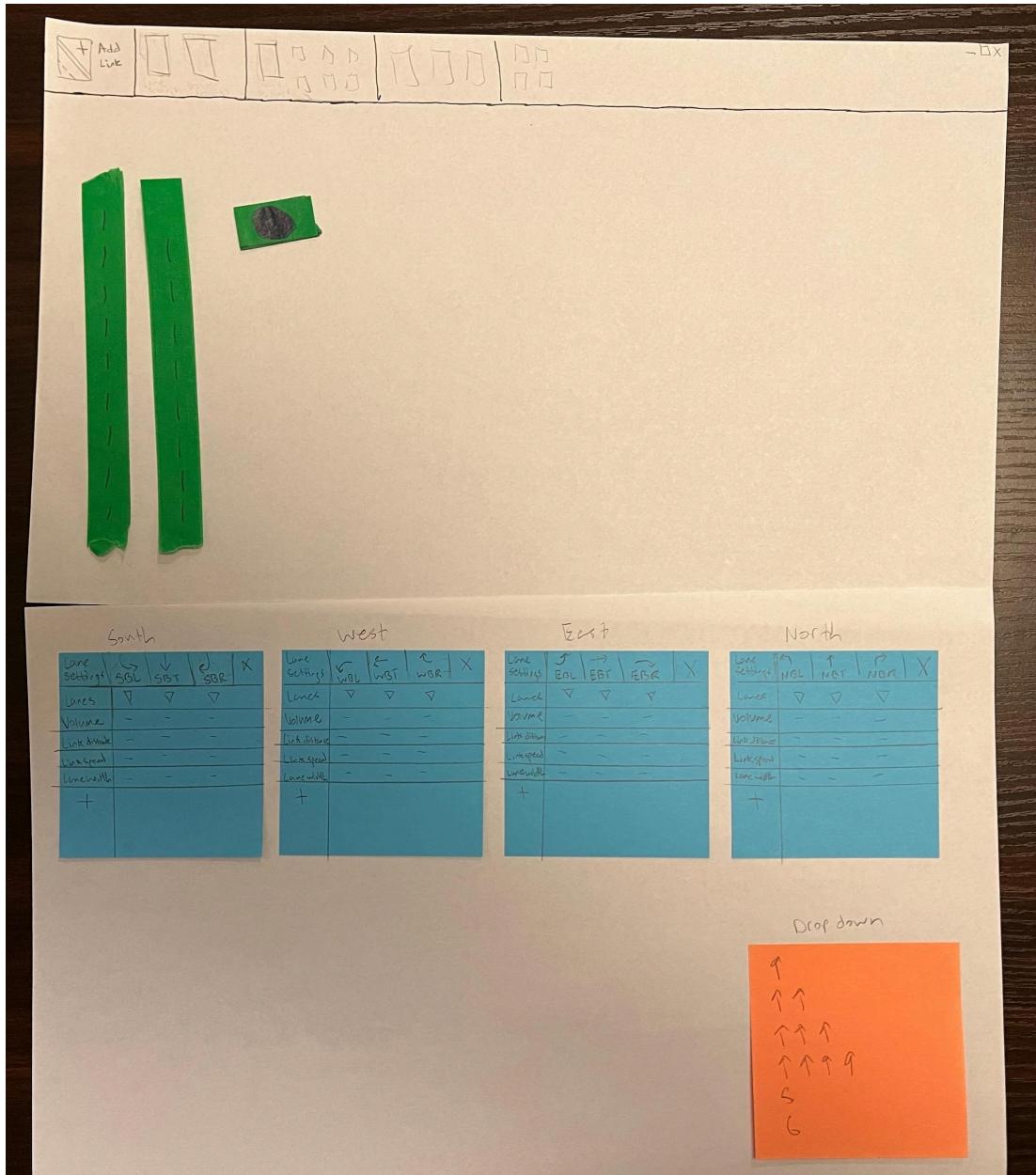


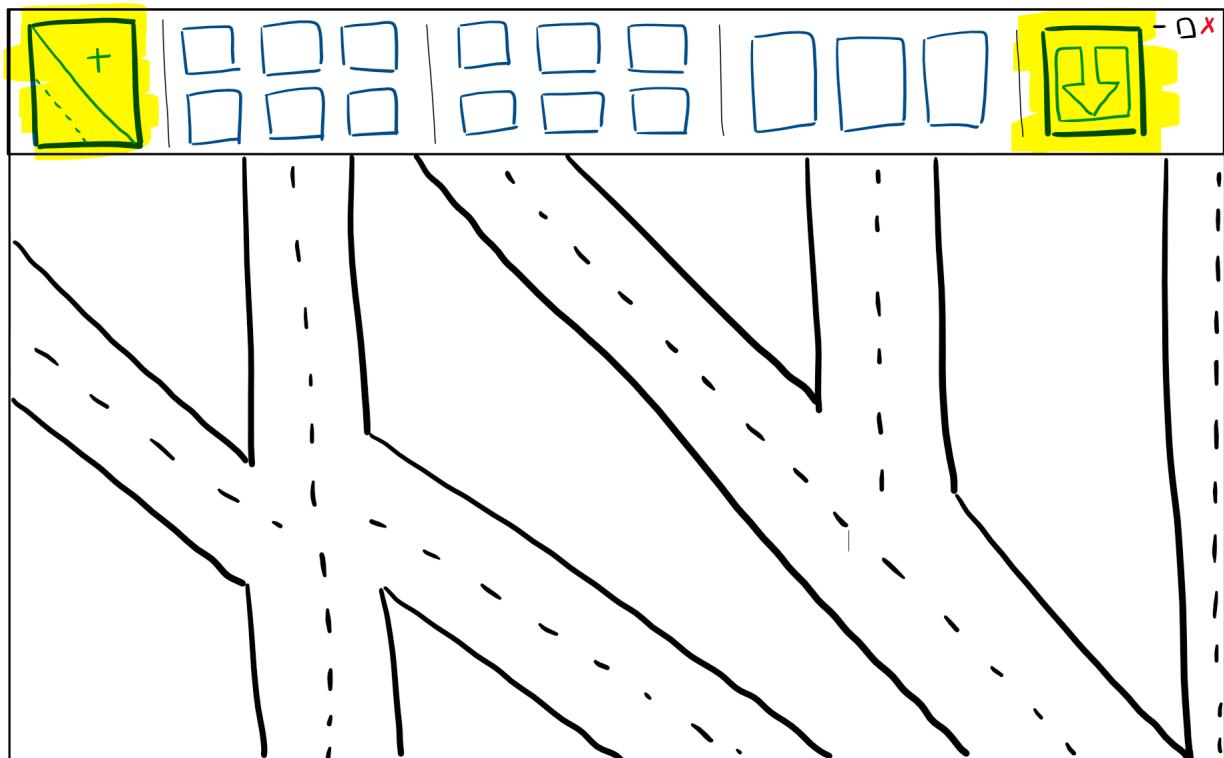
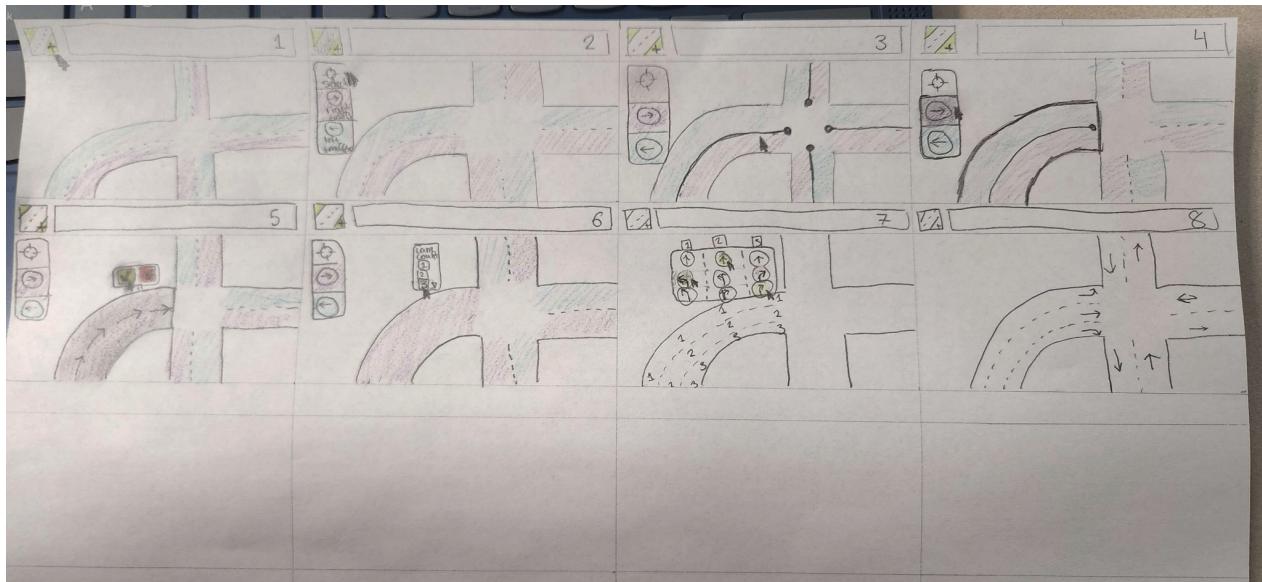
Paper Prototype

