



# CREATING A PUBLICLY AVAILABLE WEB APPLICATION FOR FIXED-ROUTE BUS SERVICES USING ARCGIS ONLINE

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*Western Piedmont Council of Governments – Hickory, NC*

# Greenway Public Transportation

- Serves the Greater Hickory Metro (Alexander, Burke, Caldwell and Catawba Counties) with a variety of transportation options.
- In the municipalities of Hickory, Newton and Conover, Greenway operates a daily fixed-route service consisting of four full-sized busses running simultaneously along six routes.





**Legend & Route Info**

- US Interstate
- US Highway
- State Highway
- Local Road
- Points Of Interest

Route 1: West Hickory  
 Route 2: NC 127 / Springs Road  
 Route 3: Hickory / Conover / Newton (Outbound)  
 Route 4: Newton / Conover / Hickory (Inbound)  
 Route 5: Tate / Conover (Outbound)  
 Route 6: Conover / Tate (Inbound)

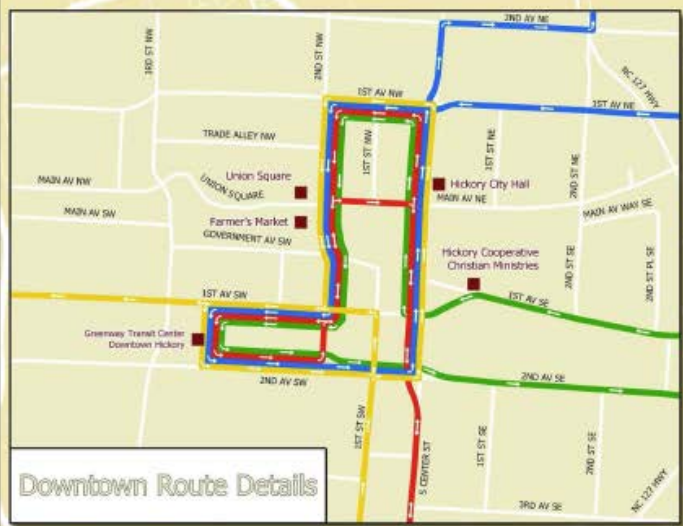
Effective July 2013

# GREENway

## PUBLIC TRANSPORTATION

### System Map

**828-464-9444**



**Bus Info Direct**  
**828-465-7634**

<ul style="list-style-type: none"> <li>• Alternate format is available in Spanish and Hmong.</li> <li>• Taxi hau kev tshab(bus) thab lub caj nyuag maw muaj sau u lus hmoos.</li> <li>• El mapa del sistema de autobuses y horarios están disponibles en español.</li> </ul>	<p><b>Title VI</b> Greenway Public Transportation (WPRTA) shall not discriminate in any manner on the basis of race, color, or national origin. Greenway Public Transportation is an equal opportunity employer.</p> <p><b>Title VI</b> El Transporte Público Greenway (WPRTA) no discriminará en ninguna forma basada en raza, color u origen. El Transporte Público Greenway ofrece igualdad de oportunidad.</p>
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# Western Piedmont Council Of Governments (WPCOG)



- Serves all local governments in Hickory Metro (Alexander, Burke, Caldwell and Catawba Counties)
- For Greenway Transportation, WPCOG provides:
  - Passenger-sampling services
  - Assistance with transportation planning and assistance with transportation funding sources
  - GIS Services







# GIS Services for Greenway

- Work was initially done for GIS using ArcView:
  - Determining Routes
  - Determining PMT for Passenger
  - In the meantime, Esri released
    - ArcGIS Online
    - Esri Web Map Application Builder

# GIS Services for Greenway

- Decided to create a web-map application to assist Dispatchers and the general public in finding and using the fixed-route bus service.
- The web map would need to be:
  - Easy to access on internet-accessible mobile devices (iOS and Android) & on PCs
  - Easy and intuitive to use
  - Be free for the public
  - Be affordable for transportation provider

# GIS Services for Greenway

- The web app would need to contain useful information, including:
  - Routes
  - Stop Locations
    - Use Device's GPS to determine user's location, and show bus stop locations that are nearby
    - Show stops near any given address
  - Stop Amenities
  - Full Schedule for each Stop (349 stops)



