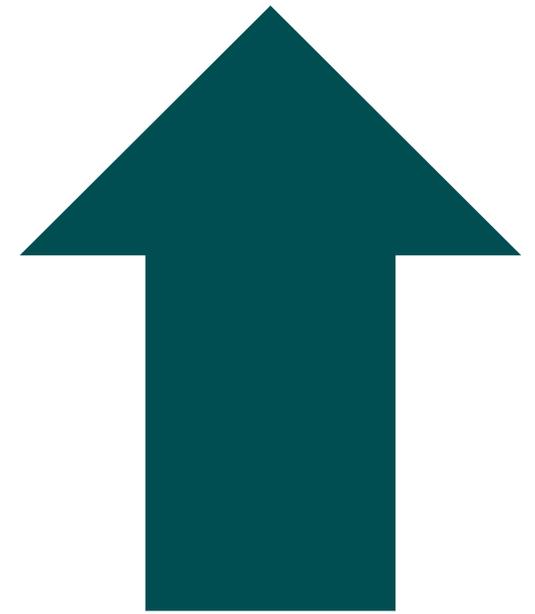
Population



Development



**Impervious
Surface
Area**



**Stormwater
Runoff**

Conventional Stormwater Management

Pipe to Pond Infrastructure



What is Low Impact Development?

While pipe-and-pond infrastructure directs polluted stormwater away from site, LID:

- Aims to hold and treat stormwater runoff as close to the source site as possible
- Mimics natural infiltration, detention, evaporation and filtration processes
- “Tools” used together to create a treatment train
- Can result in improved nutrient removal and smaller footprint

Low Impact Development Tools



Low Impact Development in Osceola County

- Land Development Code in Osceola County only “encourages” LID
- Opportunity to implement LID stormwater systems in new development projects



Rain Garden in Kissimmee Lakefront Park, Completed 2018.
Photo credit: Krista Stump

Low Impact Development in Osceola County

- **Needs assessment conducted in 2018**
- **Barriers to adoption include:**
 - Initial costs
 - Operation and maintenance
 - Resistance to change
 - No regulatory or financial incentive



Rain Garden in Kissimmee Lakefront Park, Completed 2018.
Photo credit: Krista Stump

Low Impact Development in Osceola County

County's Floodplain Managers wish to strengthen Land Development Code LID wording to:

- Increase implementation
- Increase county's CRS credits for stormwater management
- Receive better discounts on floodplain insurance premiums

Program Methods

Osceola County Low Impact Development Symposium:

- November 6, 2019
- Target Audience: Planners, real estate developers, engineers, decision-makers
- Address implementation barriers by providing up-to-date information and resources

Program Methods

- Six-hour free program
- In partnership with Osceola County with opening remarks by County Commissioner.
- Provided Continuing Education credits for planners, engineers, and certified floodplain managers



Program Methods – Speakers and Topics

UF faculty – Dr. Eban Bean

- Overview of LID Methods

Experienced engineers –

- Dr. Elie Araj, Applied Sciences
 - LID Case Studies in Florida
- Dr. Mike Hardin, Geosytec
 - Quantifying Water Quality Benefits of LID



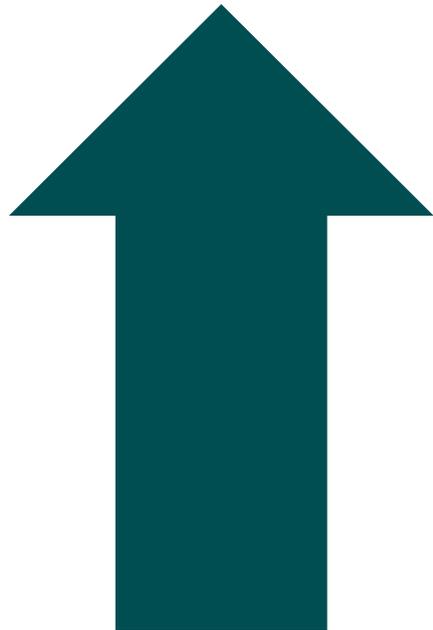
Program Methods

Panel:

- South Florida Water Management District
- East Central Florida Regional Planning Council
- Broward County local government representative
- Kissimmee Director of Parks and Recreation