Anthony Petrov, Jennifer Huynh, Jeremiah Brenio, Liam Barragan, & Luke Chung

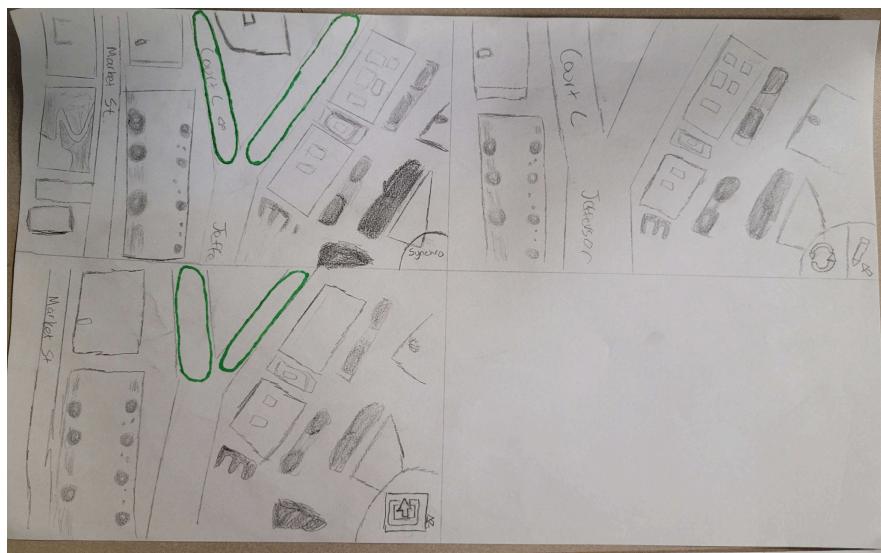
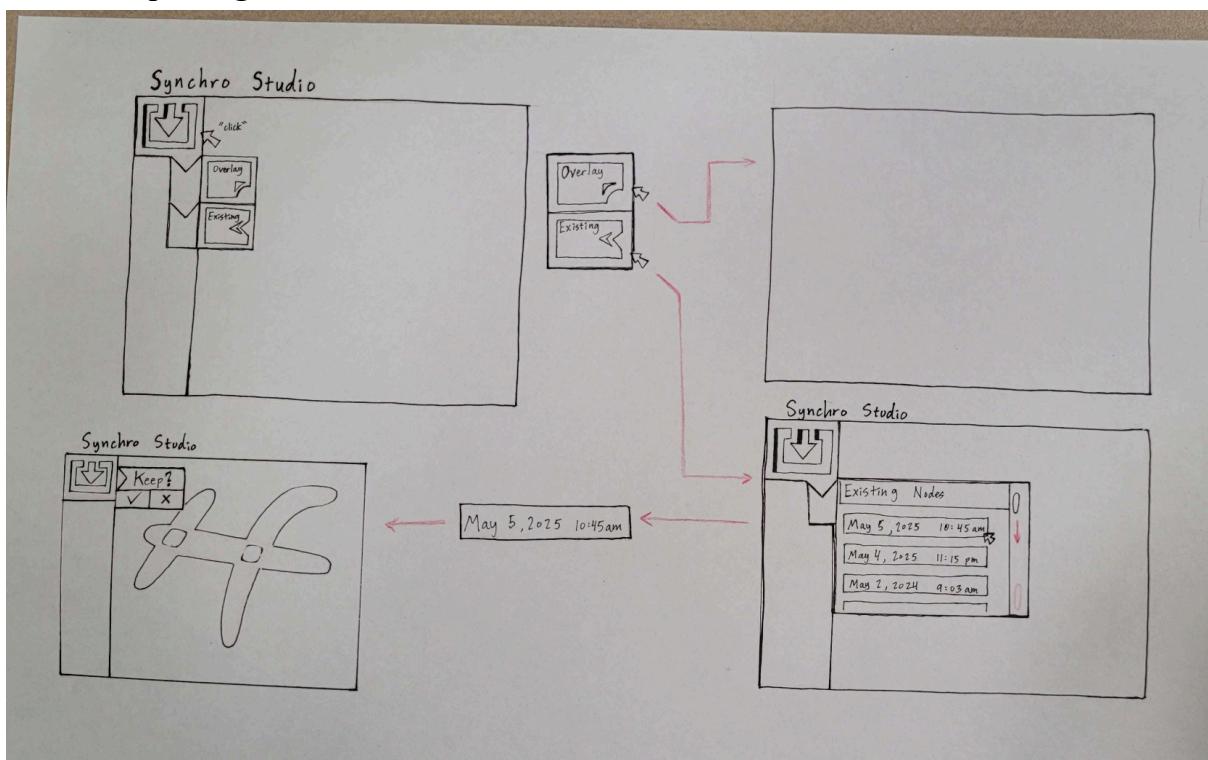
Overview Images

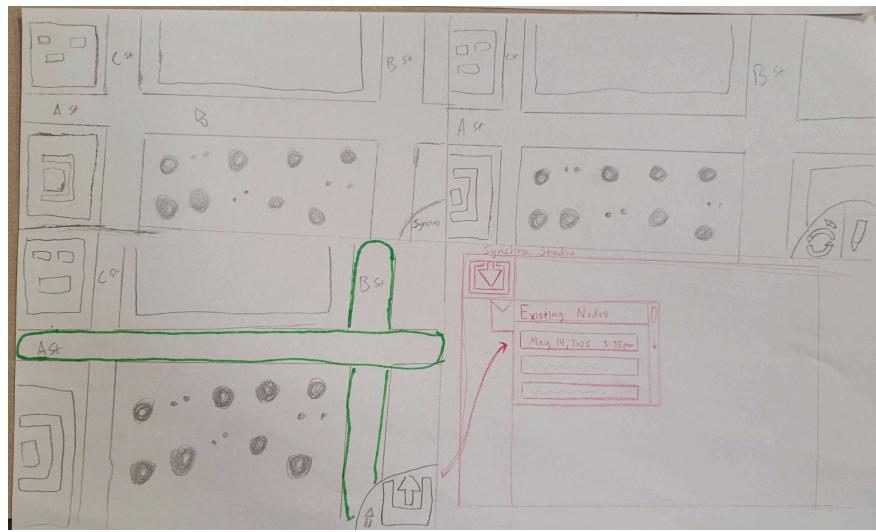
Task 1: Making an intersection/node for analysis





Task 1: Importing lane and intersection data





Task 2: Allow for overlay for importing data from external source

Walkthrough:

