Chittenden County Housing Location Dissonance Study

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Introduction

- There is a rapid increase in the use of *Electric Vehicles* (EVs) and *Autonomous Vehicles* (AVs).
- After the pandemic, there has been growth in *Remote Working*.

What are the potential impact of them on individual's **travel behavior** and **housing location choices?**

Housing Dissonance

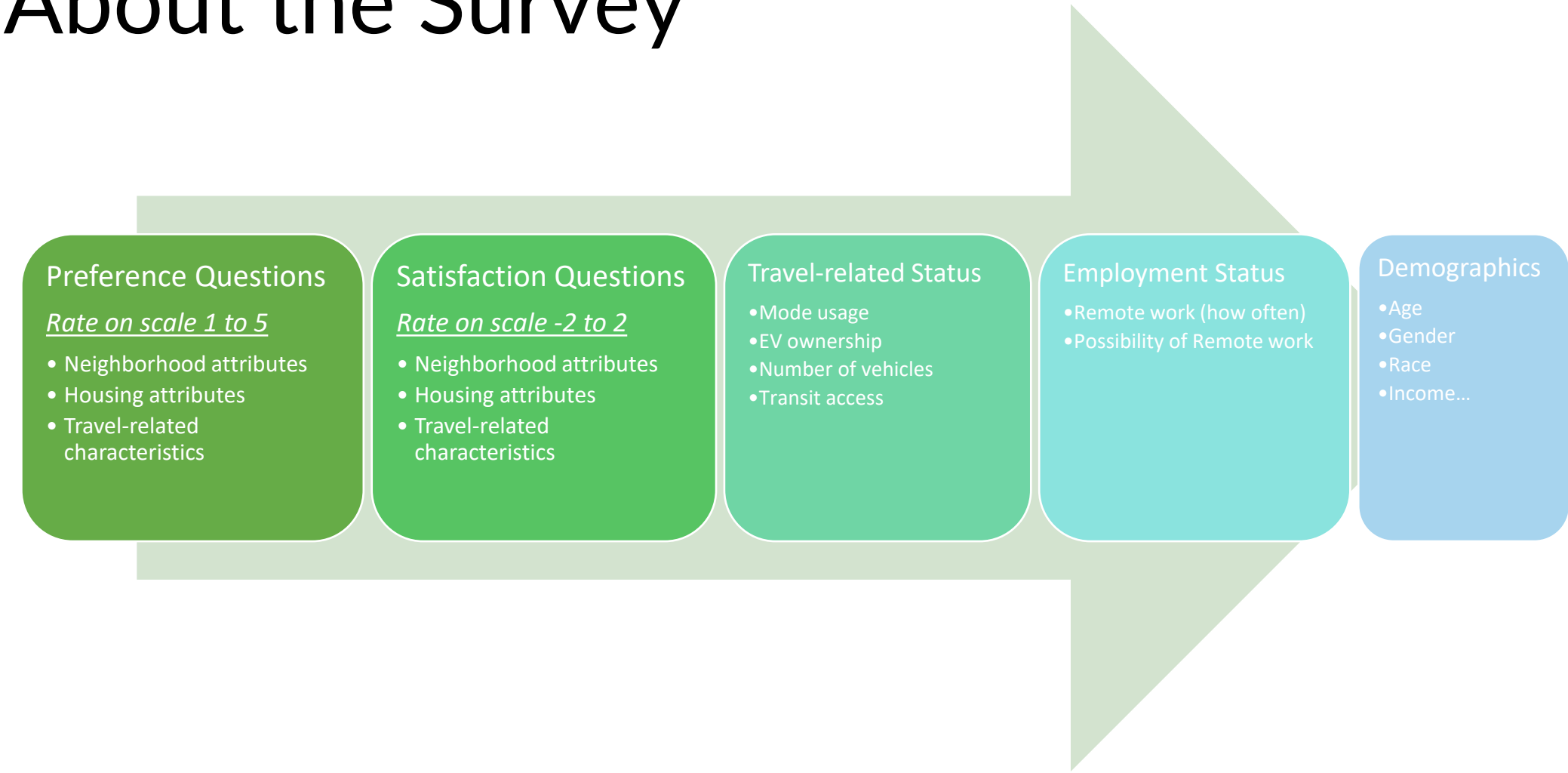
Dissatisfaction with current housing, including the structure itself and the surrounding community

How **AVs, EVs**, and **remote working**
might have the potential to reduce *dissatisfaction* by
reducing travel related constraints on housing choices

Data Collection

- Collected data from households in **Chittenden County**, using an internet-based survey.
  - Front Porch Forum
  - Additional recruitment through Facebook and Instagram ads
- Distributed in January 2023
- Received 842 initial responses

