Texas Department of Transportation

PUTTING TxDOT ON THE MAP

A Data Awakening

From baby steps to giant leaps…how data is transforming at TxDOT

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2022 TNRIS GIS Forum

March 10th, 2022

Welcome to our Journey!

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Welcome to our Journey!

‘Awakening’ is not changing
who you are,
but discarding
who you are not.

Nurture the spark

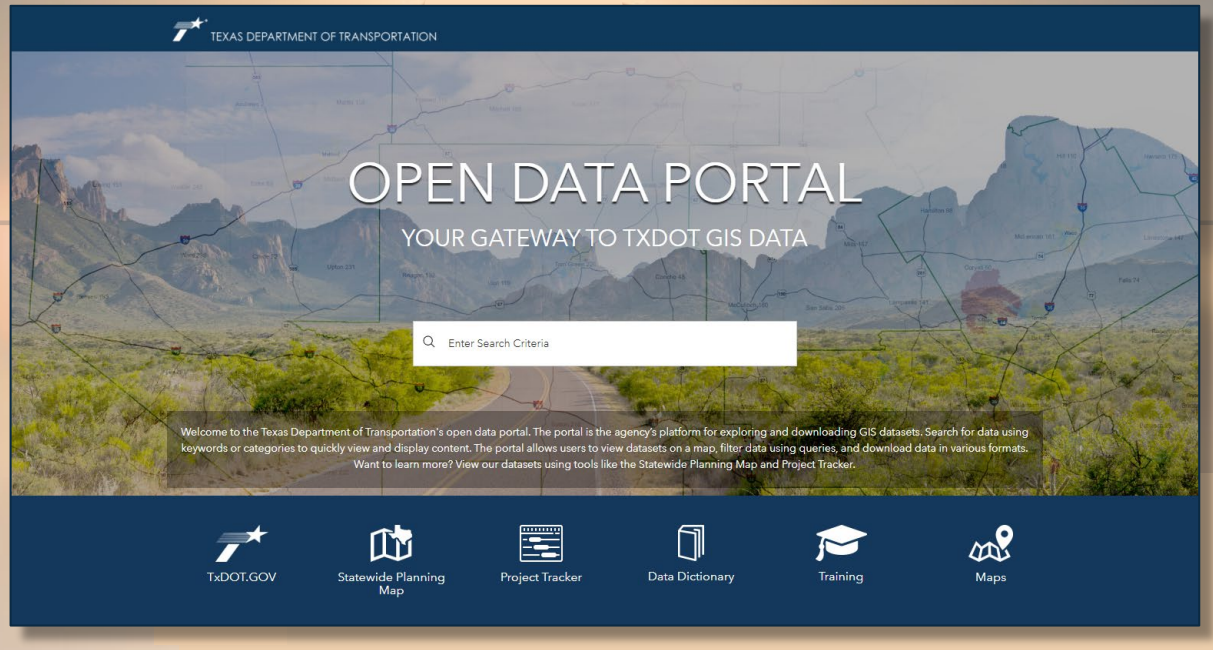
Nurture the spark

Various Statewide Initiatives
Largely Trial and Error

2000s-2010s

2016

TxDOT Open Data Portal Launched



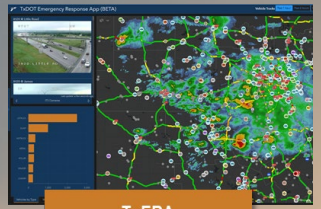
Nurture the spark

Nurture the spark

CAN WE SUPPORT THIS JOURNEY?