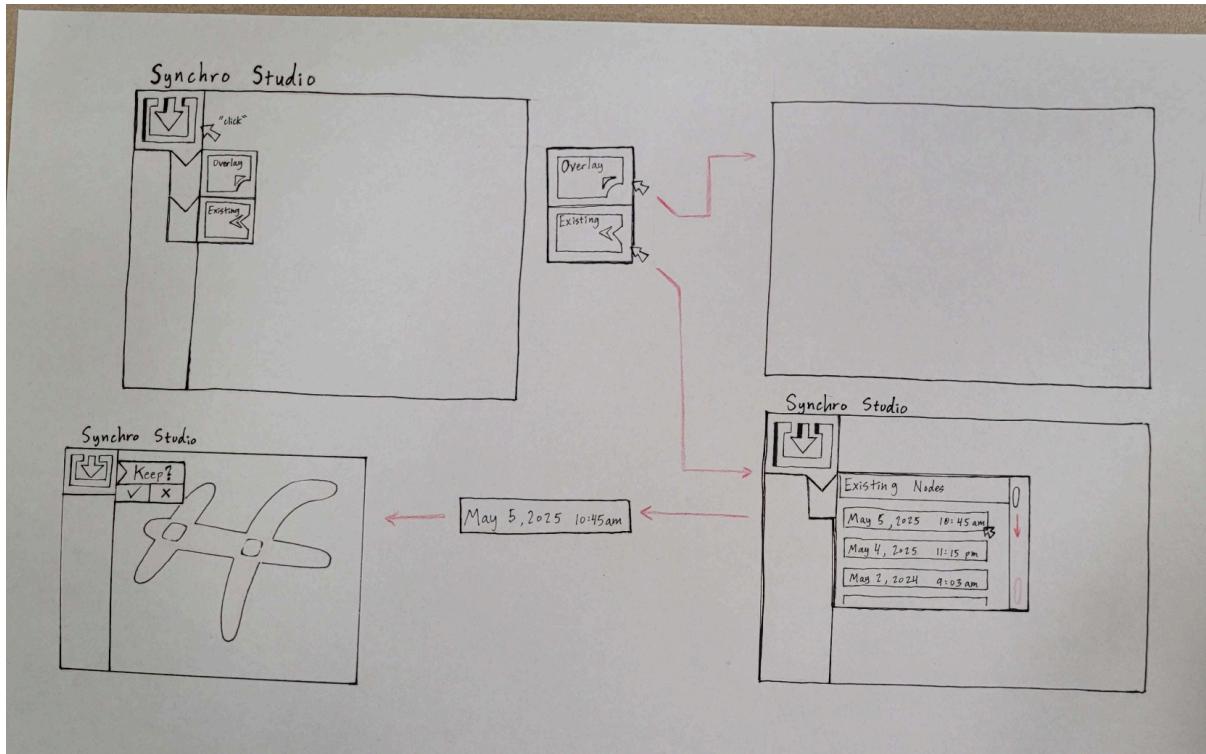


Figure 2.1

Step 1: Click on the “Import” button on the left

Step 2: Two extra buttons pop out under the “Import” button

- “Overlay”: minimizes Synchro Studio and adds an external Synchro Studio button as an overlay for any external map application
- “Existing”: pops out a list called “Existing Nodes” that will hold the history of all previously created lanes/intersections from drawing on the overlay. Pressing on the node (with its corresponding time of creation) will bring up the node in Synchro (the bottom left image of Figure 2.1).

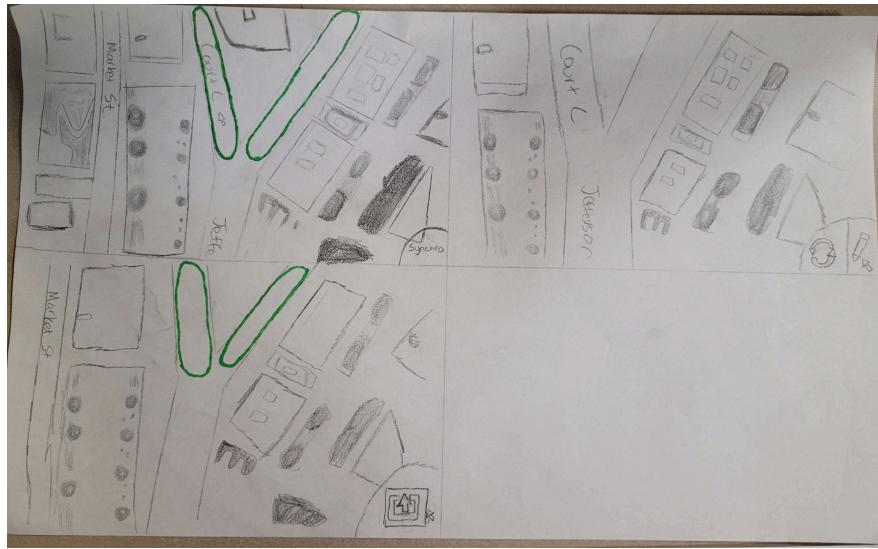


Figure 2.2

Step 3 (for Overlay):

[Figure 2.2 from top right > top left > bottom left frames]

In an external browser, users can create drawings onto the screen (top right) while using their preferred map software (Google Maps, Apple, etc.).

When they are done, export by pressing the bottom right Synchro button, which will have changed into an “export” button (bottom left).

The “export” button will store the drawing into its list of “existing nodes” which will be available to the user after they return back to Synchro Studio.

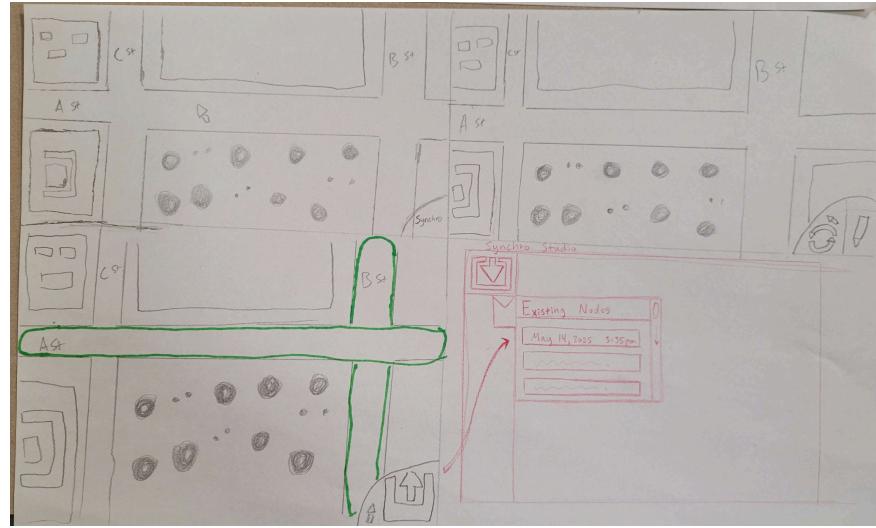


Figure 2.3

Step 4 (Existing Nodes onto Overlay):

[Figure 2.3 from top left > top right > bottom left > bottom right frames]

Clicking on the bottom right (of the top left frame for Figure 2.3) Synchro button will change to allow for drawing or reusing previous drawing. We can bring up reused drawing, which will show as the bottom left frame for Figure 3.