Program Objectives

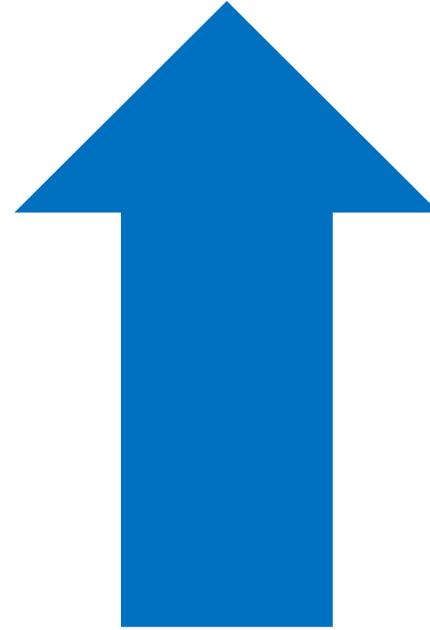
Knowledge Gain



Participants increase knowledge about LID by

30%

Behavior Change



10%

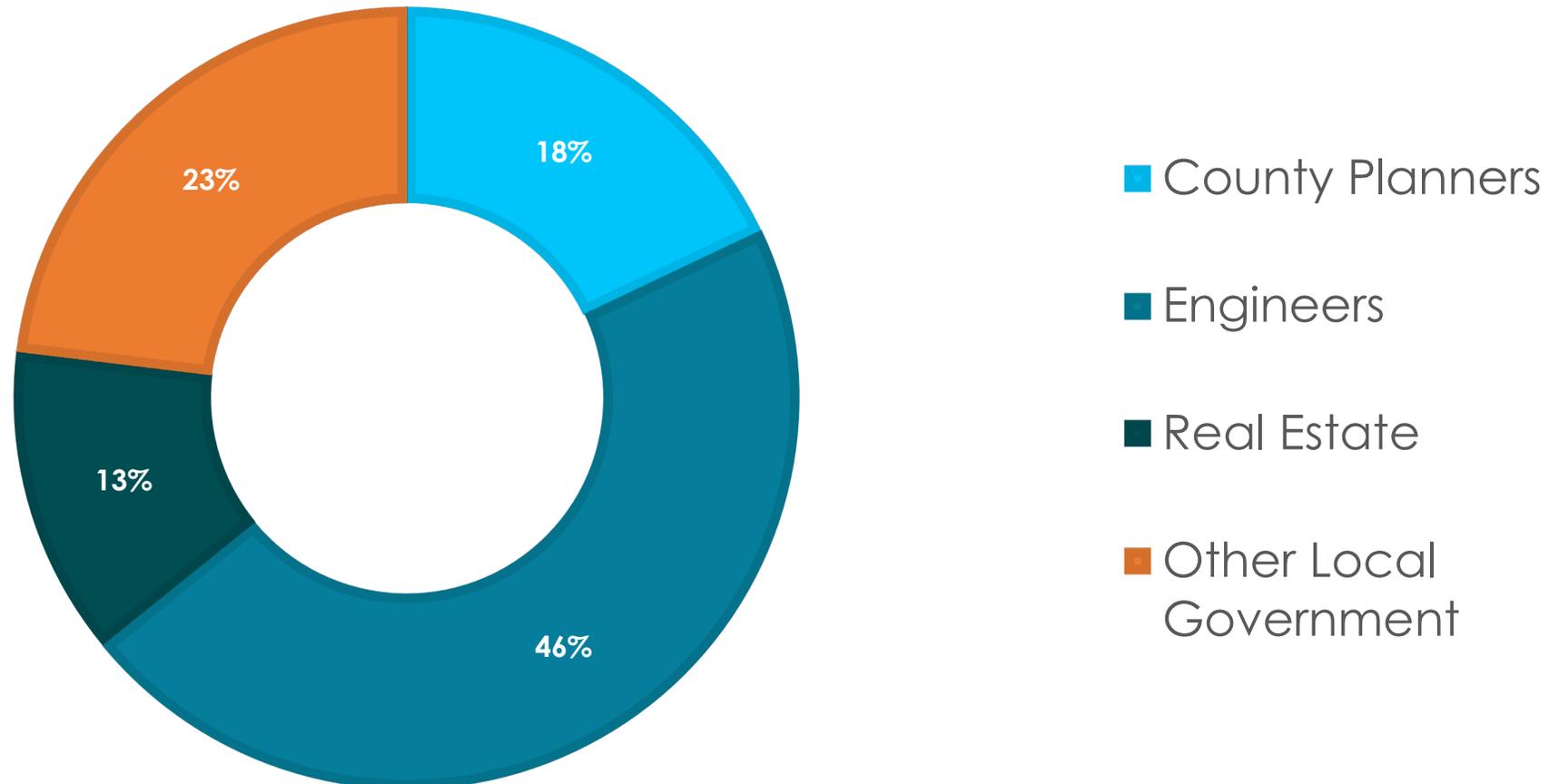
of participants implement one LID practice

Evaluation

- Post-workshop retrospective post/pre-test measured knowledge gain
- Follow-up evaluation to measure actual implementation

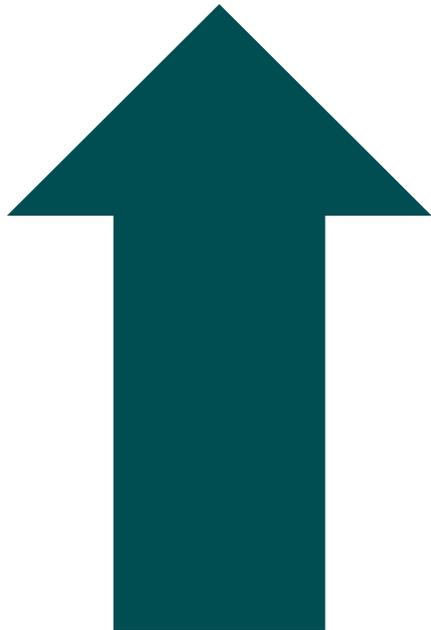
Results: Year 1 Attendees

PROGRAM PARTICIPANTS (N=39)



Results: Knowledge Gain

Knowledge Gain



Participants
increased
knowledge by:

40%

Measured Outcomes:

Increased knowledge on:

- LID Methods
- Water quality benefits and how to quantify
- Case studies in Florida
- Maintenance
- Resources

Results: Behavior Change

Based on a
3-month follow-up Qualtrics survey:

83.3%

of respondents (n=18) used
information from the workshop at
their job

22.2%

of respondents (n=18)
implemented LID in a new
project

Conclusions

- Reached target audience
- Met knowledge gain and behavior change objectives
- Feedback on implementation barriers:
 - Short time-span for follow-up – will survey again
 - Would like more information on O&M for specific LID techniques

Future Work

- Expand Program in 2020 to include neighboring counties in Central Florida
- Create an Extension Agent Working group for Low Impact Development
- Create an online learning module on LID O&M for deeper learning
- Follow up on Land Development Code in 2021



Thank You!
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