Nurture the spark

Guardrail Inventory


TxERA

Nighttime Inspection

Bridge Incident

Project Punchlist

2014

TPP Data Management carried the spark

2016

TxDOT Open Data Portal Launched

2018

GIS Work Group Established

Review of GIS enterprise needs

2019

TxDOT Connect Launched

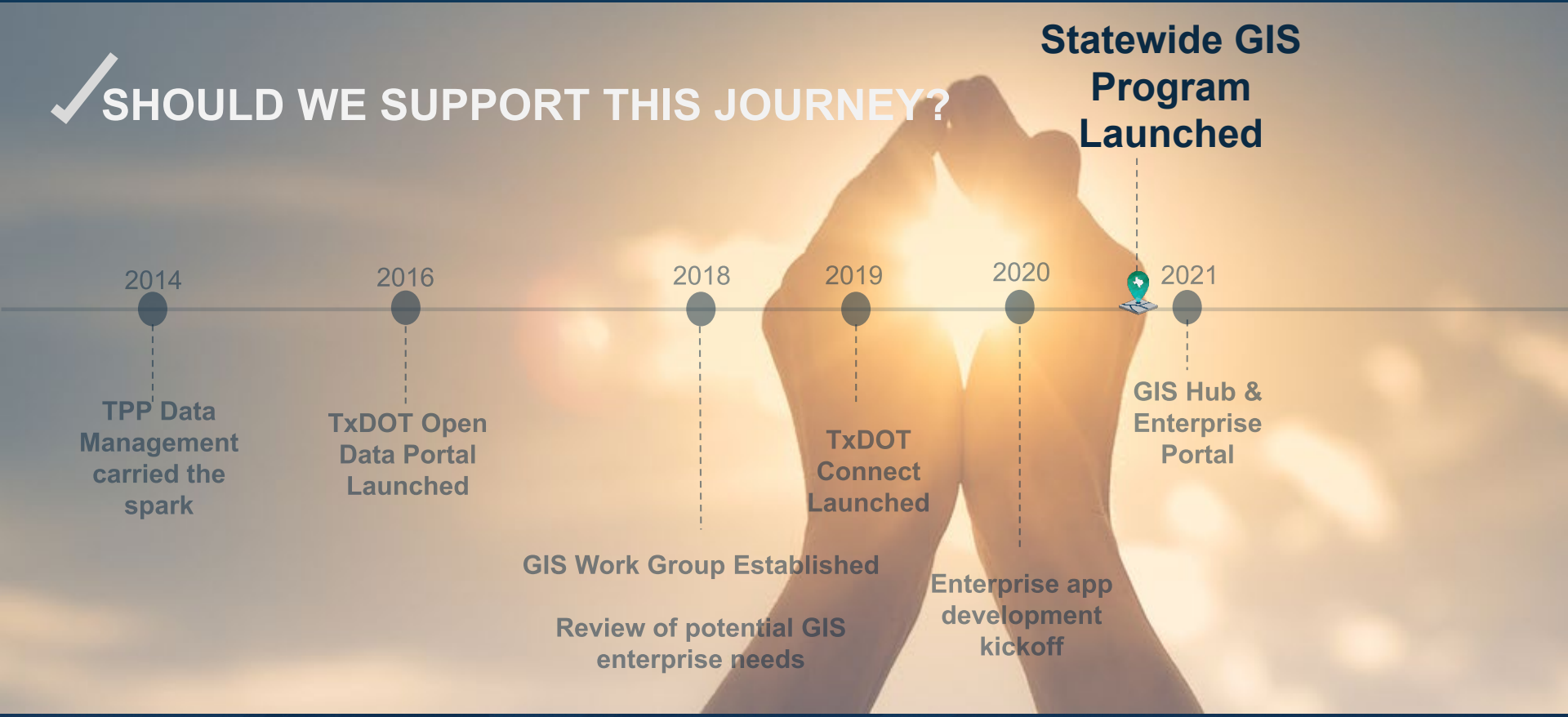
2020

Enterprise GIS application development kickoff

2021

GIS Hub & Enterprise Portal

Nurture the spark



Statewide GIS

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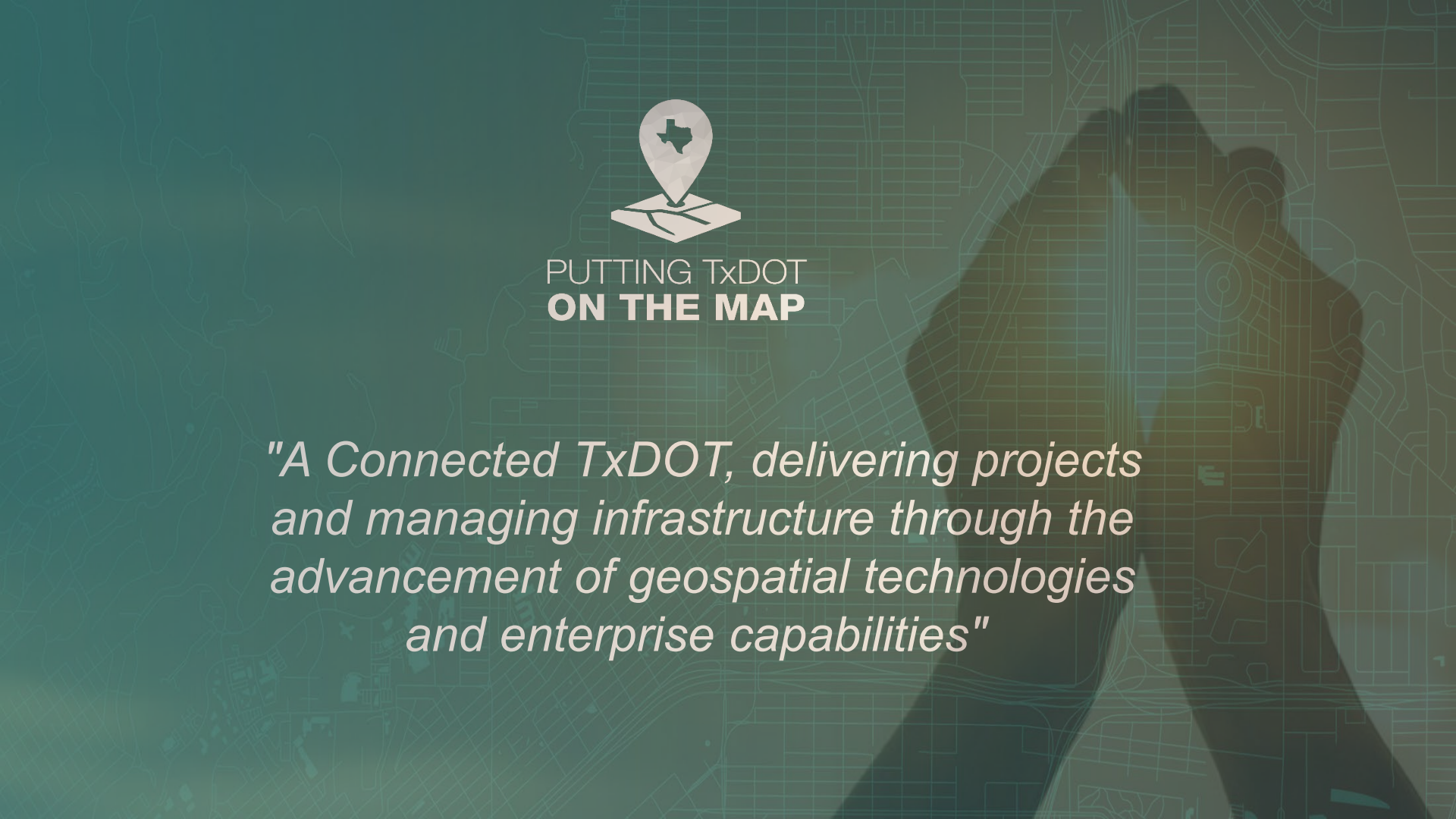
ON THE MAP


PUTTING TxDOT
ON THE MAP
"A Connected TxDOT, delivering projects and managing infrastructure through the advancement of geospatial technologies and enterprise capabilities"

PUTTING TxDOT
ON THE MAP

Statewide GIS

Connecting TxDOT with GIS tools, resources and information to put TxDOT on the map!

Guiding Principles

- Pursue Value
- Learn Together
- Data Quality
- Go Digital

Mission Critical Priorities

- Authoritative standards
- GIS education for the enterprise
- Discoverable data
- Enabling digital project delivery and supply chain

Field/Office Workers	Analysts	Managers	Enterprise	Public
Improved ability to share information	Faster access to updated data	Reliable information for decision making	One TxDOT, focused on Connecting you with Texas!	Efficient TxDOT delivery of safety, mobility, reliability and transparency

Systems & Data

Recognize strategic value of spatial data to the business of the DOT and drive support

Processes & Governance

Availability of geospatial data, maps, and information.

Workforce & Culture

Empowered, connected workforce using GIS visualizations that positively impact our delivery, maintenance and operations of transportation systems.

Six Months

Assess GIS capabilities, data, and resources.

Year 1

Demonstrate value and build connections with user community and leadership.

Year 2

Expand GIS education & support.

Year 3

Demonstrate GIS as a core competency of DOT.