# Application

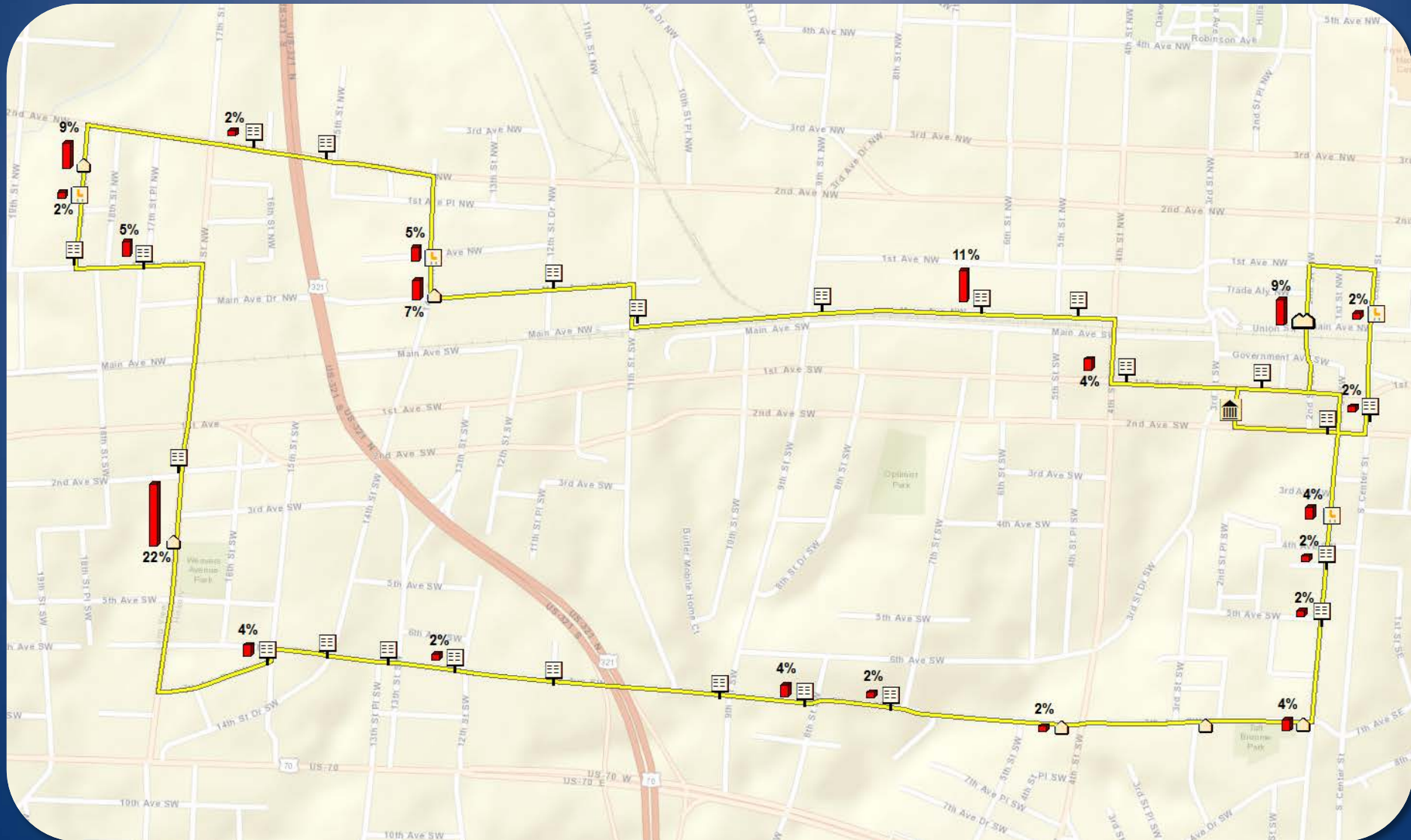
- Launched in March, 2015
- Data is hosted on Server for ArcGIS, housed at WPCOG
- About 20 users per day
- Available on home page of Greenway Transportation ([www.mygreenway.org](http://www.mygreenway.org))

