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The image shows a dark blue header bar with the University of Melbourne logo and the text "Who Am I? Why am I talking to you?". Below this, the slide content begins with the section "History/Project Experience:" followed by a bulleted list of projects. There is a horizontal line at the bottom of the slide content area.

History/Project Experience:

- Masters of Spatial Engineering with distinction
- Queensland Satellite Park
- Melbourne Airport Rail Link
- Suburban Rail Loop

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What are the major projects?

- **Road**

Westgate Tunnel

North East Link

- **Rail**

Metro Tunnel

Airport Link

Suburban Rail Loop



What are the applications?

1. The storage of data and metadata

- Presenting a “view of the project”

2. The coordination and distribution of information

- Site plans/access, also linking info to WebGIS

3. Support developments, reporting, applications and assessments

- PDF mapping and WebGIS

4. Optimisation of processes from the office to the field



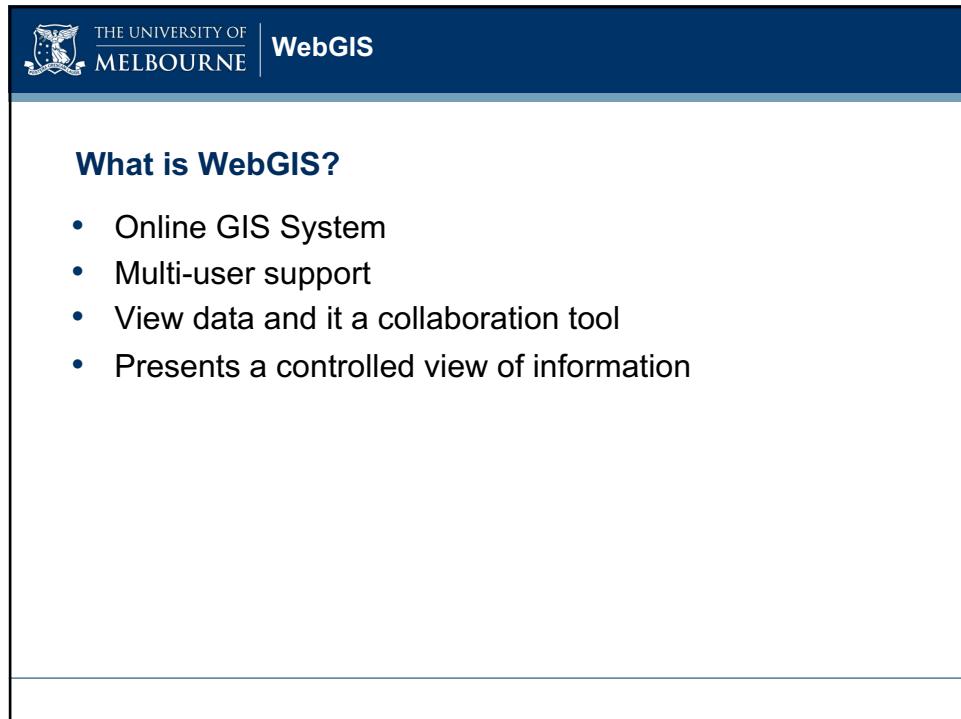
How is this optimisation and project support done?

- Mapping support
- WebGIS
- Collector/mobile data collection
- Data Provisioning



Mapping support is used to:

- Provide data used as evidence to gain land, planning or environmental approvals for example:
 - Native Vegetation
 - Ecological Impacts
 - Heritage Impacts
 - Planning Scheme Amendments
- Support reporting to gain financing
- External communications
- Official documents as per legislation (for public display)