PUTTING TxDOT ON THE MAP

Statewide GIS

Talk to the Team

Using, accessing & trusting existing TxDOT data sources
Sharing existing data
Creating relevant & useful internal content
Talking about the value of GIS
Setting agency standards & managing the data lifecycle
GIS dedicated personnel
TxDOT specific training for GIS tools

*Initial priority, no particular order

MENTI: What things do your teammates want most out of GIS?

Six Months → Year 1 → Year 2 → Year 3

PUTTING TxDOT ON THE MAP

Statewide GIS

Talk to the Team

"

GIS is a tool that my district (districts) have used for several years. We keep track of many assets and components in the district. Things like rumble strips, cable barrier, stockpiles of portable barrier, salt stockpiles, striping, types of surfaces on the roadways, and guardrails. **The GIS tools are a must** for a district to keep up with the demands of the 4-year maintenance management plan and the 4-year district safety plan. We need this expertise to be at a high level**,** we need this to become an **everyday component to our operation.**

Carl L. Johnson, P.E.
Ft. Worth District Engineer

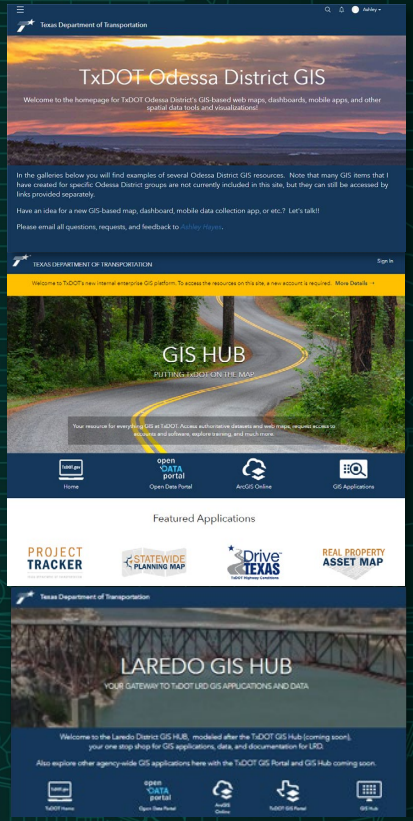
Six Months → Year 1 → Year 2 → Year 3

PUTTING TxDOT ON THE MAP

Statewide GIS

Building the GIS Community

- GIS Coordinators & Contacts
- GIS Community of Practice
  - GIS Training & Events
  - Help!
  - Ideas & Innovation
  - GIS Innovator
- GIS Work Group
- GIS Champions



Six Months	Year 1	Year 2	Year 3

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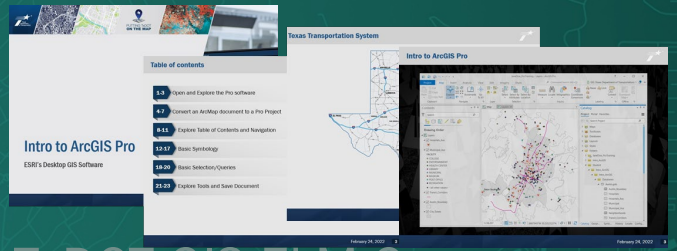
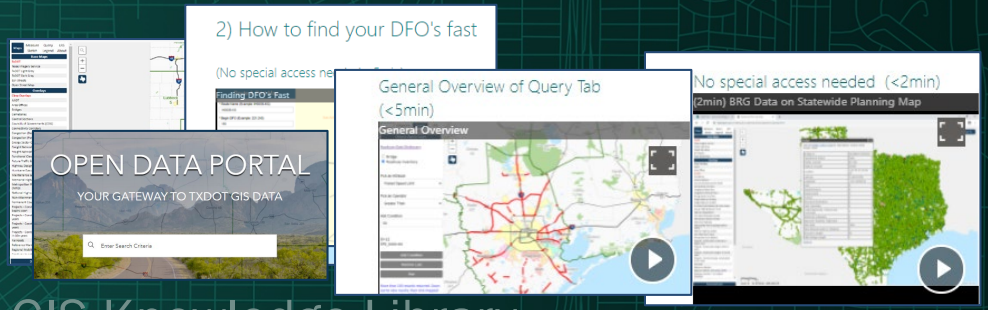
Statewide GIS

Educational Resource for the Agency



TxDOT GIS ELM Courses



GIS Knowledge Library

Linked in Learning

- Leadership & Staffing
- Office Hours
- Study Sessions
- SME Lunch and Learns
- Customized Learning on Request

Six Months → **Year 1** → **Year 2** → **Year 3**

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Statewide GIS

Learning GIS as a Core Competency

- EASILLY Accessible, authoritative data for both internal and external use
- Enterprise LRS (eLRS)
- Standardized Map Templates & Data Access
- Expanded GIS Tools & Platforms
- GIS SME's enterprise-wide
- Digital Delivery Data opportunities
- Enterprise training, knowledge & adoption of GIS tools.