Clicking the “export” button on the bottom will add that drawing to the “existing nodes” that will be visible in Synchro (visible through the bottom right frame of Figure 2.3).

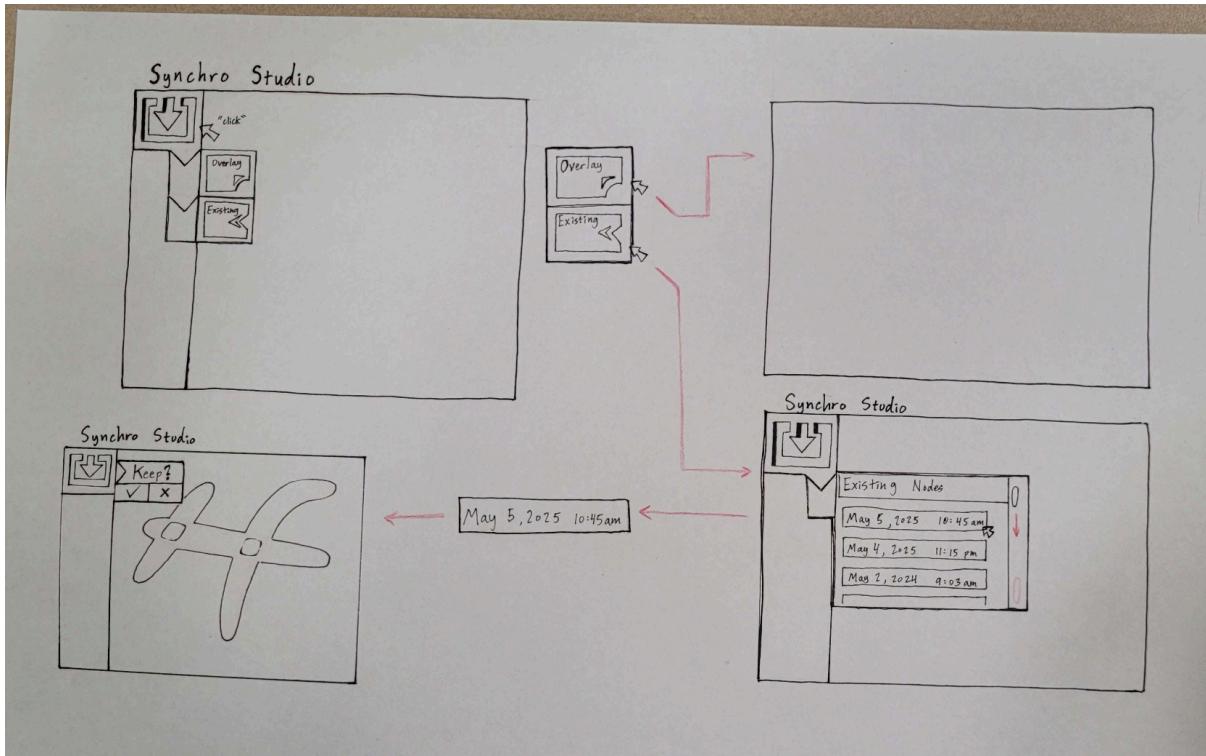


Figure 2.4

Step 5 (for Existing Nodes):

When users are done with their drawings with overlay, they can click the “import” button then “existing” to bring up a list of “Existing Nodes” that will have the history of all nodes that were drawn (bottom right of Figure 2.4).

When clicking on a node (label detailing their time of creation) will bring up the bottom left frame in Figure 2.4. Users can then decide to paste the node onto Synchro (keep or not).