About the Survey



Survey

Total of valid **721** responses.
Compare with the Chittenden county Census data

- **Geographically representative**

Table 1. Geographical Distribution of Responses

Zip Code	City	Survey Respondents (%)	Chittenden County [a] (%)
05401	Burington	20.9	19.5
05403	South Burlington	13.2	11.9
05404	Winooski	4.4	4.9
05405	Burlington (University of Vermont + Campus)	0.1	1.2
05408	Burlington	6.7	6.0
05445	Charlotte	1.8	2.3
05446	Colchester	8.1	9.5
05452	Essex Junction	12.9	13.2
05461	Hinesburg	3.4	2.9
05462	Huntington	1.4	1.0
05465	Jericho/Jericho Center	4.1	3.3
05468	Milton	4.7	7.8
05477	Richmond/Bolton Valley	1.8	2.6
05482	Shelburne	5.0	4.6
05489	Underhill	1.3	2.1
05494	Westford	0.6	0.9
05495	Williston/St. George	7.2	6.3

a Data for population at zip code sourced from US Census Bureau American Community Survey 5-year estimates

Survey

Total of valid **721** responses.
Compare with the Chittenden county Census data

- **Geographically representative**
- **Demographics**
  - Fairly representative except for gender, age, and education
    - Females remain overrepresented
    - Older
    - More educated

Measuring Dissonance

Residential Dissonance Score

Two measures were used to estimate the dissonance score

1) Location Dissonance Score→ Binary indicator

- *If* Current location = Preferred location
- **Consonant (0)**, *Otherwise* **Dissonant(1)**

Example:

Current Location: Rural

Preferred Location : Urban

Residential Dissonance Score

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2) Housing Dissonance Score→ Continuous indicator

- Housing Dissonance Score = **Preference rate x Satisfaction rate**

Example:

Close to essential amenities (grocery store, pharmacies, doctor's office, etc.)

Housing Dissonance Score= 4 x (-1) = -4

Results

Residential Dissonance Score

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In Chittenden County

We find **54%** mismatch between actual and preferred location!

By Community Type

Majority of mismatches are in suburban!

70% of the suburban residents are location dissonant.

57% of Urban residents are location dissonant

Table 2. Location Dissonance by community type

Current Location	Location Dissonance (% of respondents)
Rural	43%
Suburban	70%
Town/village center	31%
Urban	57%
Chittenden County	***54%***

Residential Dissonance Score

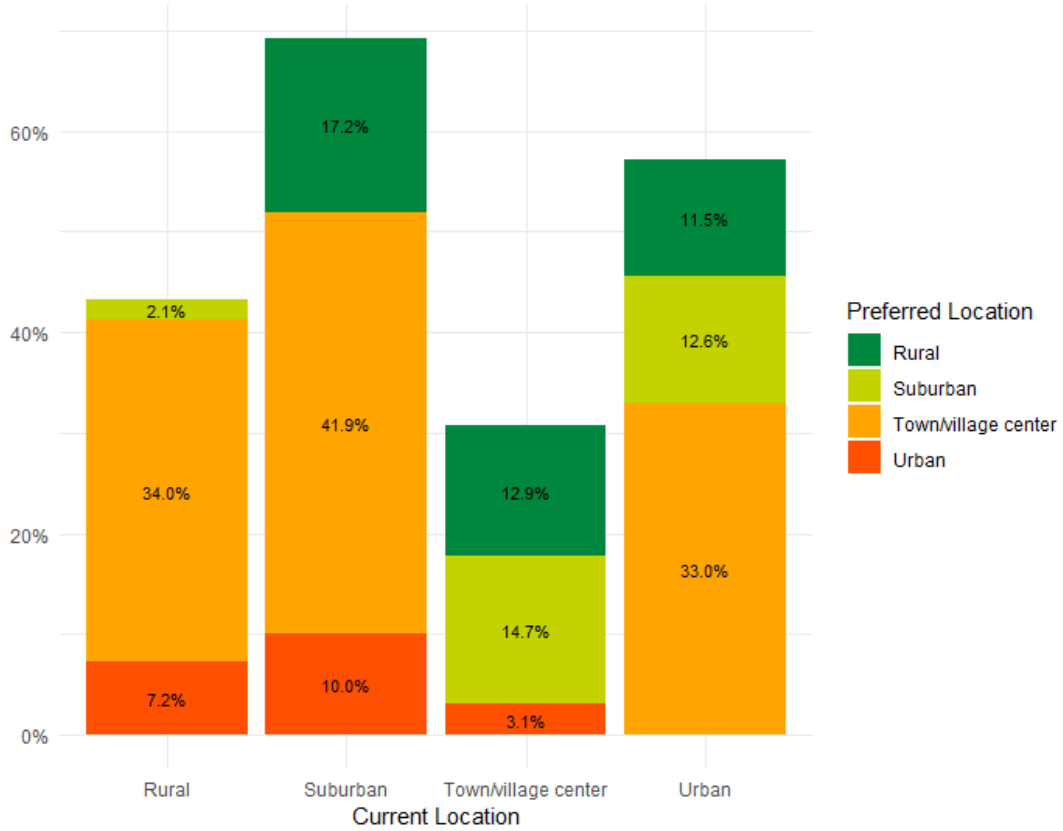

Figure 1. Location dissonance by community type

Over **50%** of location dissonant individuals in all areas express a strong preference for living in the **town center**.

Urban areas are the least favored destination for dissonant individuals, with only **20%** expressing a desire to relocate there.