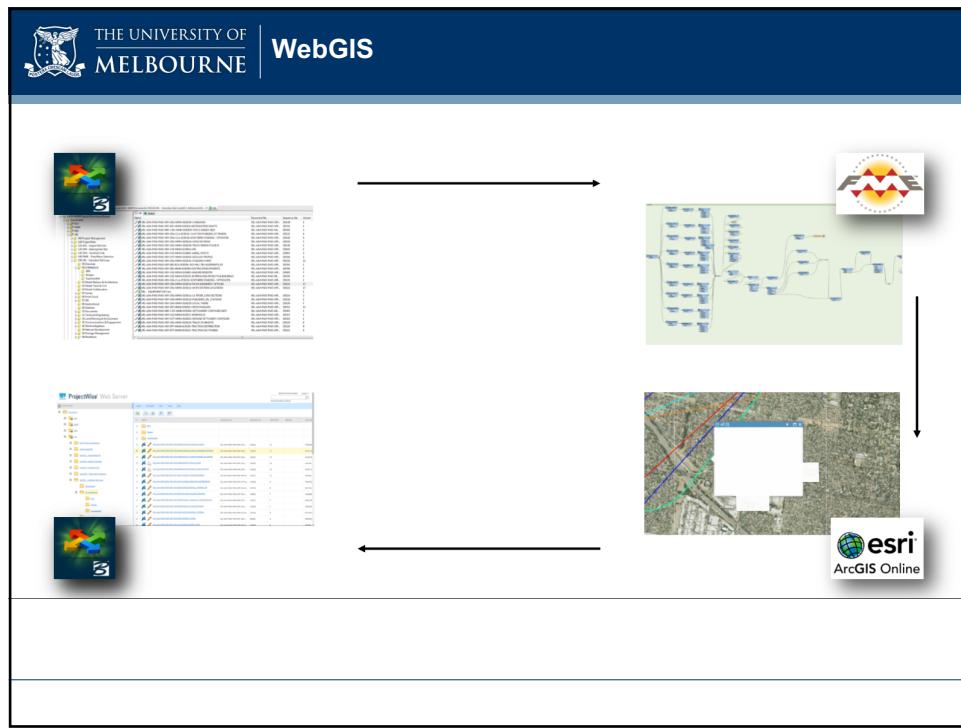


THE UNIVERSITY OF MELBOURNE | **WebGIS**

What is WebGIS?

- Online GIS System
- Multi-user support
- View data and it a collaboration tool
- Presents a controlled view of information

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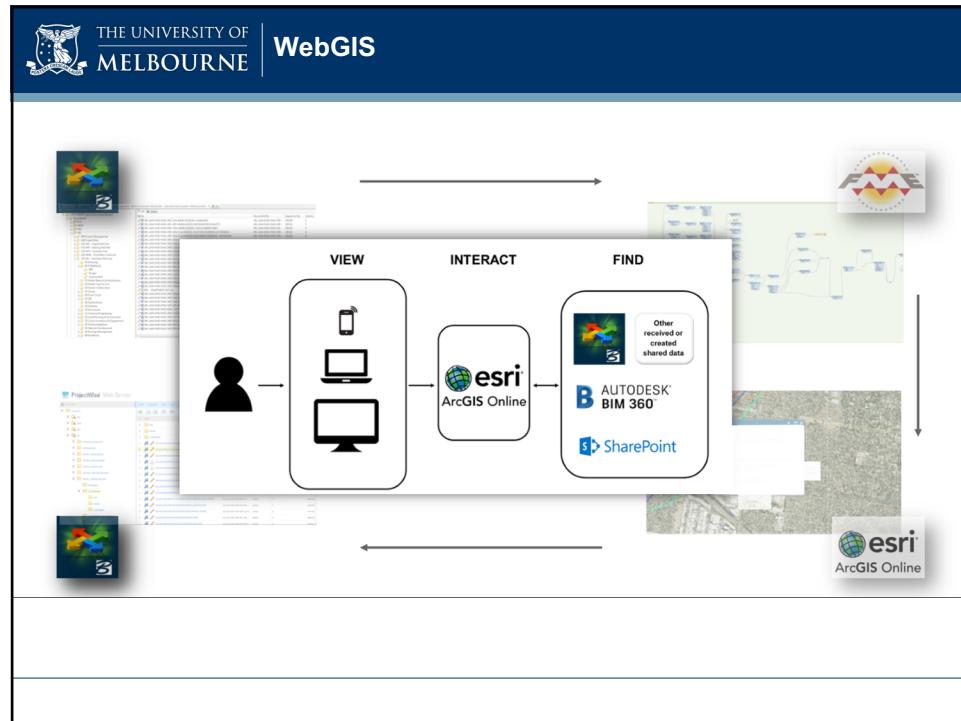