Detailed Images

Task 1: Making an intersection/node for analysis

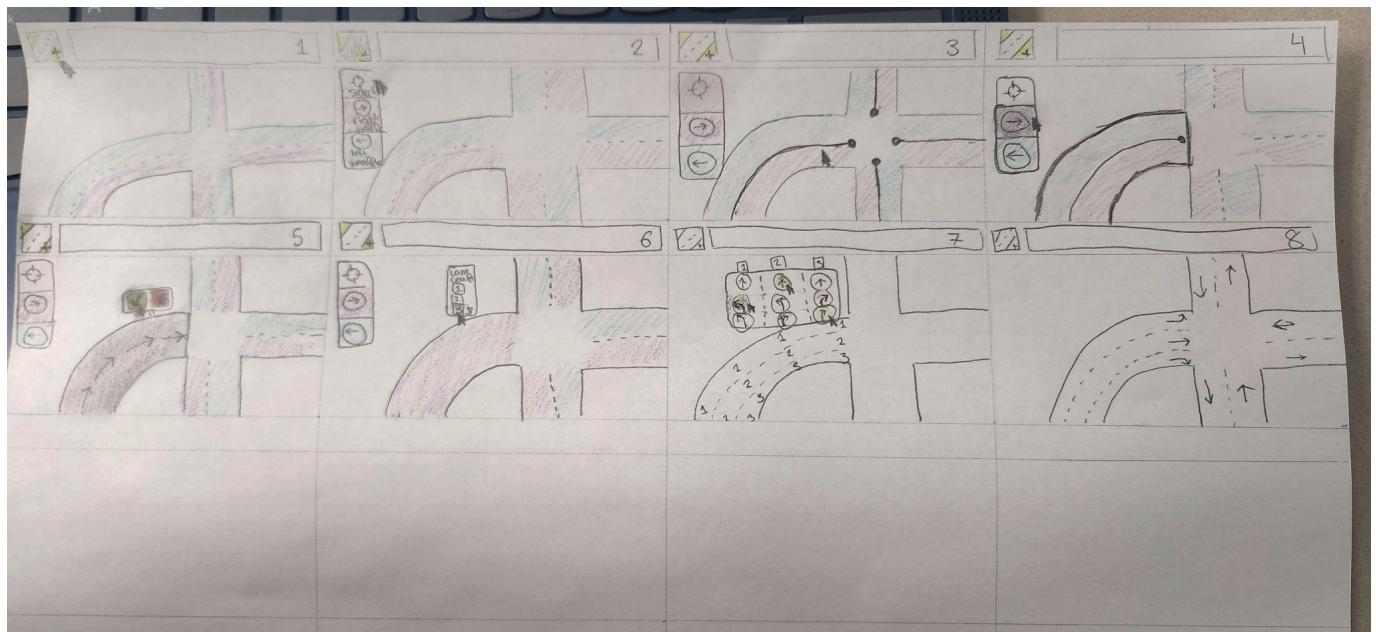


Figure 1. Steps in creating curved lanes

Walkthrough:

Step 1: Click the “Create Lane” button at the top left to start setting up a new traffic lane (Figure 1, box 1)

Step 2: Select the “Select Road” tool to pick the road you want to modify (Figure 1, box 2)

Step 3: Click on the specific road segment (Figure 1, box 3)

Step 4: Select the direction of traffic flow for the lane (Figure 1, box 4)

Step 5: Confirm by clicking the check mark, or delete your changes by clicking the trash can icon (Figure 1, box 5)

Step 6: Select the “Lane Count” option to specify how many lanes you want to have (Figure 1, box 6)

Step 7: Select the allowed direction of traffic flow for each lane (Figure 1, box 7)