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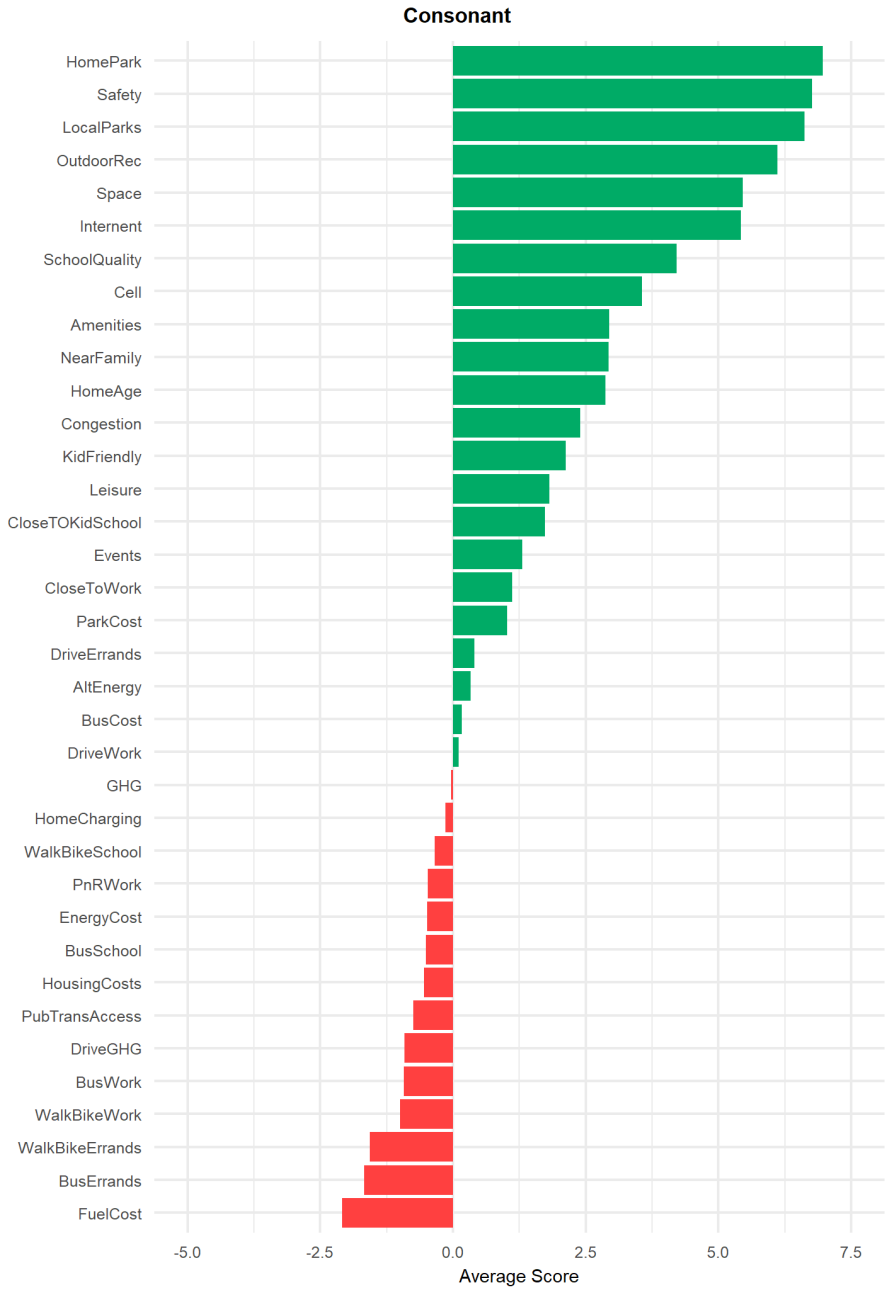
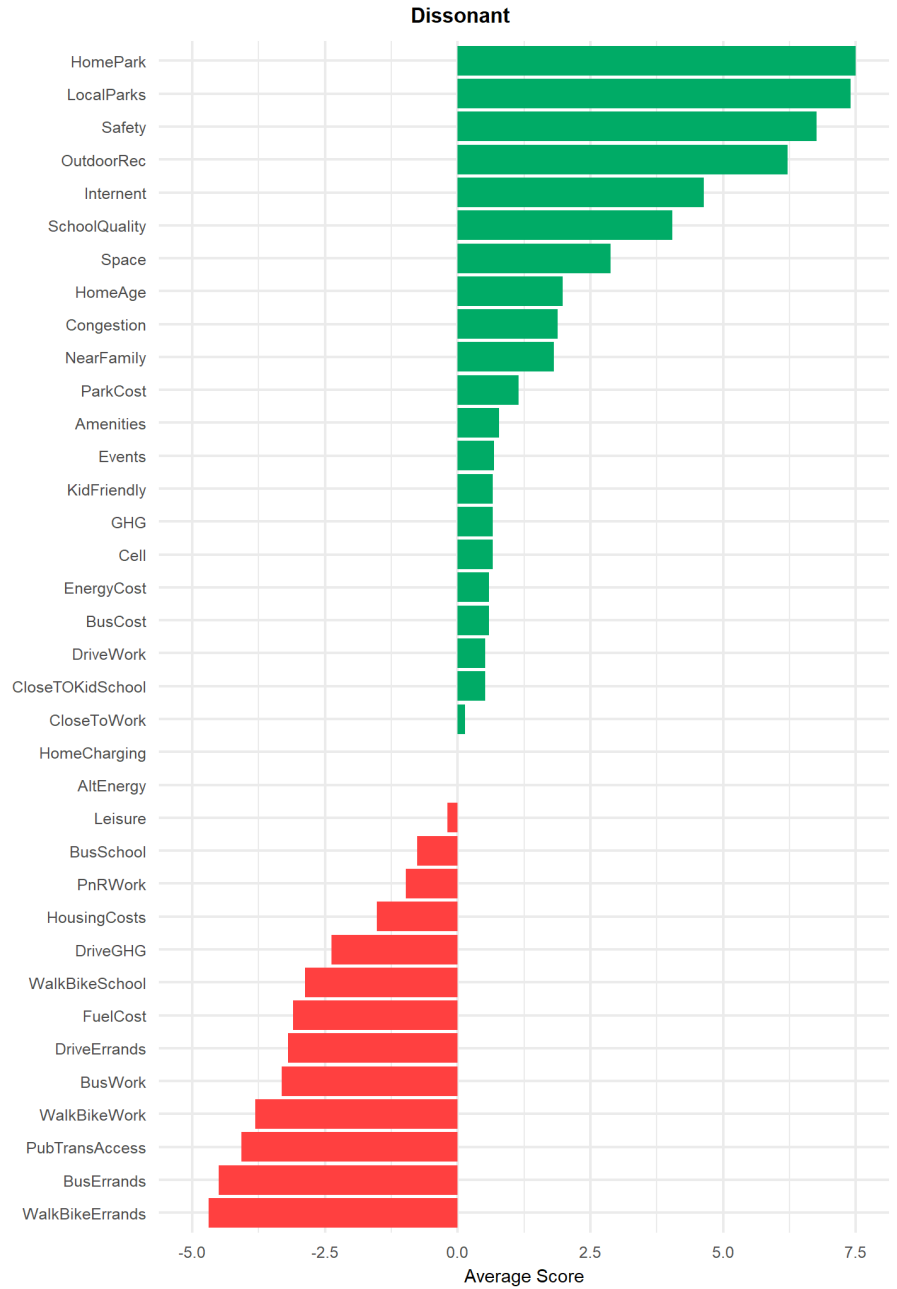
Overall,
Location dissonant individuals exhibit lower housing dissonance score