Empowered data owners!

Six Months	Year 1	Year 2	Year 3

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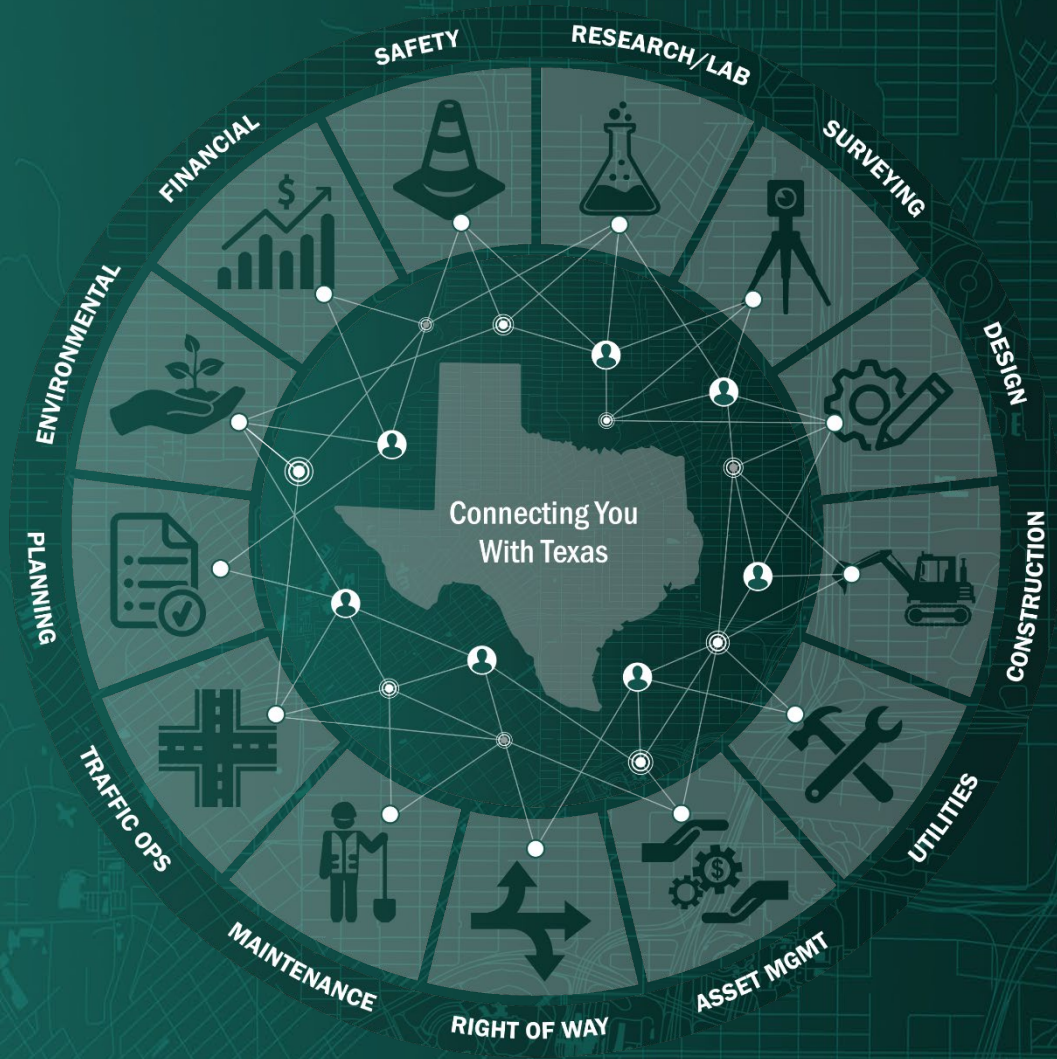

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Start and Connect with the people!

Establish a vision and revisit often.

Carry the spark!

Have passion and an ‘idea’ that supports enterprise growth.