THE UNIVERSITY OF MELBOURNE | **WebGIS**

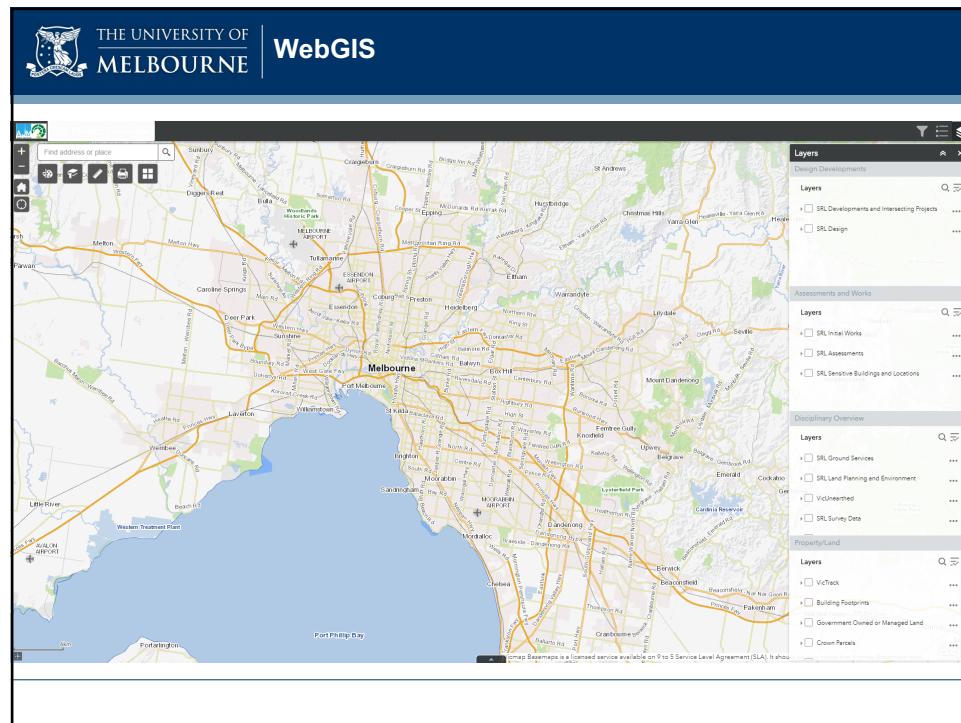


The diagram illustrates the integration of ProjectWise data into various WebGIS environments. It shows a central 'ProjectWise Web Server' interface at the bottom left, connected by arrows to four different WebGIS platforms: 'ProjectWise Web Client' (top left), 'Bentley Navigator' (top right), 'ArcGIS Online' (bottom right), and 'Autodesk Map3D' (bottom left). Each platform is represented by its respective logo and a screenshot of its user interface.

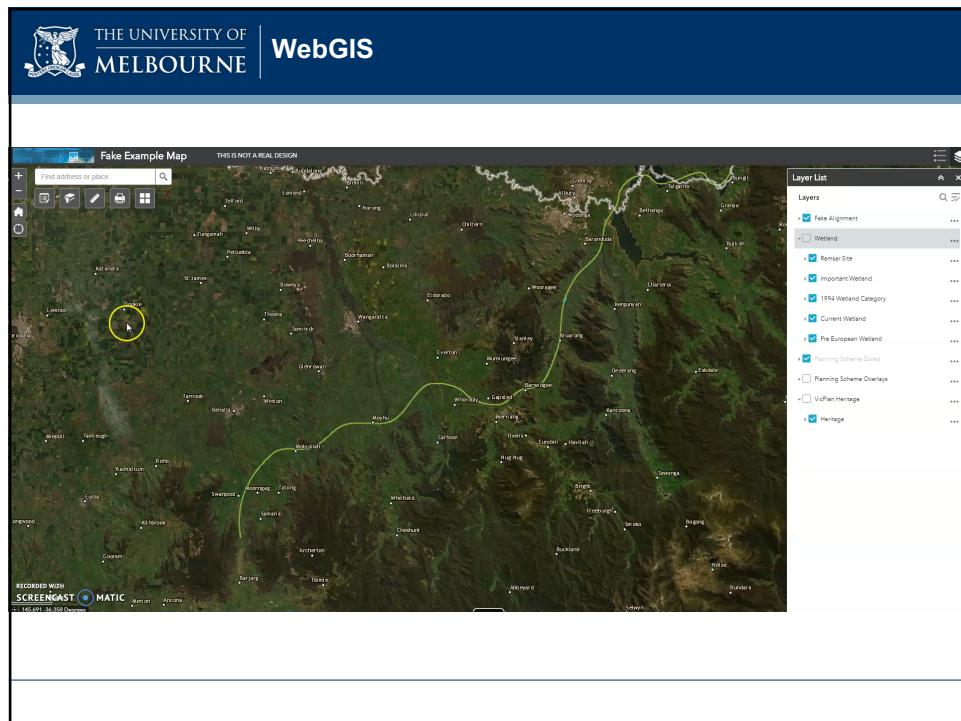
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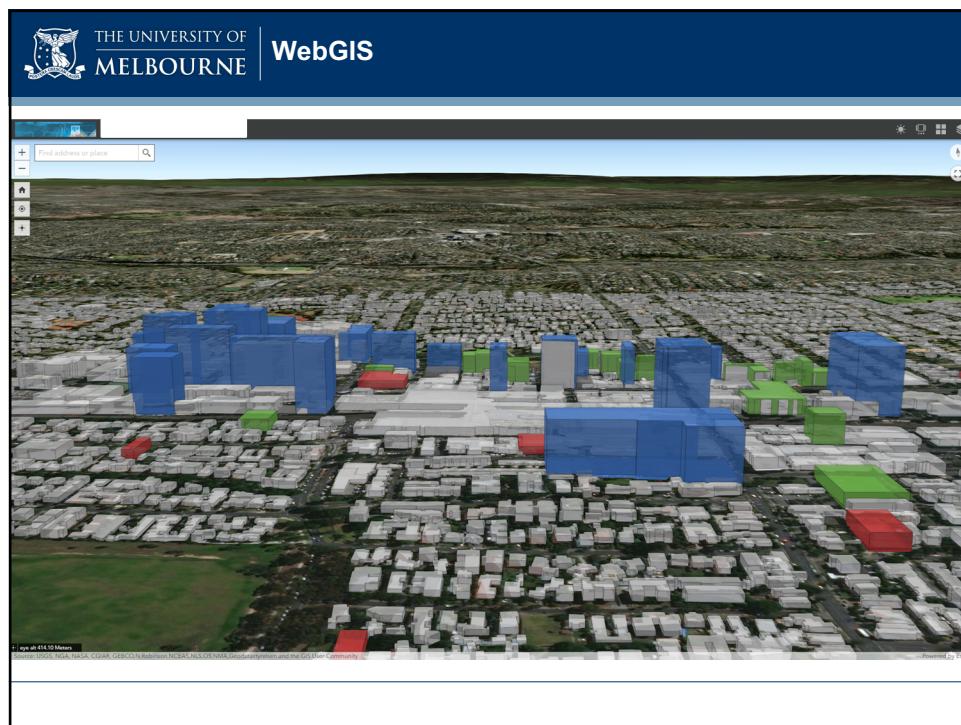
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 THE UNIVERSITY OF
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WebGIS Summary