By Community type,
Rural households have the lowest housing dissonance score

Sources of dissonance,
Housing Cost
Energy use
At-home electric vehicle charging

Rural

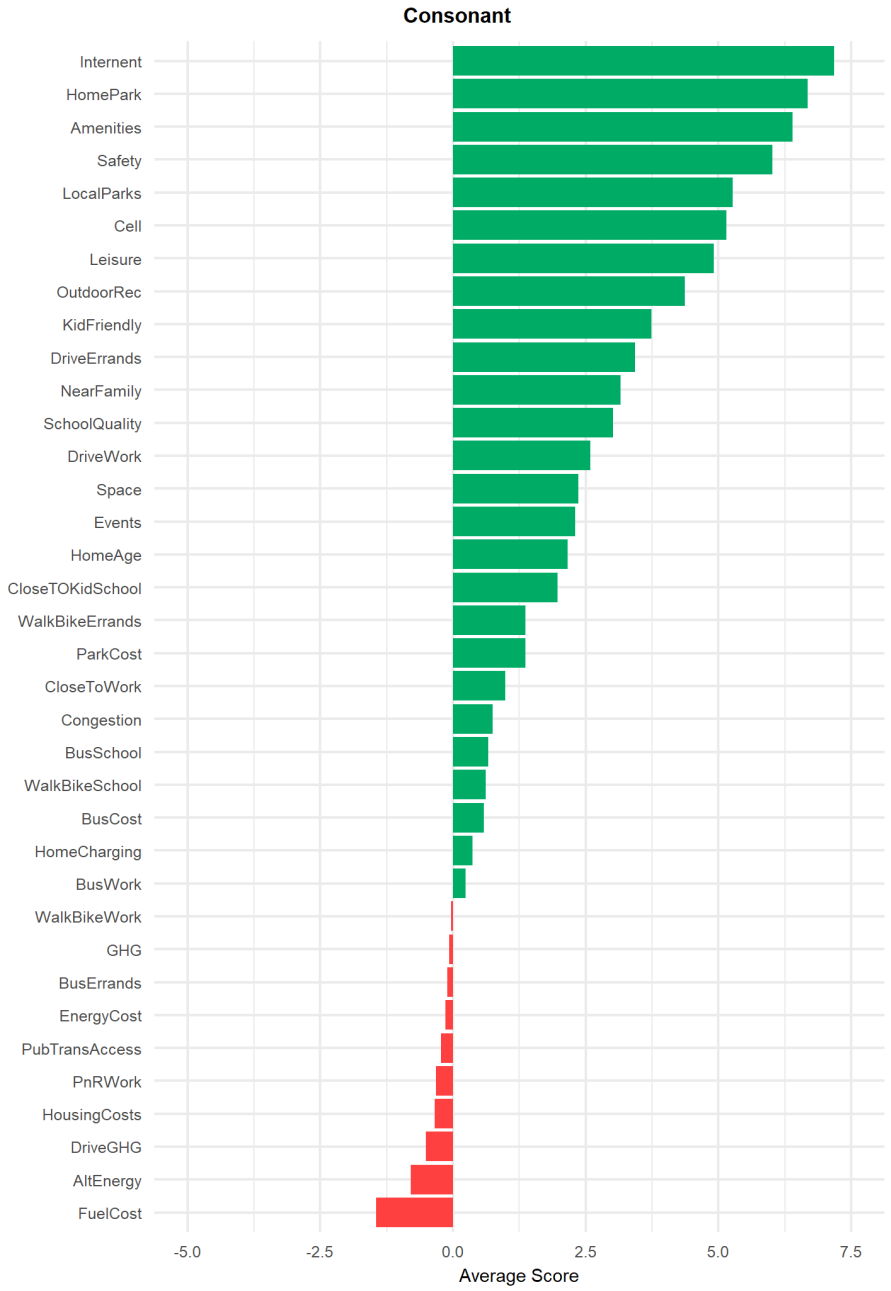


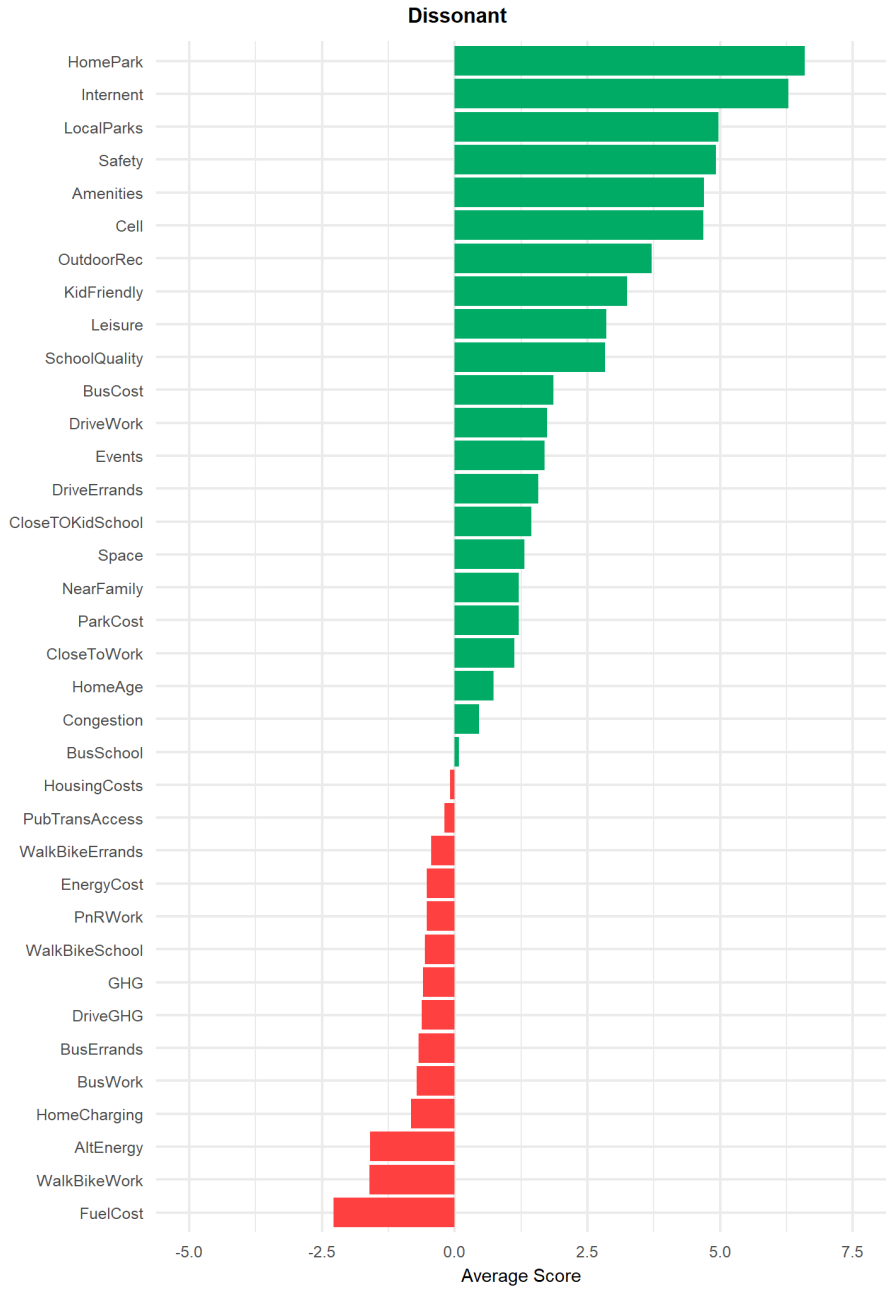


Both Location consonant and dissonant households are most dissonant with **transportation-related attributes** of their communities

Proximity to schools and work are among the factors that location dissonant rural households have negative housing dissonance score unlike location consonant households.

