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*Happy New Year!*

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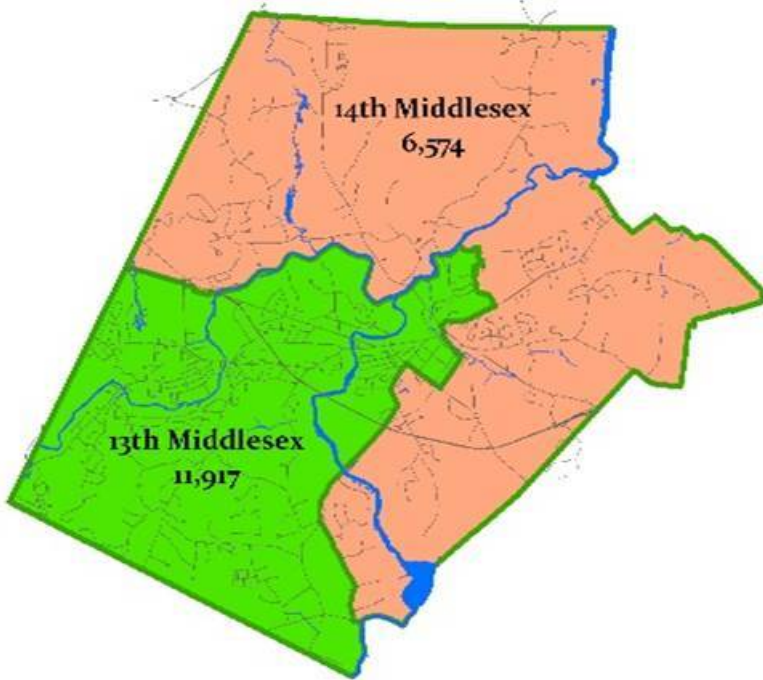
### 1. Census 2000 & Reprecincting

As noted in the [October 2021 Newsletter](#), publication of the 2020 Census results in late September 2021 launched Concord into a fast-tracked process of redrawing voter precinct boundaries to take into account the growth in Concord's population since 2010. Concord GIS supported Town Clerk Kaari Tari and the Board of Registrars with data and maps to assist in the process.

To get the process started, I set up a [web map](#) for Kaari and the Board. They used this to test various Precinct boundary modifications against the legal requirements:

- Maximum Precinct population **4000**
- Maximum variation between Precincts **+/- 5%**

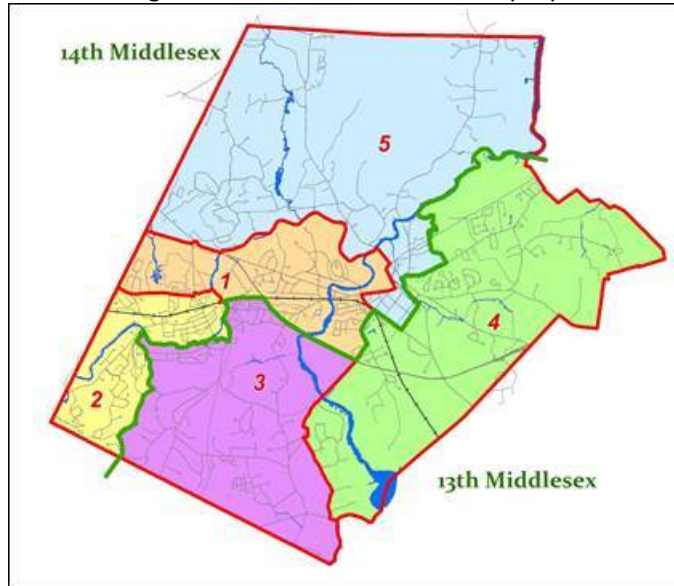
**Curve ball:** Two weeks into the process, the Massachusetts Legislature announced new legislative Districts. Concord would now be divided between the 13<sup>th</sup> and 14<sup>th</sup> Middlesex Districts:



The Districts were redrawn using **2010** data. Concord's unevenly-distributed population growth meant we would have to create sub-precincts in order to honor the new District boundaries and also meet the legal requirements above.

The Town Manager and Town Clerk wrote letters of concern, the Select Board held a public hearing with the Town's Senator and current Representative to discuss the dilemma, and not long after, the District boundaries were revised and sub-precincting was averted – whew!! Democracy in action!!

The Board of Registrars' final Reprecincting proposal below reflects the revised division (**green line**) of Concord between the 13<sup>th</sup> and 14<sup>th</sup> Middlesex Legislative Districts, and the five proposed voting Precincts (**red borders**):



The proposal was approved by the Select Board on November 22, and by Massachusetts' Local Election Districts Review Commission (LEDRC) on December 2. Huzzah!!

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## 2. Nearmap Imagery Over Time

Our subscription to Nearmap's three-times-per-year aerial imagery flyover for the Boston metropolitan area provides us the opportunity to view changes over time. The past few years have brought considerable change to many areas of town, particularly from Mass DOT work along Route 2.

