

# Dynamic Geospatial Collaboration Platform for Infrastructure Renewal

**ROW**  
MANAGEMENT



**Caroline Arnouk, OPA Technologies**  
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# AGENDA

- ❑ **CHALLENGES**
- ❑ **STATIC GIS VS DYNAMIC GIS PLATFORM**
- ❑ **INFRASTRUCTURES RENEWAL PROCESS**
- ❑ **SUB DATA CATEGORY: PHASES**
- ❑ **DYNAMIC COLLABORATION FEATURES**
- ❑ **CONCLUSION**

# CHALLENGES

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- Time and spatial constraints
- Different and Many Stakeholders
- Silos
- Impacted Parties
- Communication: information and data
- Spread informations
- Multiple Individual Tools
- Updating information
- Updating database (Asset management)
- Real-time information vs Online
- Micromanagement vs. Overview

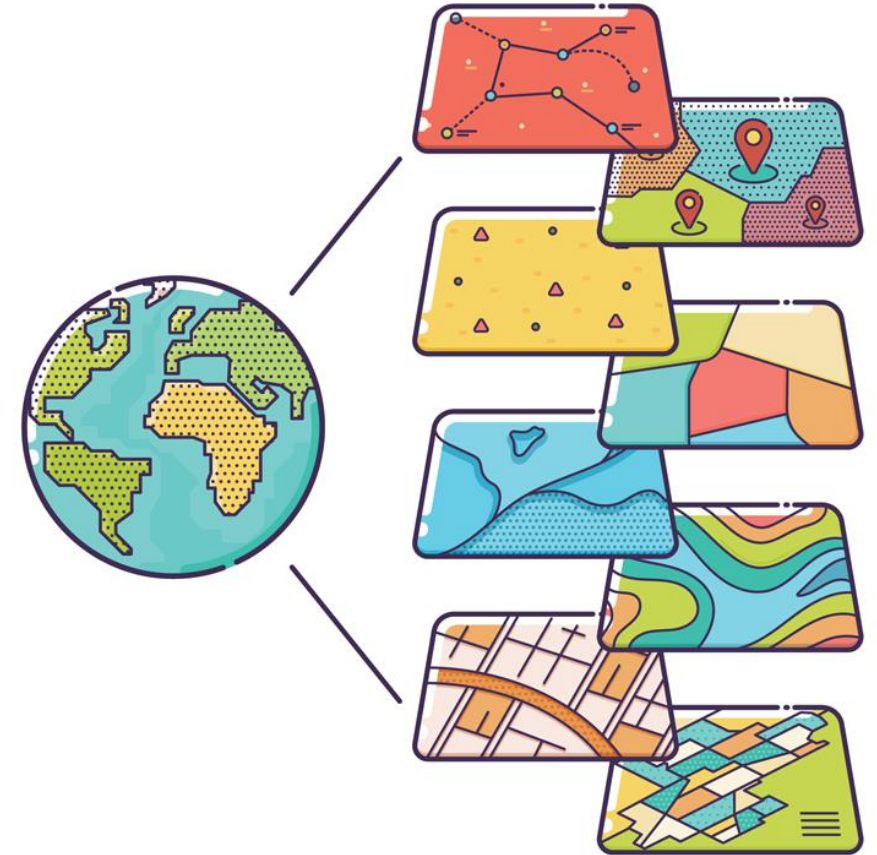


forbes.com

# STATIC GIS VS DYNAMIC GIS PLATFORM

## STATIC GIS

- Maps all assets
- Ability to store a large amount of data
- Update capability
- Requires resources with specific expertise
- A library
- Foundation of asset management



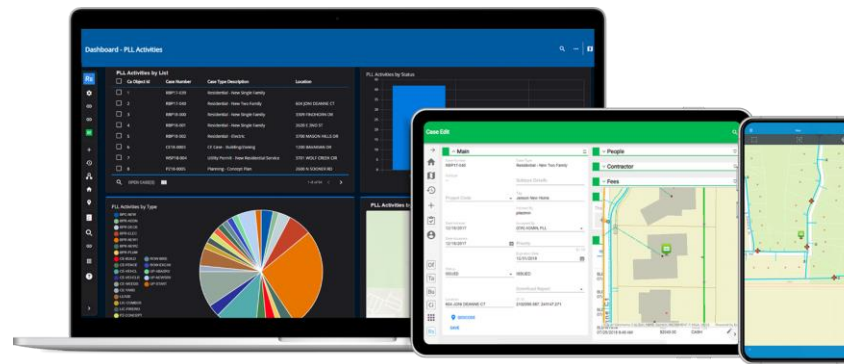
opatechnologies.com

# DYNAMIC GIS PLATFORM OR APPS

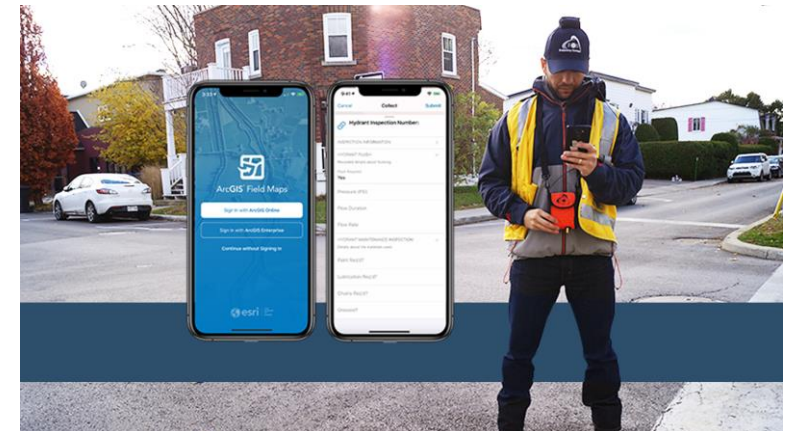
- Based on GIS Mapping software
- User friendly platforms (Project management and visualization)
- Operations management features
- Opportunities for further development and integration
- Web forms
- Algorithms
- API integration with other platforms
- Personalized with configurations
- Potential for more developments