Suburban

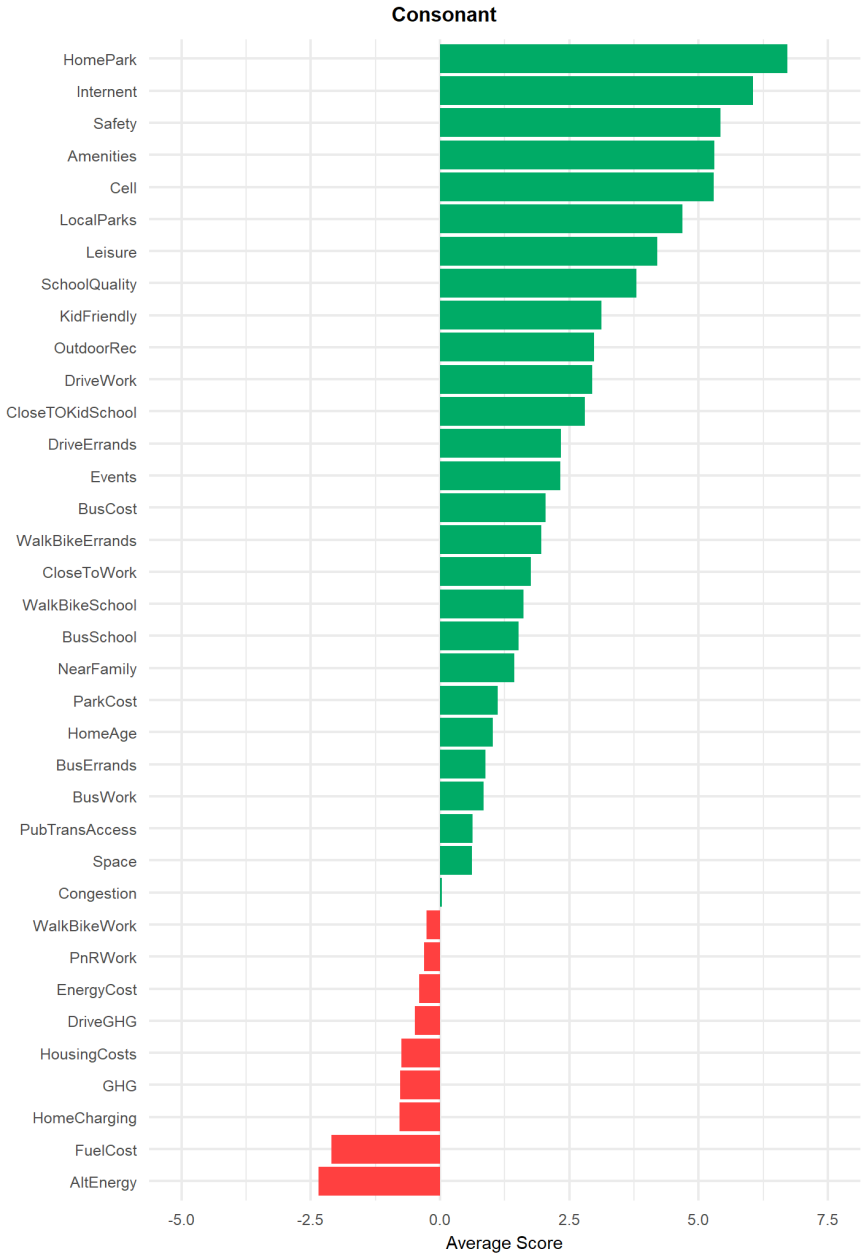


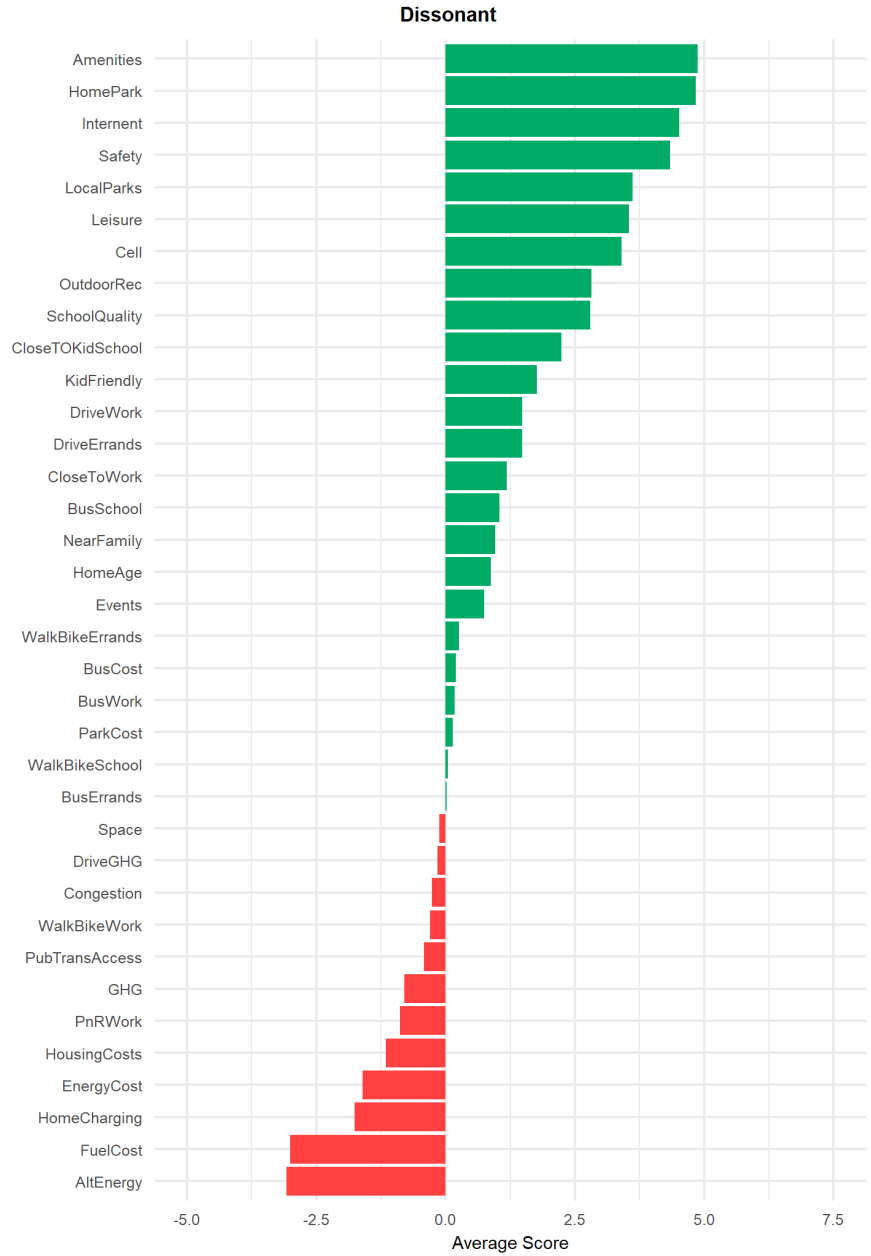


Similar Housing dissonance score for both location consonant and dissonant households in suburban

Like rural areas transportation-related factors and fuel costs are the large sources of dissonance