**New! CTRL-Click on an image to view a short video of the split-screen slider in action between the two dates shown!**

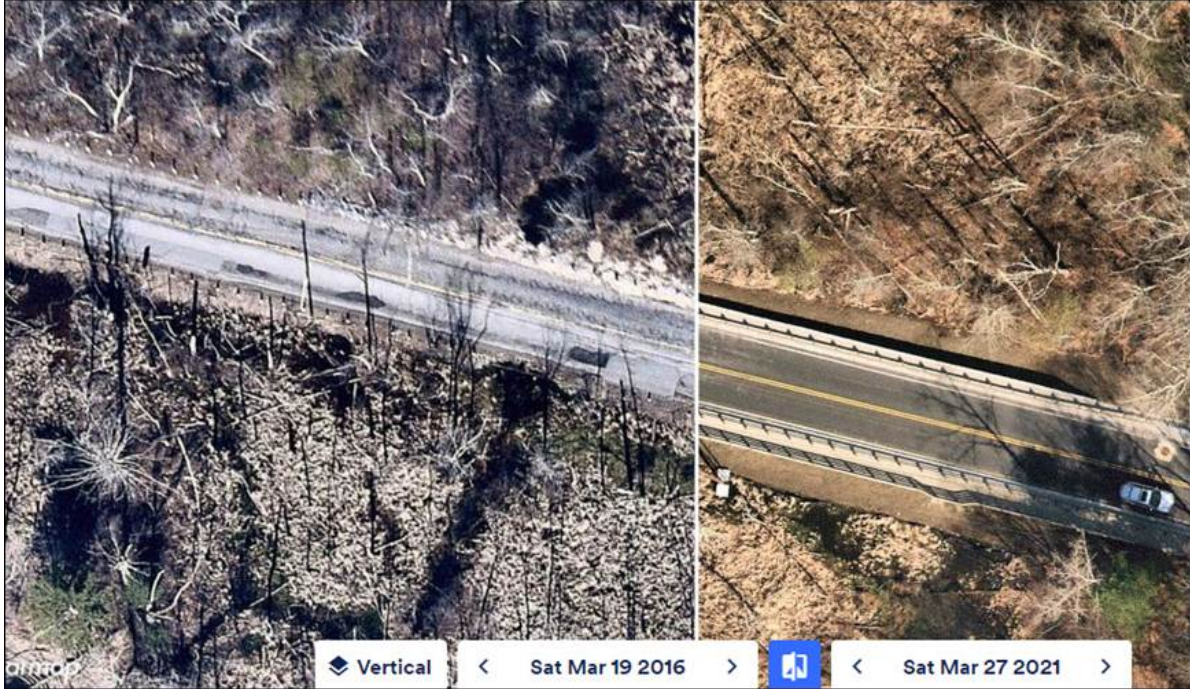
Concord Rotary



Crosby's Corner



Concord Public Works stepped up to meet its own infrastructure challenges. For example, a frequently-flooded section of Cambridge Turnpike has been completely rebuilt:



Finally, my personal favorite project: The Bruce Freeman Rail Trail bridge over Route 2:



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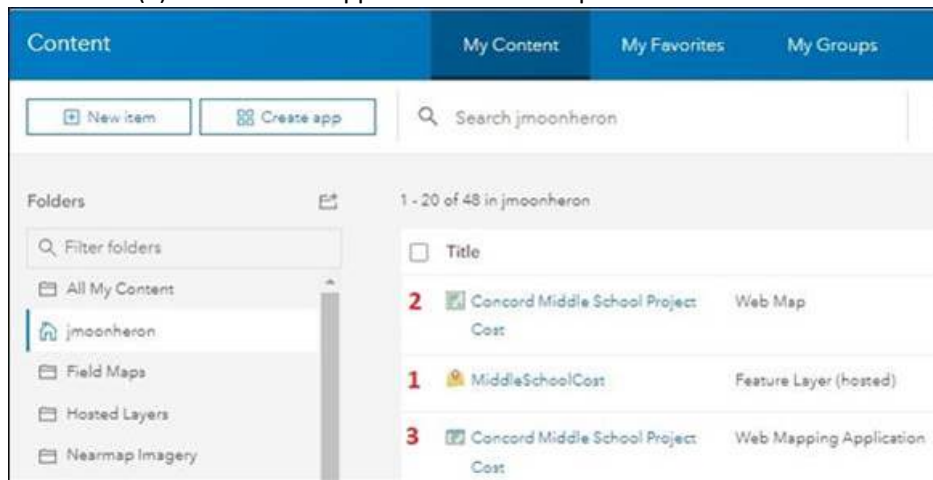
### 3. How to Create a Webmap App: Middle School Project Cost

In order to provide accurate information to residents, the Town’s Finance Department and members of the Middle School Building Committee requested an easy way to see estimated tax bills if the Middle School Project were to proceed. Jason provided a basic cost calculator, but we also wanted to offer a map-based estimator that pulled assessed value of parcels to make it easy for people who may not know the value of their home.