Find, support and lean on champions.

PUTTING TxDOT ON THE MAP

Carry the spark

Grow the community

Value = user can get job done well!

Start and Connect with the People!

Focus on the big wins

Have passion and an 'idea' that supports passionate growth

We are trying to help people solve problems

Make a vision and revisit

Use real examples that show value to *them*

Find, support and lean on champions

PUTTING TxDOT ON THE MAP

Everyone has a plan until you get punched in the face

Get your tech moving

Make requirements less dumb

Carry the spark

Start and Connect with the People!

Have passion and an 'idea' that supports passionate growth

Make a vision and revisit

Find, support and lean on champions

Grow the community

Value = user can get job done well!

Focus on the big wins

We are trying to help people solve problems

Use real examples

Look for gaps

PUTTING TxDOT ON THE MAP

Leverage funding opportunities

Change management really does help

Be honest with others about timing

Carry the spark

Grow the community

Look for gaps

Build partnerships to help

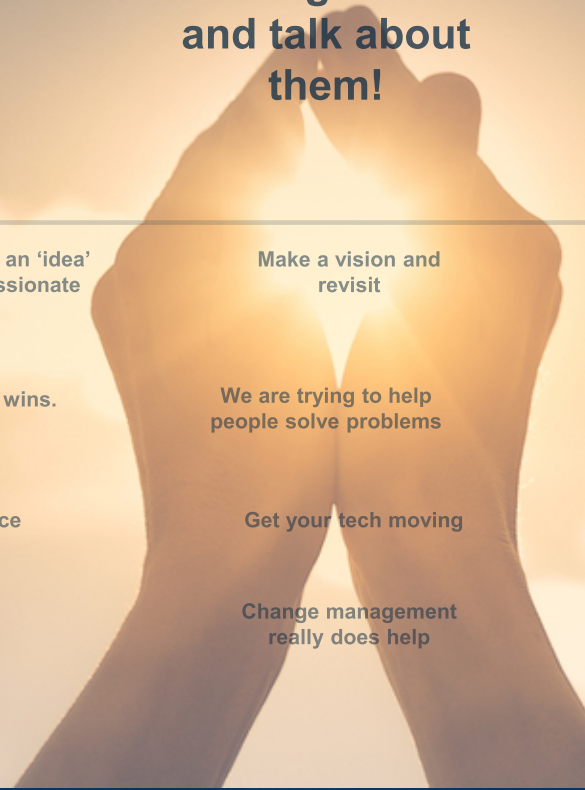
Start and Connect with the People!	Have passion and an 'idea' that supports passionate growth	Make a vision and revisit	Find, support and lean on champions
Value = user can get job done well!	Major in major stuff – don't sweat the small stuff	We are trying to help people solve problems	Use real examples
Everyone has a plan until you get punched in the face		Get your tech moving	Make requirements less dumb

PUTTING TxDOT ON THE MAP

Celebrate release *after* people are using it

Gain wins worth talking about and talk about them!

Pay attention to timing. Energy flows where attention goes.



Carry the spark	Start and Connect with the People!	Have passion and an 'idea' that supports passionate growth	Make a vision and revisit	Find, support and lean on champions
Grow the community	Value = user can get job done well!	Focus on the big wins.	We are trying to help people solve problems	Use real examples
Look for gaps	Everyone has a plan until you get punched in the face		Get your tech moving	Make requirements less dumb
Build partnerships to help	Leverage funding opportunities		Change management really does help	Be honest with others about timing

Celebrate wins!

PUTTING TxDOT ON THE MAP

GIS knowledge management can help anyone at any level of the DOT

GIS is transformative – prioritize GIS staff

Everyone can use GIS at the DOT

GIS is about connecting with *people* to solve problems together

Carry the spark	Start and Connect with the People!	Have passion and an 'idea' that supports passionate growth	Make a vision and revisit	Find, support and lean on champions
Grow the community	Value = user can get job done well!	Focus on the big wins	We are trying to help people solve problems	Use real examples
Look for gaps	Everyone has a plan until you get punched in the face		Get your tech moving	Make requirements less dumb
Build partnerships to help	Leverage funding opportunities		Change management really does help	Be honest with others about timing
Celebrate wins	Celebrate release after people are using it		Gain wins worth talking about	Watch for the right time to move

PUTTING TxDOT
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Thank you!

Questions?

Contact Us

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