OPA Software based on ArcGIS



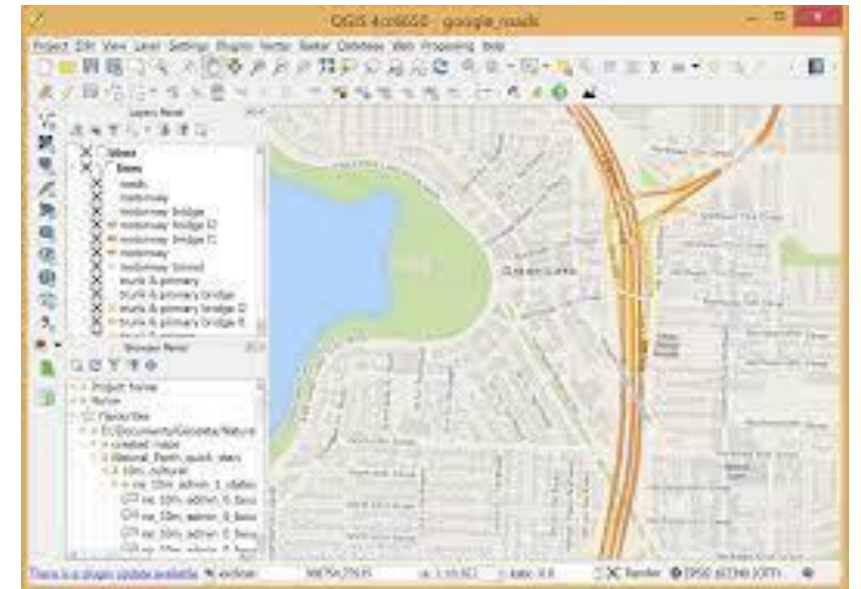
Cityworks based on ArcGIS Online



Field Maps based on ArcGIS Online

# MAPS

- Open source map. Require skilled IT professionals.
- Commercial Software.
- Free Software (Google Maps). Commercial Licence required.



qgis.org

# MAPS

**QGIS**

**OpenStreetMap**

**Here (Microsoft)**

**Leaflet**

**ArcGIS (ESRI)**

**MapInfo**

**Oracle Spatial Database**

**Autodesk**

**ArcFM (Schneider Electric)**

**Google Maps**

**Google Earth**



[opatechnologies.com](http://opatechnologies.com)

# INFRASTRUCTURE RENEWAL

## PLATFORM CHOICE

- Micromanagement
- Different Software integration
- Database structure is essential
- Accuracy need (project) vs data availability and cost
- Real-time or periodic update.
- Cloud Based
- Capital planning and Asset Management platforms integrations
- Each asset is unique.
- Common base: GIS



smartsheet.com

# SUB DATA CATEGORY: PHASES

The screenshot displays the RoadWorks software interface. At the top left is the "ROADWORKS" logo. At the top right, there is a location indicator for "California". The main area is a map of Riverside, California, showing several road closure phases. A search bar at the top center contains the text "Search a street address". On the right side, there is a filter panel titled "Road closure - Riverside" with a list of categories: "Work sites", "Phases", "Phase #1", and "Phase #2". Below the list is a "Choose a color" section with a blue square. At the bottom of the map, there is a "Filter projects..." search bar and a "Start date" / "End date" filter. The map shows various streets such as Grand Ave, Jurupa Ave, and Wood St. The interface is powered by Esri.

RoadWorks  
opatechnologies.com

# SUB DATA CATEGORY: PHASES


Closure #1 ✕

Published

Itinerary \*

 [On 113 m]

Period

 2022-09-21 00:00 - 2022-09-23 00:00

**MON** **TUE** **WED** **THU** **FRI** **SAT** **SUN**

Type of closure

**Complete** ✕ ^  
**Sidewalk** ✕

Closure's side

Closure's side ▼

Comments

**B** U / H<sub>1</sub> H<sub>2</sub> ¶ S # • </> —

*Project details*

**Complete** ✓  
Right way  
Left way  
Alternate  
Curve  
Center lane  
**Sidewalk** ✓

Period

 2022-09-24 00:00 - 2022-09-26 00:00

**MON** **TUE** **WED** **THU** **FRI** **SAT** **SUN**

Closure's side

Closure's side ▼

RoadWorks [opatechnologies.com](https://opatechnologies.com)

# DYNAMIC COLLABORATION FEATURES

## DETOURS & CONFLICTS

Our detour and conflict management allows proactive handling of potential conflicts in road work in the same area.

## OPERATIONS

Coordinate work using multi-level user access for everyone involved, in the office or on the field.

## PLANNING

Add upcoming road work with customizable interfaces, forms, document archives, Gantt Chart visualization and more.

## COMMUNICATIONS

Share your road work information internally, to your public maps or Waze in just a few clicks.



# IN CONCLUSION



- ✓ **Choice of one platform or different platforms**
- ✓ **GIS Mapping vs GIS Apps**
- ✓ **GIS vs non GIS: depends on Infrastructure types, Database and End-User**
- ✓ **Dynamic Collaboration Features to look for**



**Dynamic Geospatial  
Collaboration Platform  
for Infrastructure Renewal**

Caroline Arnouk, OPA Technologies  
[caroline@opatechnologies.com](mailto:caroline@opatechnologies.com)  
(514) 770-0568

**THANK YOU**