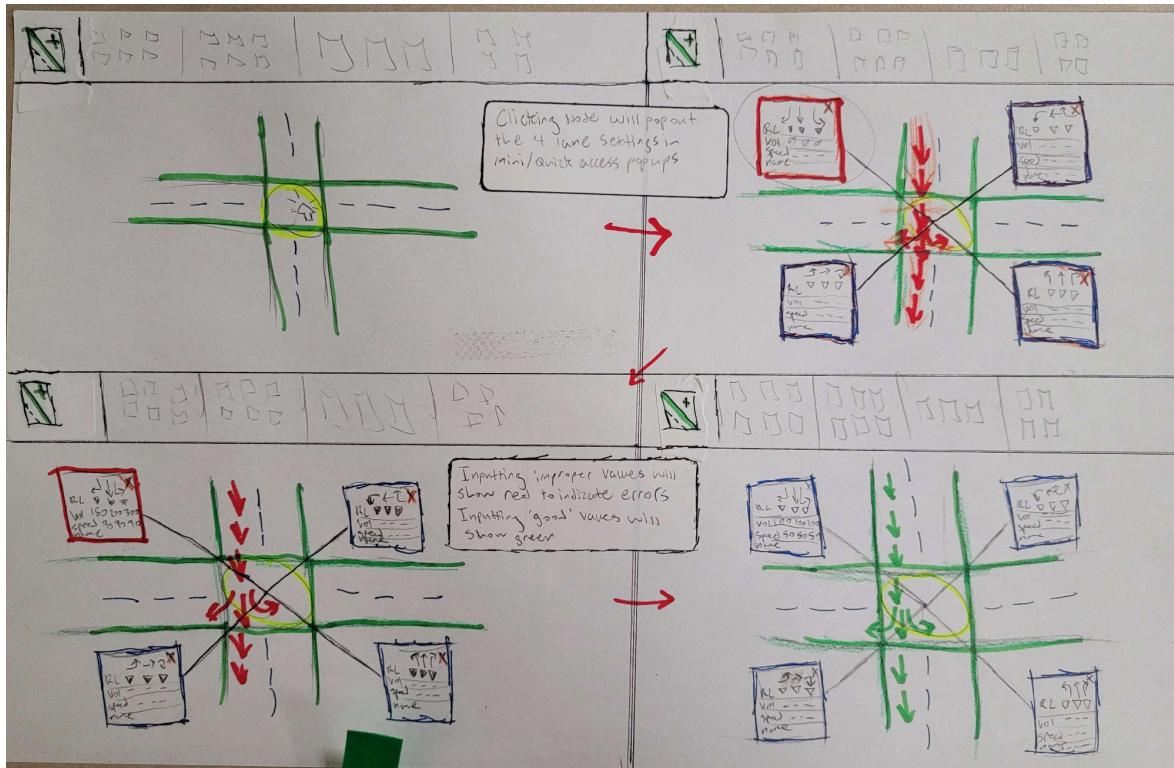


Figure 2. Creating an intersection step-by-step storyboard

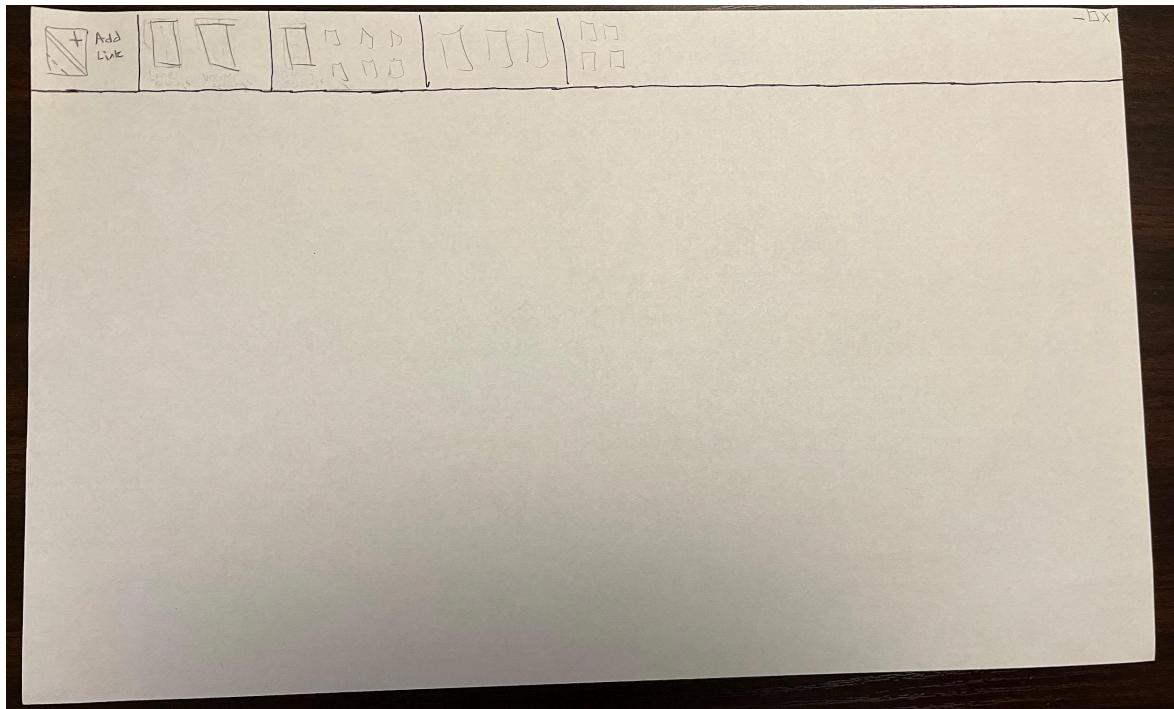