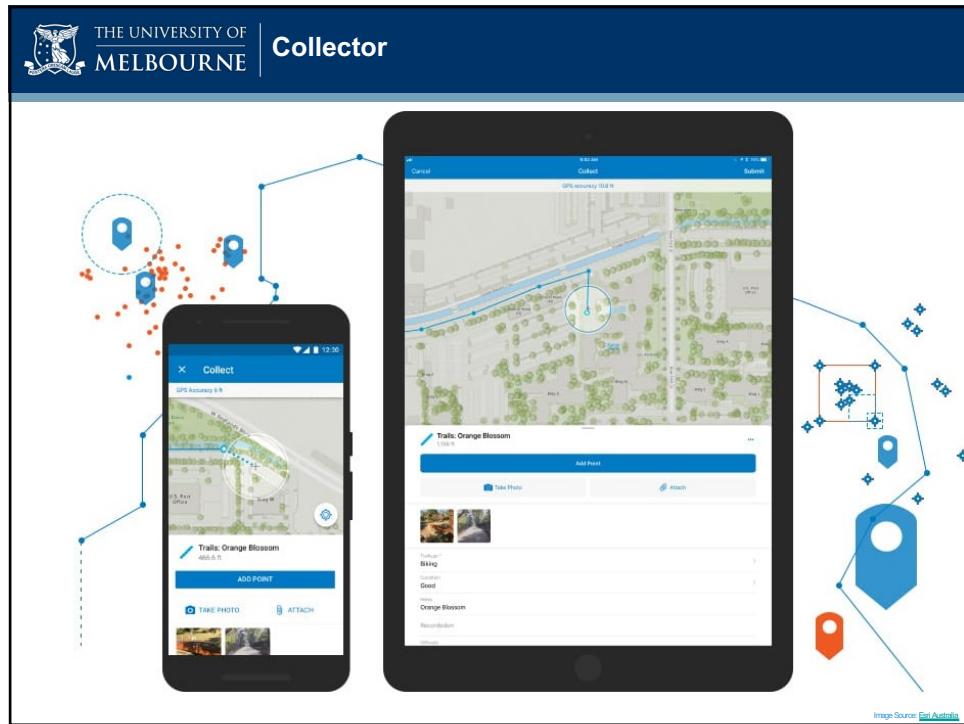
- WebGIS provides a controlled view of information and acts as a gateway to accessing even more information.
- The system is used for multidisciplinary collaboration and is able to service a range of people
- Hosts both 2D and 3D information and provides extra value in its attributes.
- Is also used for desktop – initial/existing conditions assessments before any detailed assessments are carried out
- Useful in planning site visits and investigations