Town center



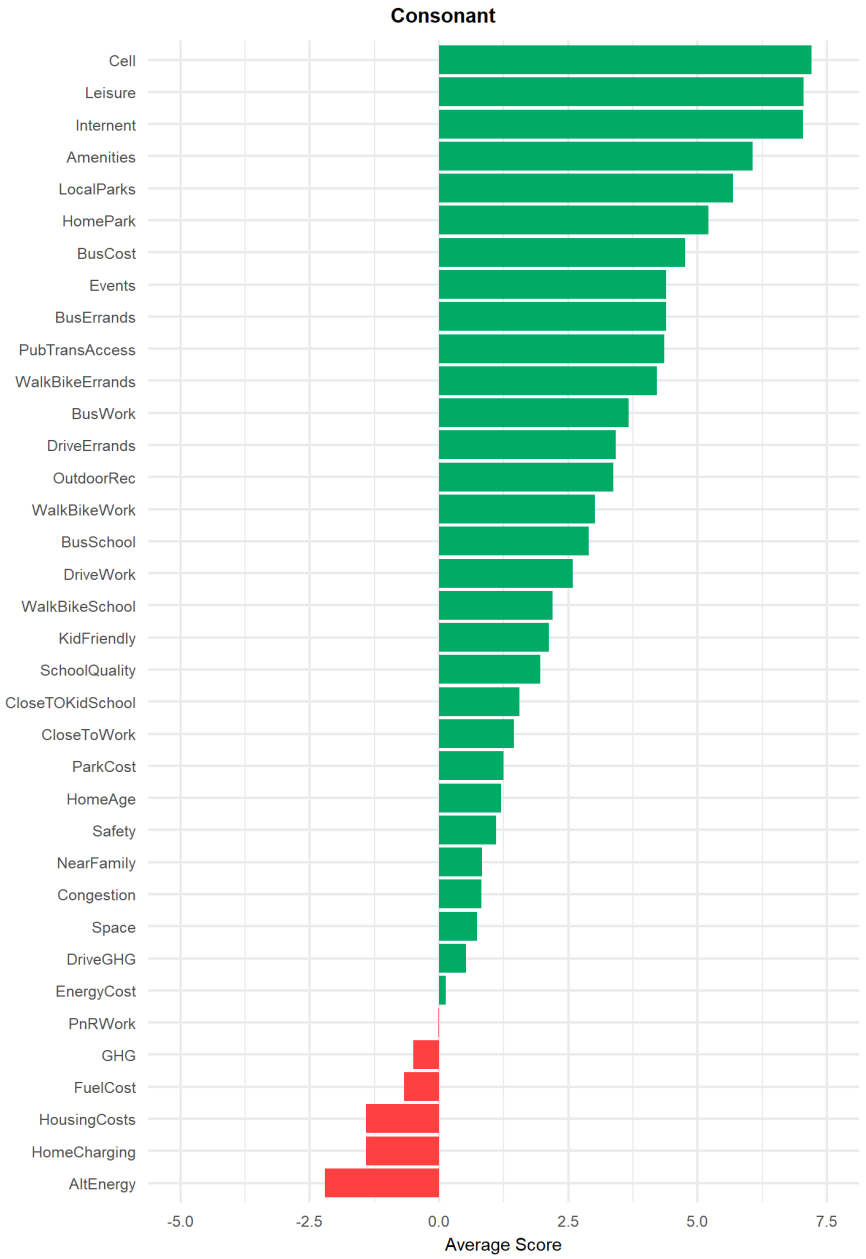


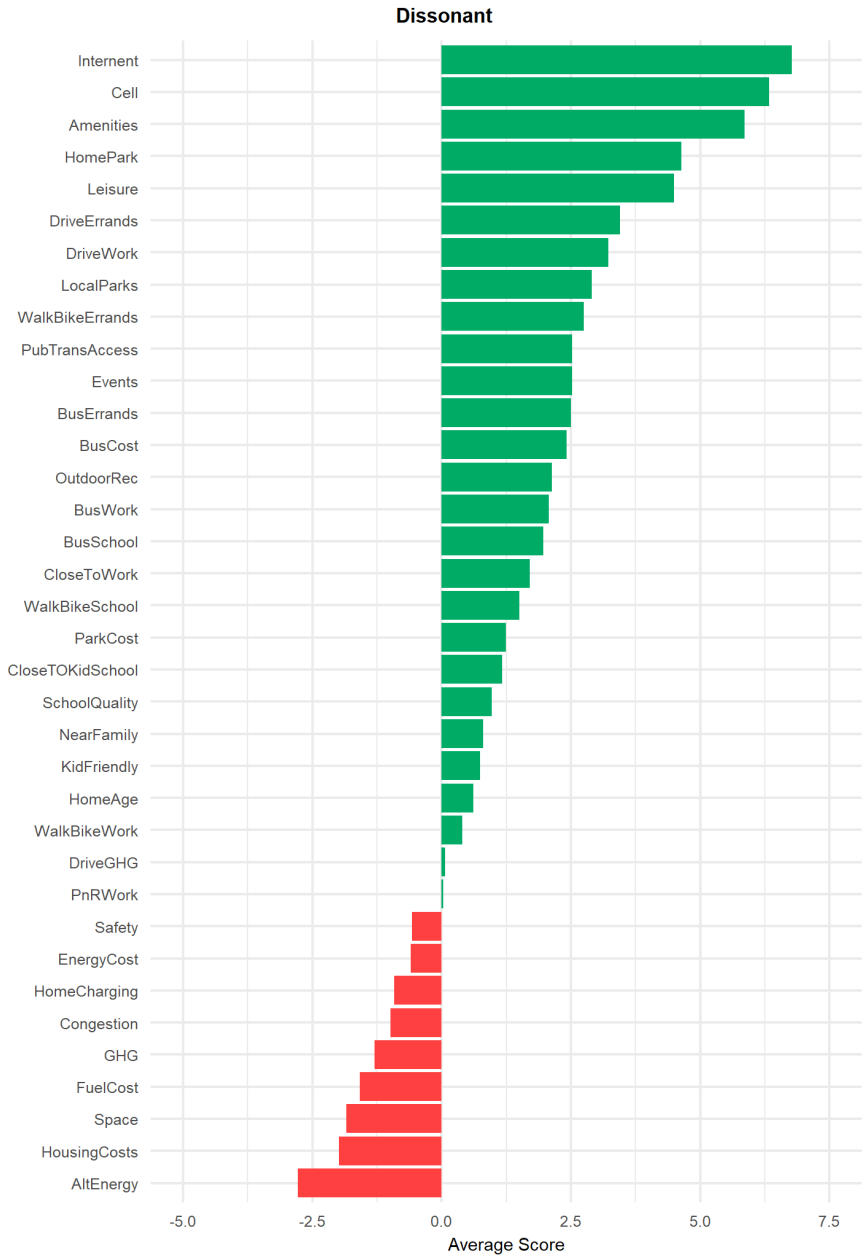
Least amount of location dissonant and the least amount of housing dissonance score

- **Energy use**
- **Fuel cost**
- **At home EV charging**
- **Housing cost**

Were the main sources of dissonance

Urban





Unlike rural and suburban households have **positive** score on transportation-related attributes of their residence

- **Energy use**
- **Housing cost**
- **Congestion**
- **Physical space from neighbors**

Were the main sources of dissonance

Takeaways

Location dissonant rural and suburban households are looking towards town centers to increase their access to amenities.

- There may be a significant unmet demand for more compact and mixed-use development outside of the more urbanized area (e.g., Burlington)
- AVs could reduce the level of existing housing dissonance in these areas by providing better access
- EVs may reduce the source of dissonance for households that have concerns about fuel costs and want to move to urban areas to save on fuel costs.

Urban households were mostly consonant with their residence, although there are some factors that they cause some level of discontent.

- These factors are incompatible with urban living, such as having a greater separation from neighbors, safety, and congestion
- Still urban dissonant households have the lowest housing dissonance score, which suggests that urban areas will likely remain attractive places to live.
- For households that may be concerned about other aspects of urban living, AVs could provide an opportunity to move to a less urban environment and still enjoy some level of accessibility

Takeaways

The impact of working from home on housing choice is less clear, given the fact that suburban households had lower but still positive housing dissonance score on proximity to work and school.

- Remote working combined with an increase in e-retail and other service delivery could reduce discontent with access to other amenities

Questions?