Figure 3. Empty Synchro UI

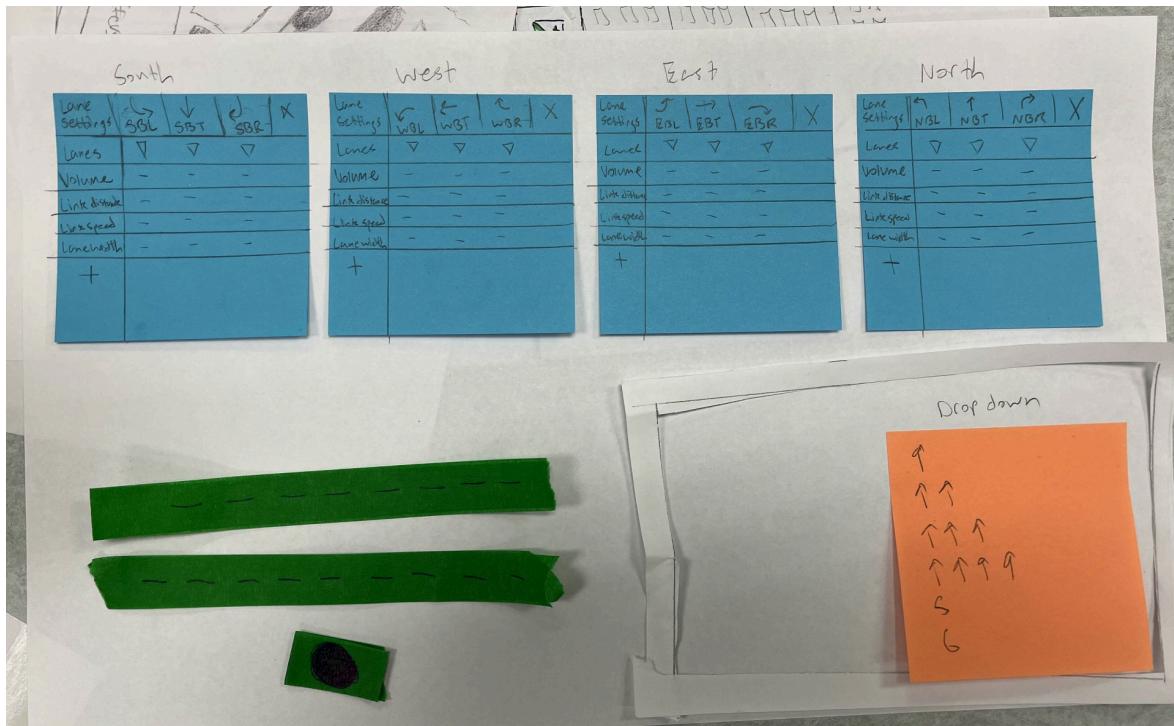
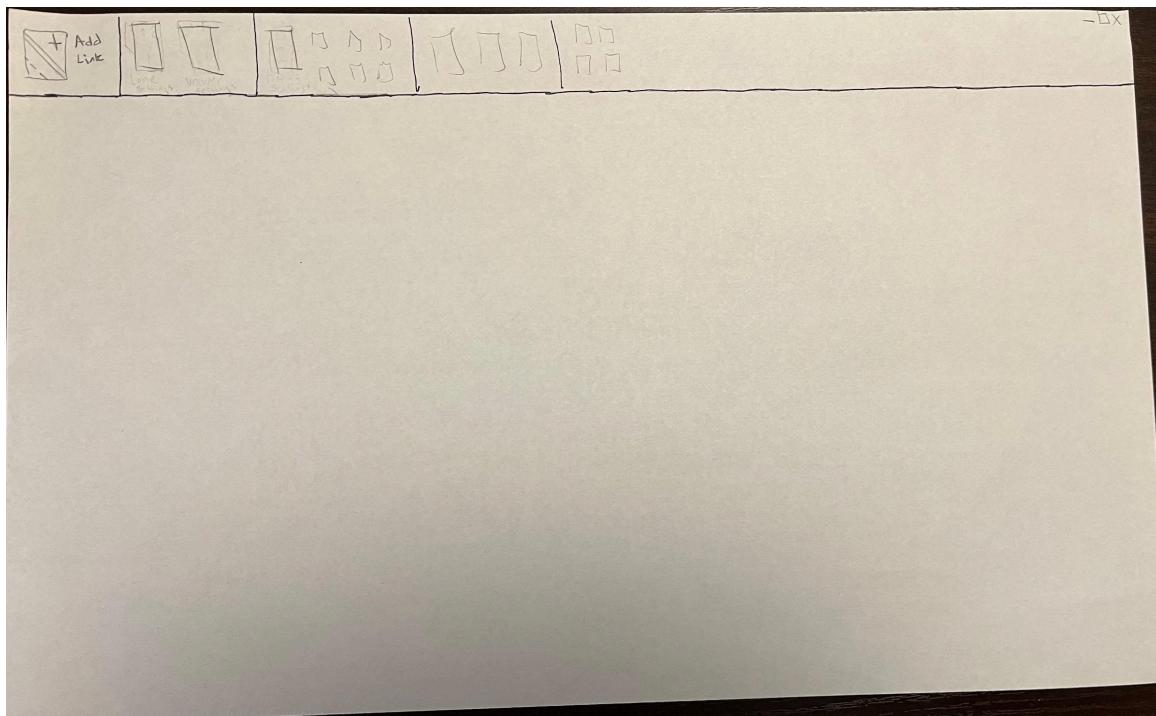