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 THE UNIVERSITY OF
MELBOURNE | **WebGIS vs PDF Mapping**

WebGIS		"PDF Mapping"	
Pros	Cons	Pros	Cons
Simultaneous user support	Requires Internet connection	Replicable	Static visualisation
Dynamic visualisation	"Less user friendly"	Controlled view	Restricted view
Analysis support	More technically exhaustive	Cheap to create and distribute	Old fashioned
Can create "PDF Maps"	Potentially questionable reliability	Permanent	Hard to update
Automation keeps it up to date	Expensive upkeep and set up	No need for internet or technology	Need many maps to communicate the same information

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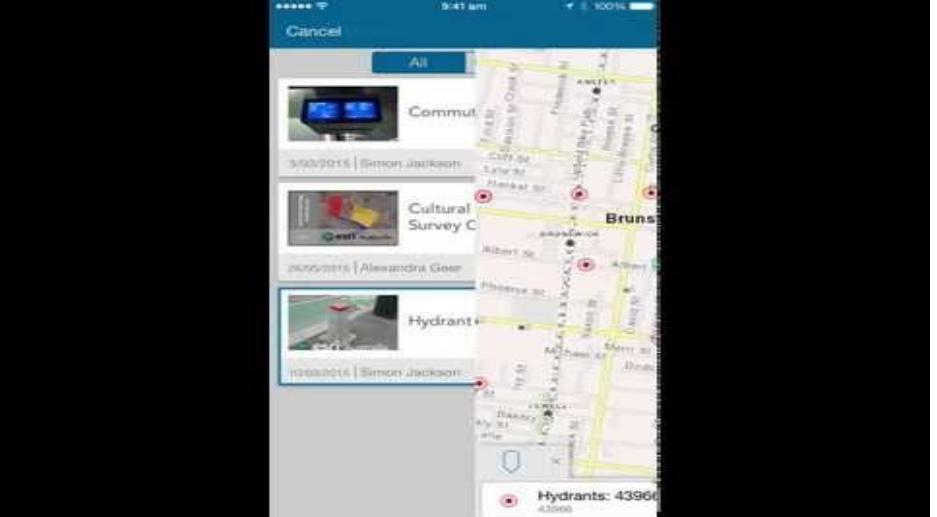
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What is collector?

- A system of mobile data collection
- Can be used with just your phone, or a GNSS receiver for greater accuracy
- Allows users to see a web map and their respective location
- Attribute fields can be set up to fast-track the capture of data to ensure that specifications and requirements are met
- Data is captured and represented in real-time (people in the office can see data captured in the field right away)

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Other Example:

- [Survey 123 integration](#)

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 THE UNIVERSITY OF MELBOURNE | **Model Builder**

What is Model Builder

- Used to set up a work flows that can be used to automate processes
- A form of visual programming which uses “modules and links” to create “scripts”
- Models can also be turned into python scripts to allow for more applications
- Makes use of all the tools available in ArcGIS.
- Can be shared and packaged up for multiple user access

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GIS as a central data format

- The advantage of GIS structured files allows for GIS files to act as a centralised data point for multiple teams.
- A role of GIS is to extract information out of other formats and then store it with appropriate metadata
- All of this stored GIS information is also converted into other formats to be consumed in ways relevant to other disciplines.

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Story Maps

- Are a new digital format that combines GIS with Reporting
- Ideally will replace static documentation
- New way to convey information in an interactive way
- Cool examples:
 - <https://www.abc.net.au/news/2020-02-19/australia-bushfires-how-heat-and-drought-created-a-tinderbox/11976134>

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 THE UNIVERSITY OF MELBOURNE | **Summary**

GIS has many applications in Major Infrastructure Projects:

1. The storage of data and metadata
2. The coordination and distribution of information
3. Support developments, reporting, applications and assessments
4. Optimisation of processes from the office to the field

Which is accomplished through:

- Mapping support
- WebGIS
- Collector/mobile data collection
- Data Provisioning

The “Digital Age” evolves and GIS comes along with it

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 THE UNIVERSITY OF MELBOURNE | **Summary**

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- 1. The storage of data and metadata**
 - Presenting a “view of the project”
- 2. The coordination and distribution of information**
 - Site plans/access, also linking info to WebGIS
- 3. Support developments, reporting, applications and assessments**
 - PDF mapping and WebGIS
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