<DEMONSTRATION>

# Current/Future Enhancements

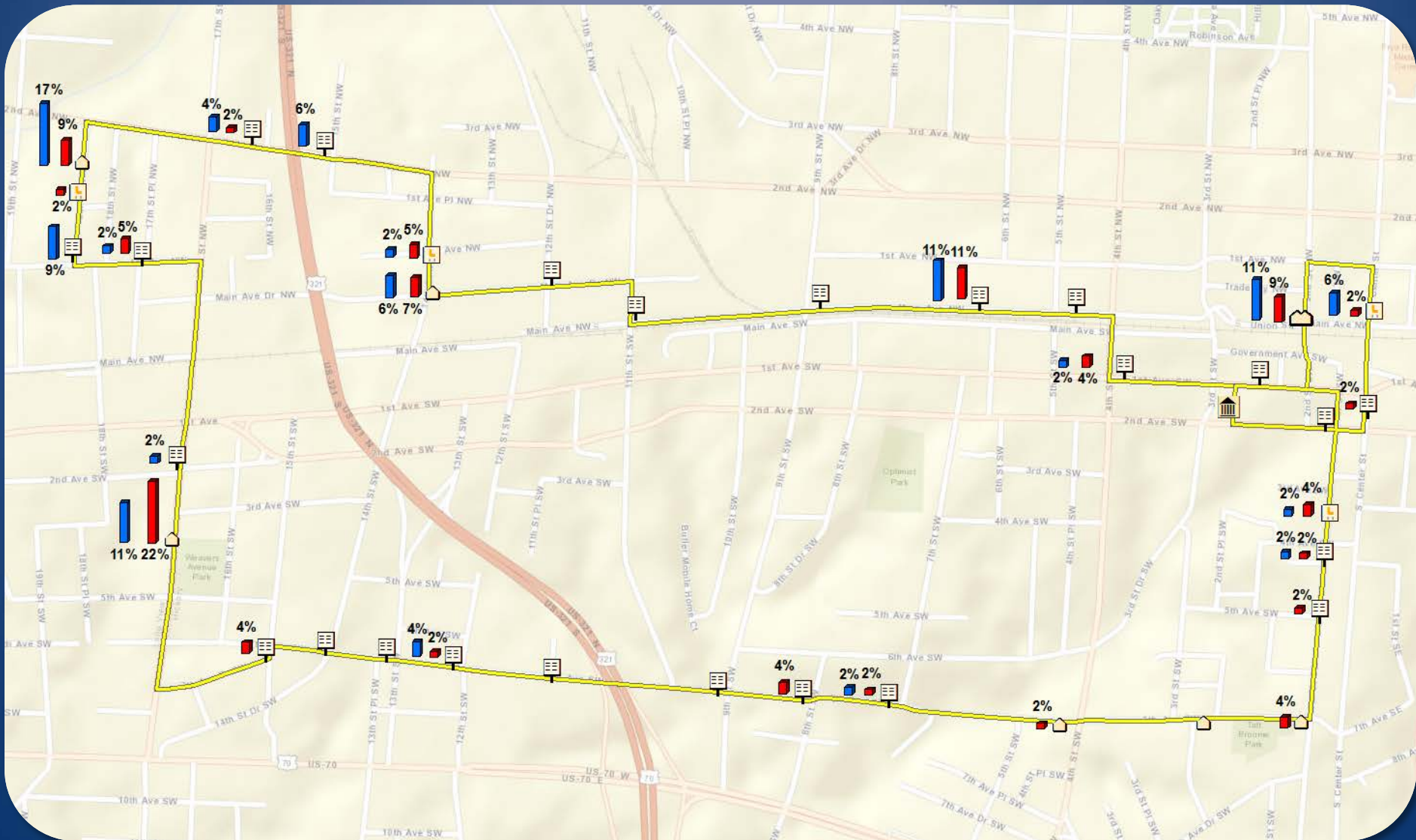
- Currently working to add AVL data to web app.
- AVL mapping packages can be pricey for small transportation providers. We are working with CTS for them to provide the live X/Y coordinates and WPCOG will place those into the web app to show where a bus is.
- We also collect data regarding how Greenway serves various populations, e.g. elderly, children, handicapped and others.
- We are creating a geodatabase from this information to enable querying of spatial data that can improve service.

# Elderly Passengers Embarking on Route 1 (West Hickory), By Stop (2013-14)





# Elderly Passengers Embarking on Route 1 (West Hickory), By Stop (2012-13 and 2013-14)



# Questions?

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