YOUR CHARTS SUCK

WE CAN HELP. . . MAYBE

Eric Roche

Chief Data Officer Kansas City, MO

When WRITING
content for others

EASY TO READ

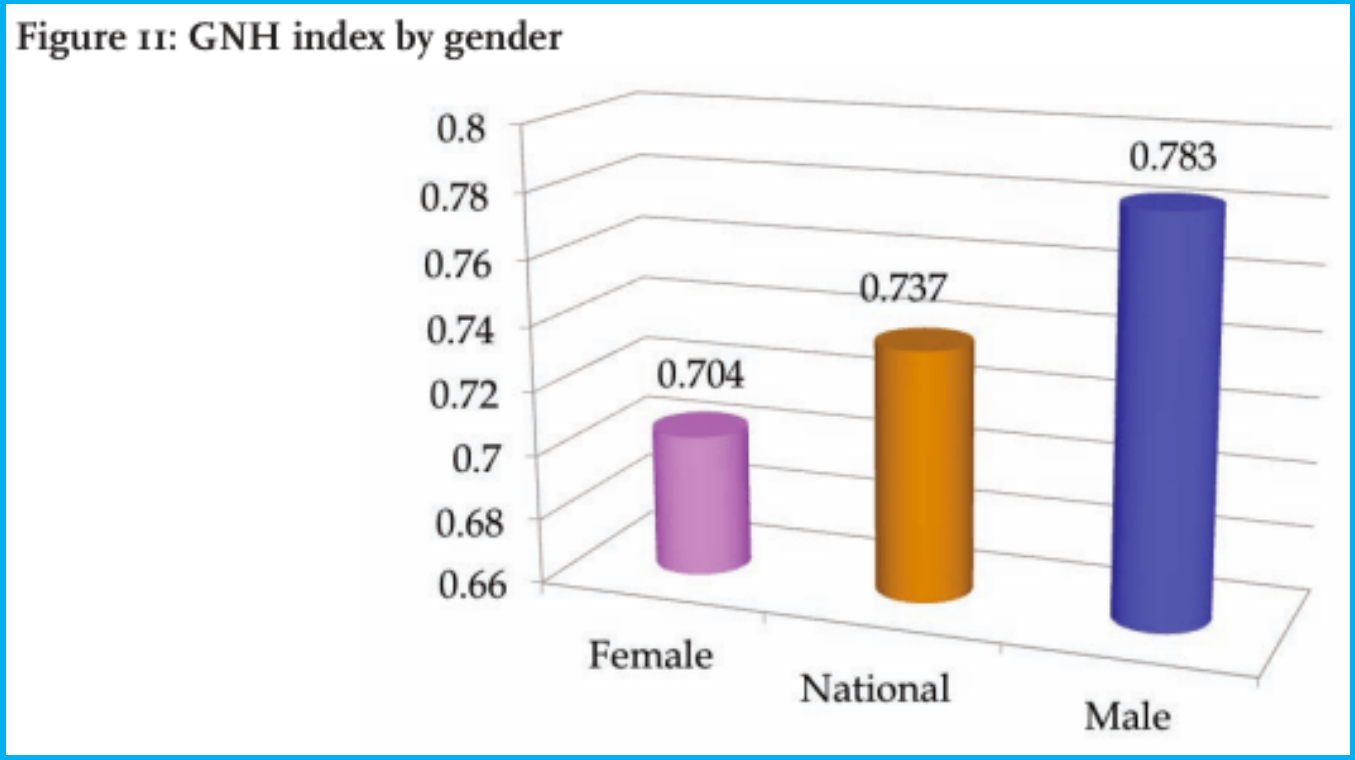
TO THE POINT

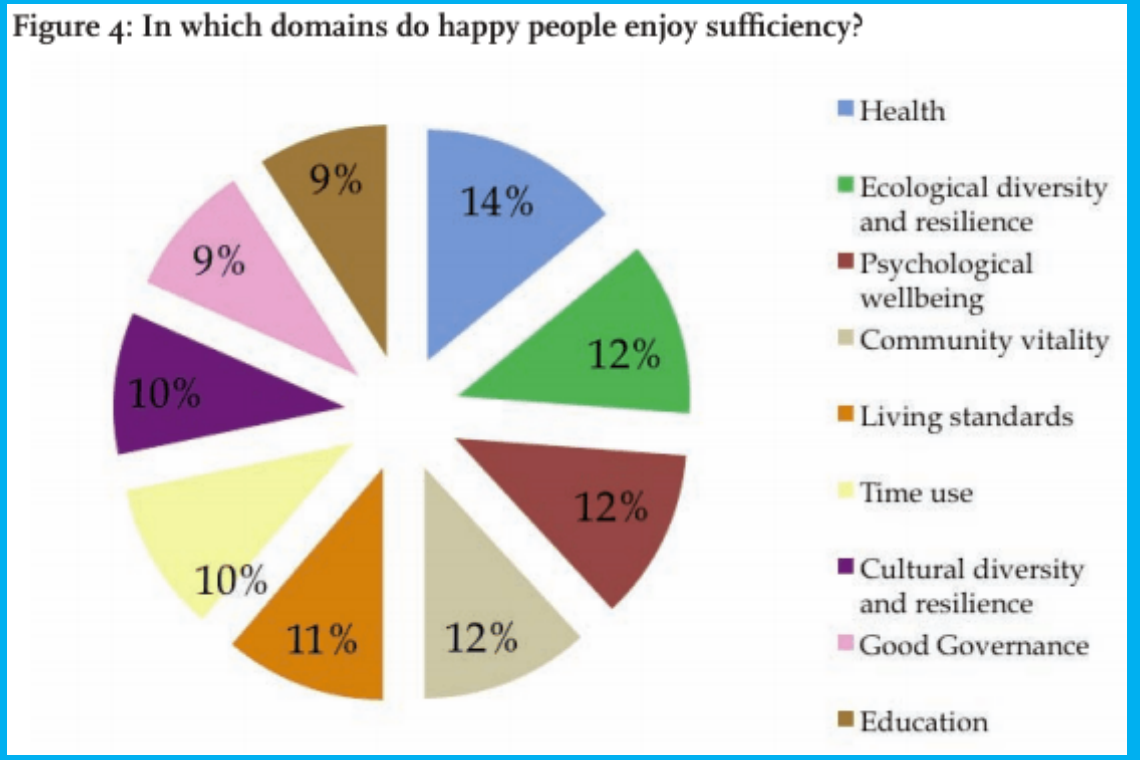
DESIGNED so they "get it"

