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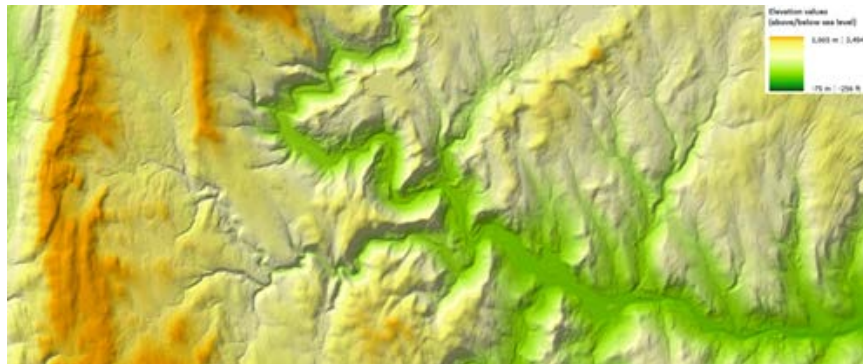
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1. Lidar

Lidar, which stands for **L**ight **D**etection **A**nd **R**anging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses—combined with other data recorded by the airborne system — generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.

MassGIS recently created a seamless statewide Lidar dataset melding data gathered mainly between 2010 and 2015. The dataset combines a Digital Elevation Model (DEM) with a spatial resolution of 1 meter, and a Shaded Relief image, to create the look of three-dimensional terrain:



MassGIS has also provided an [Elevation Finder](#). You can click on a specific location for a pop-up with its elevation.



A particular feature of this dataset is that it represents bare earth elevation, with structures and vegetation removed. One potentially valuable use is in modeling the effects of prolonged heavy rains, sea level changes, and other sustainability concerns.

I've created a [Concord Lidar webmap](#) from this dataset for you to explore.

Just for fun...

Can you identify these Concord locations from their Lidar images?
(Click on each for a bigger image)



Answers at end of Newsletter – if you need them!

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2. Broadband Business Mapping

The Covid-19 pandemic put the Broadband installation process on hold for a long time. Jason Bulger, recently given responsibility for the Concord Light Broadband business, requested a webmap to assist him in planning the Fiber Team's installation work.

Broadband customers come in three flavors:

- **Requested:** Individuals and businesses in Concord apply for Broadband service by completing a PeopleForm. The form is set up to let the applicant know whether Broadband service is available at their address.
- **Pending Connection:** Once a potential customer has been contacted, and the Fiber Team has confirmed that a connection is feasible, the Team creates a work order in iVue, Concord's utility billing system. This flags the customer's account as Pending Connection in iVue.
- **Active:** Once the customer is connected and set up for billing, they are tagged as Active in iVue.

Jason particularly wanted the map to call out how long applicants had been waiting. This called for a dynamic updating process – beyond my skills! – so I enlisted PeopleGIS whiz Tyler, who wrote some code to sort **Requested** customers' applications into the following categories:



I also added layers to the map for **Pending Connection**  and **Active**  customers:



Jason says, "This fantastic dynamic map is helping our staff carefully plan deployments to consolidate police details and get more work done in a smaller geographic area, all while prioritizing those who applied first. It's a great resource for Concord Broadband to improve operations and conduct a greater number of installations."

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3. Nearmap 2022

Nearmap recently posted their Spring 2022 oblique (bird's eye) imagery...which takes longer to produce than the straight-overhead aerials. Here are a few samples from around town:

Gerow Recreation Area
- work in progress



Bruce Freeman Rail Trail
- bridge over Route 2



Old North Bridge





White Pond Beach
- work in progress

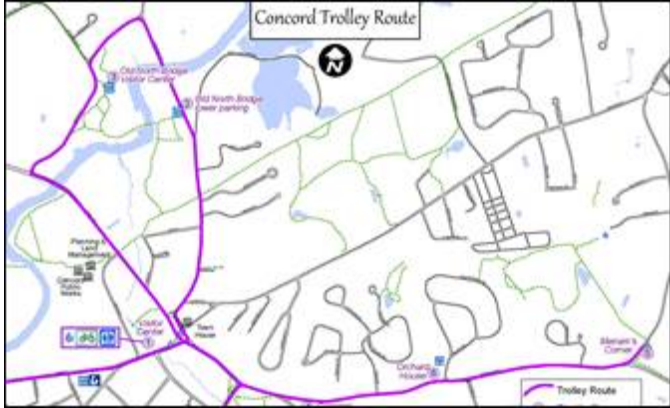

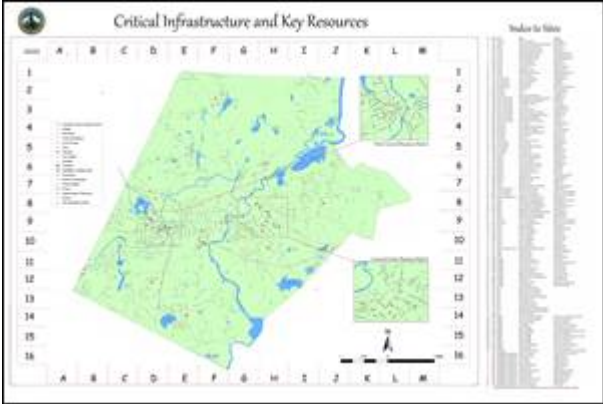


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4. Map/App Gallery

*CTRL-Click on a thumbnail to view a full-size map**

<p>Arbor Day</p>	 <p>The map shows a geographic area with various colored overlays. Green areas represent 'Open Space', blue areas represent 'Water Features', and red dots represent 'Lakes'. A yellow rectangle highlights a specific area. Text on the map asks 'Where will you plant your 2022 Arbor Day tree?' and 'Place a marker at the location of your planting plan.' A large '150 ARBOR DAY' logo is in the bottom right corner.</p>	<p>Amanda Kohn in Sustainability requested a map for the 150th anniversary of Arbor Day.</p> <p>Reni Cunningham at the Library posted the map in both library branches for a bit of Arbor Day interaction with residents.</p>
<p>Commercial Property</p>	 <p>The map displays a network of streets and property parcels. Several parcels are highlighted in orange, representing commercial property. A legend in the top left corner identifies these as 'Commercial Property Parcels 20220405'.</p>	<p>Created a Commercial Property map for Jason B, on behalf of Select Board member Mary Hartman.</p> <p>Also created a webmap of the above, with pop-ups for address, owner information etc.</p>

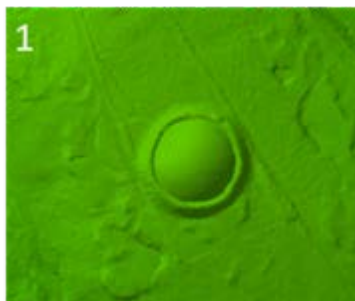
<p>Trolley Route</p>		<p>Developed a Trolley Route map for Jason B and Erin Stevens.</p> <p>Also developed a version of the above with Fiber Cable and Broadband availability, to assist with planning Pay By Phone.</p>
<p>Zoning</p>		<p>Updated the Zoning layer for Elizabeth H, to reflect a change along Virginia Road voted in at the recent Town Meeting</p> <p>Also prepared a 1"=1,400' map display of the updated Zoning for submission to the Attorney General's office</p>
<p>Emergency Operations</p>		<p>Recreated and updated an Emergency Operations map of Critical Infrastructure and Key Resources, originally developed by Retired FF Arthur St John.</p>

** except for the Emergency Operations map, at the request of Public Safety*

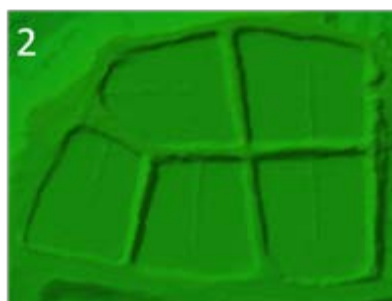
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5. LIDAR Just-For-Fun Answers

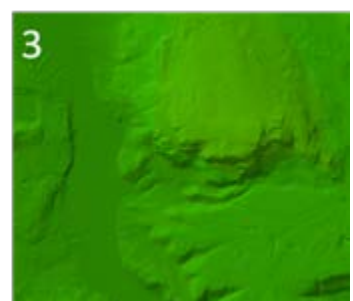
CTRL-Click on each image for the answer 😊



1
Elevation: 390 feet



2
Elevation: 154 feet



3
Elevation: 344 feet

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