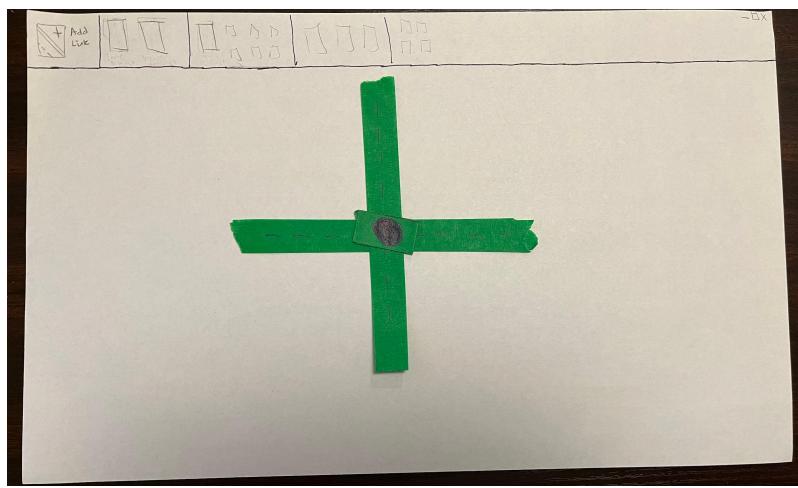
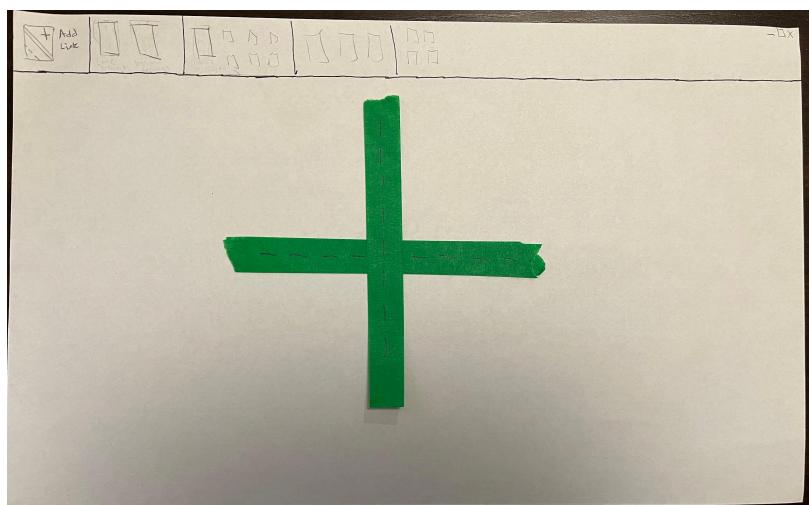
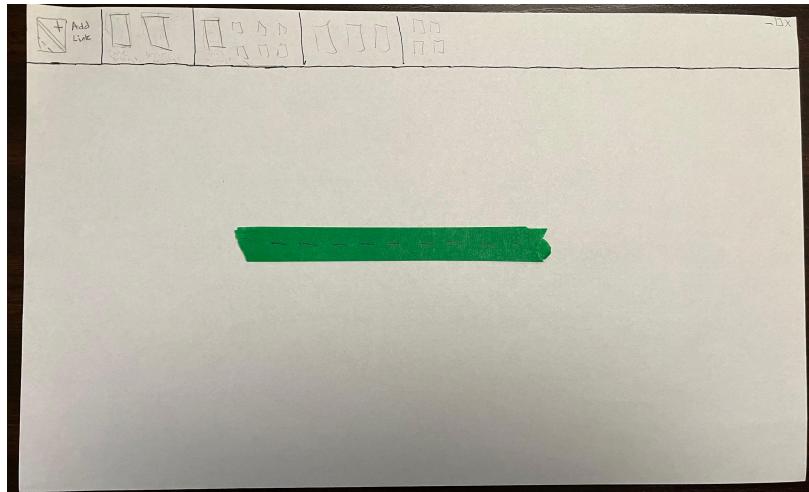
Figure 4. Lane pop-up settings for inputting data for an intersection

Walkthrough:

Step 1: The User “clicks” on the top right “Add Link” button to add a road



Step 2: The User adds roads until an intersection is made, which will display a circle in the middle to allow for data input.



Step 3: "Clicking" the circle will show four pop-ups of the lane settings for each direction, clicking on the '□' will show a dropdown to set the number of lanes for each direction.

For effects, the user will be informed that the popups are red outlined to indicate unfinished or improper parts of the intersection, and green will indicate a completed section.

