

A Complete Streets Network Can Solve Sonoma County's Transportation Emissions Issue

Executive Summary

Sonoma County has committed to achieving carbon neutrality by 2030, but current greenhouse gas (GHG) reduction policies are insufficient to meet this goal. While 60% of the county's emissions can be traced to transportation, the vast majority of regional climate change mitigation policies do not address transportation, thus handicapping the county's ability to limit GHGs. Sonoma County's transportation infrastructure is designed for car based travel, intrinsically discouraging alternative climate neutral transportation options for commuters and making transport related GHG reduction efforts challenging, expensive, and complex. To that end, new and improved roadway infrastructure encouraging low carbon commuting will be necessary to encourage movement away from commuting alone by personal vehicle. The creation of a practical, safe, and equitable network of Complete Streets strategically positioned throughout the county offers strong possibilities of serving the transportation needs of residents and lowering the county's transportation carbon emissions, thus meeting its 2030 climate goal.

Background

In 2019, the County of Sonoma declared a state of climate emergency and has since announced its intention to reach carbon neutrality by 2030. However, unless dramatic actions are taken, the county is on track to miss its climate change mitigation goals by a significant margin. While county-wide plans, policies, and mandates target emissions from agriculture, buildings, transportation remains Sonoma's largest emitting sector and greatest climate challange.

In 2018, the <u>Regional Climate Protection</u> <u>Authority</u> (RCPA) special district reports that 60% of the county's emissions are from transportation, with the <u>Sonoma County</u> <u>Transit Authority</u> (SCTA) reporting that 84% of all commuters stay within the county, and 74.4% of commuters travel alone. Therefore, the largest challenge to carbon neutral transport in the county is the mismatch between its single driver car-favoring infrastructure and the need to lower the average vehicle miles traveled (VMT) of residents associated with commuting to and from work.

Issue Analysis

Sonoma County's inability to guickly reduce its overall GHG emissions stems from a lack of efficient, equitable, and safe clean transportation infrastructure which discourages the over 55% of residents who would prefer to walk or bike to work but do not. The infrastructure of major transportation routes within the county favor single-driver automotive commuting is reflected in a road system that often lacks protected bike lanes, incomplete or narrow sidewalks, no mobility device parking, limited accessibility, and inefficient public transportation options. Using Santa Rosa as a case study in transportation infrastructure biases, a clear pattern of clean commuting thwarted by insufficient and unsafe roadway infrastructure appears. With its compact size, fair weather and flat terrain, Santa Rosa has the potential to be a hub of bicycle commuting. However, according to the City's Bicycle and Pedestrian Master Plan, only 1% of residents commute via bike-an understandable statistic given that 57% of

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Santa Rosa's arterial roadways (i.e. those most used by commuters) have no bicycle facilities and are ridden only by "strong" or "fearless" bicyclists. Thus, even within one of the county's most bikeable communities, car biased infrastructure has left 50-60% of potential bicyclists categorized as "interested but concerned [about safety]".

What are the barriers that prevent you from walking or biking more?	Count
Driving is more practical because I have too many things to carry, multiple stops to make, and/or children who need to travel with me	351
I live too far from the places I need to go	296
I do not feel safe and I worry about getting hit by a vehicle	251
The sidewalks/bike lanes along my route are missing or in poor condition	227
Walking and biking take longer and I do not have the time	98
I do not want to arrive to my destination sweaty, or there are no shower facilities at my work	66
I am concered about harrassment/violence from strangers or the police	43
My bike is not working or I do not have a bike	37
l am physically unable to walk or bike	23
I do not like to walk or bike	10

Fig. 1: Poll results of barriers to bicycle commuting by Sonoma County Residents. Approx. 34% of these responses are linked to insufficient infrastructure.

The SCTA, RCPA, multiple municipalities, and the County of Sonoma already have guiding documents and plans pertaining to transportation, but most are underutilized and do not serve commuters. Additionally, little progress has been made on the many nebulous goals they contain, especially those that pertain to climate mitigation via transportation. This lack of progress is reflected in the funding priorities of the SCTA with only 10% of its funding is directed towards bicycle, pedestrian, and multimodal street development, despite climate action being one of the pillars of the SCTA's mission and priorities.



Fig. 2: Funding distribution for SCTA projects. Notice the disproportionate funds given to automotive roadways compared to complete streets and public transit.

Policy Recommendations

The most effective means of encouraging low carbon commuting is by increasing clean transportation infrastructure described as by the Complete Streets model of infrastructure. Complete Streets can be defined as those containing infrastructure facilitating low carbon transportation methods (including biking, walking, and e-mobility devices), public transportation, and personal vehicles with an emphasis on EV infrastructure. Providing safe and expansive clean transportation infrastructure would encourage commuters to use these varied modes of transport, therefore reducing VMT and decreasing the countv's GHG emissions.

• The best solution is a county-wide ordinance or measure mandating the creation of a network of

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complete streets by 2030. By shifting existing transportation funds of a strategically selected network of road infrastructure improvement projects would be the most effective means of reducing VMTs. This complete streets mandate would reduce transportation related emissions by offering a network of safe, equitable, and useful green transportation routes and infrastructure to commuters and residents, thus incentivising a mass reduction of VMTs.

- This mandate would swiftly implement improvements, ensuring 2030 GHG goals are met. By mandating that all new projects and all repairs/maintenance on roadways include the addition or improvement of clean transportation infrastructure, the completion of a large network of complete streets can be completed much more quickly than if done through capital projects alone.
- A stepwise approach is critical to success. While large infrastructure projects are time and capital intensive, completing this network through a series of smaller, connected, and easily implemented projects that have already been identified by municipalities and the county (e.g. painting class II bike lanes as opposed to constructing a new class IV off street path) is
- Priority must be given for underserved communities. Projects must be prioritized in commuter routes used in underserved and disadvantaged communities.
- Improvements in public transportation are crucial elements of implementing a successful complete street network. Without safe, reliable and

useful public bus and train routes, connectivity between communities and municipalities will be limited, reducing the use of clean transportation.

Sonoma County already has the funding, expertise, guiding documents, and personnel to complete these improvements. Existing funding from Measure M and those allocated for road repair and maintenance will cover the bulk of complete street improvements. Additional funding may be necessary for tasking the RCPA with synthesizing the disjointed and underutilized transportation Plans developed by the county and its municipalities into a set of actionable road improvements for the DTPW.

Therefore, Complete Streets offer Sonoma County the opportunity to create not only safe, effient, and enjoyable carbon neutral transport and should be seriously considered as a tool to address the county's climate challenge.

Further reading

- Manaugh, K., Boisjoly, G. & El-Geneidy, A. Overcoming barriers to active transportation: A mixed methods approach to understanding reasons for not cycling. Transportation.
- <u>Caltrans</u>. Complete Streets Elements Toolbox Version 2.0
- <u>Sen. Bill 127</u>. Transportation funding: active transportation: complete streets. Reg. Sess. (Cal 2019).

Authorship

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