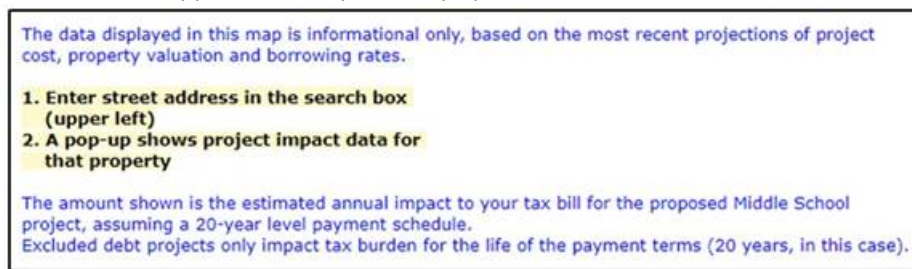
Starting with a copy of Concord’s Parcels-With-Assessor-Data layer containing the current Total Value of each property, I added columns to capture the stages of the calculation:

Middle School Cost				
	Total Value	Total Annual Tax Bill Without the Project (2022)	Annual Cost of the Middle School Debt Service	Total Annual Tax Bill With Project
	\$668,800.00	\$9,844.74	\$621.10	\$10,465.84
	\$669,100.00	\$9,849.15	\$621.38	\$10,470.53
	\$669,300.00	\$9,852.10	\$621.57	\$10,473.66
	\$669,400.00	\$9,853.57	\$621.66	\$10,475.23
	\$669,600.00	\$9,856.51	\$621.85	\$10,478.36

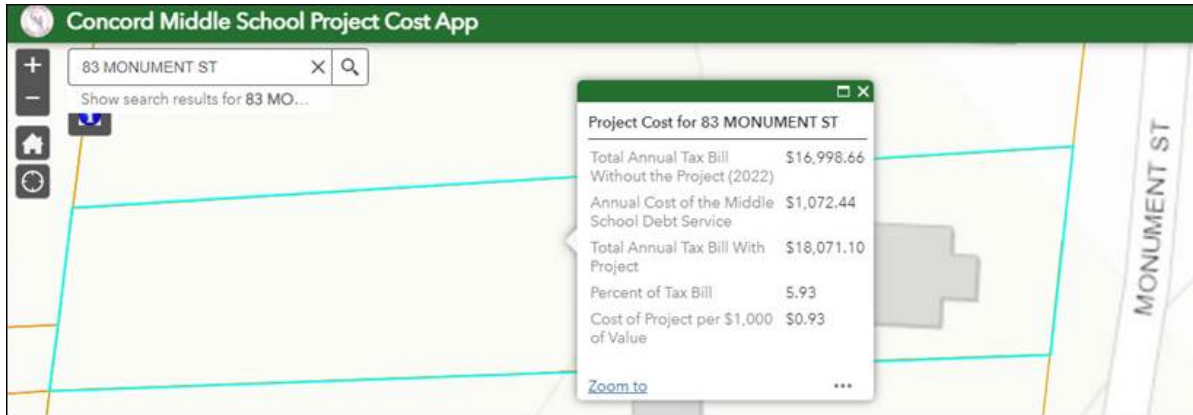
After completing the calculations, I shared this layer as a (1) service in ArcGIS Online, saved the layer service as a (2) web map, and created a (3) custom web app based on the map.



I set up a widget to launch the app with an explanatory splash screen:



Entering an address into the Search widget zooms the view to that address, highlights the parcel, and pops up the calculated data for that property:



Lastly I added the Concord Middle School logo (upper left) with a link to the Middle School project homepage:






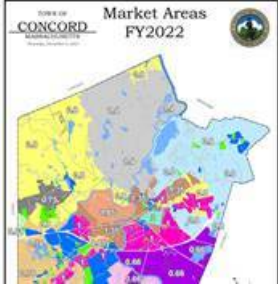


All this in about an hour! ArcGIS Online makes it easy – once you learn how to use it, of course...

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## 4. Map/App Gallery

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

<b>Approved Voting Precincts</b>		New Voter Precincts adopted based on the 2020 Census. View the new precincts on the <a href="#">Concord Voter Precincts</a> app.
<b>Mosquito Treatment Map</b>		Created a <a href="#">Catchbasin web map</a> for Brian Farless of East Middlesex Mosquito Control, to assist in locating and treating all Town Catchbasins for mosquito larvae.
<b>Fiber Broadband Completion Task Force</b>		Created a <a href="#">webmap</a> of data regarding broadband availability throughout town, to support the Broadband Completion TF.
<b>Market Areas Map</b>		Each year Assessing reviews comparable home sales and determines, for each of over a dozen areas in town, a

		<p>neighborhood adjustment factor for valuation purposes. The Market Areas map show neighborhoods and adjustment factors – very colorfully!</p>
<p><b>Holiday House Tour Map</b></p>		<p>Developed a Holiday House Tour map for Jennifer Craig at the Concord Museum.</p>
<p><b>Holiday Tree Lighting Event Map</b></p>		<p>Developed a map for the recent and very-well attended Tree Lighting event (including a multi-lingual Santa!), sponsored by Concord Recreation.</p>

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