When making VISUALS for others

World Happiness Report – United Nations

Source: https://flowingdata.com/2012/04/25/world-happiness-report-makes-statisticians-unhappy/





...Wut?

Why Aren't Visuals Taken Seriously?

Staff doesn't know how to make good data visuals

Staff doesn't know how to write well

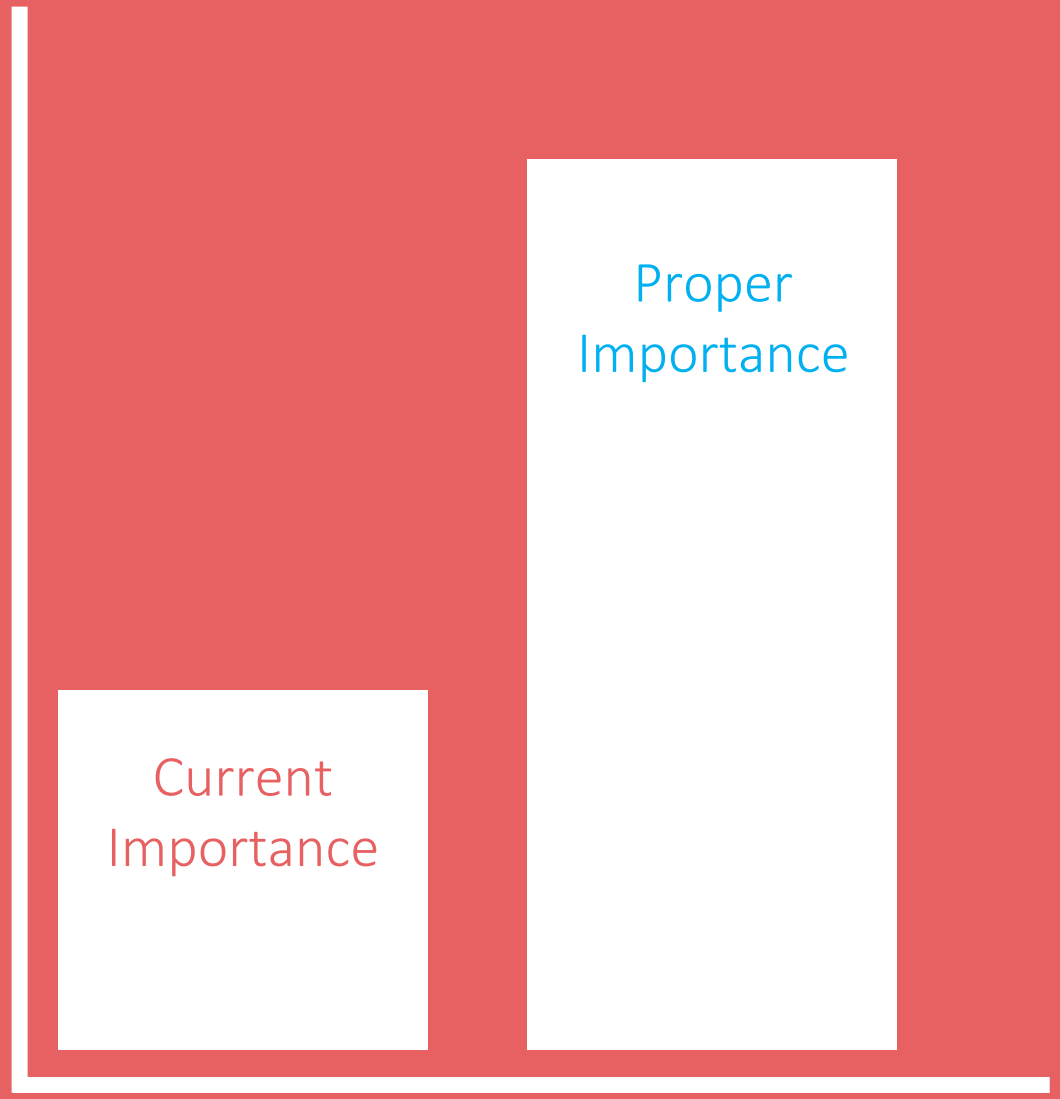
I don't have time to produce good visuals

I don't have time to make my writing clear

City Council members are not artists, so visual quality doesn't matter

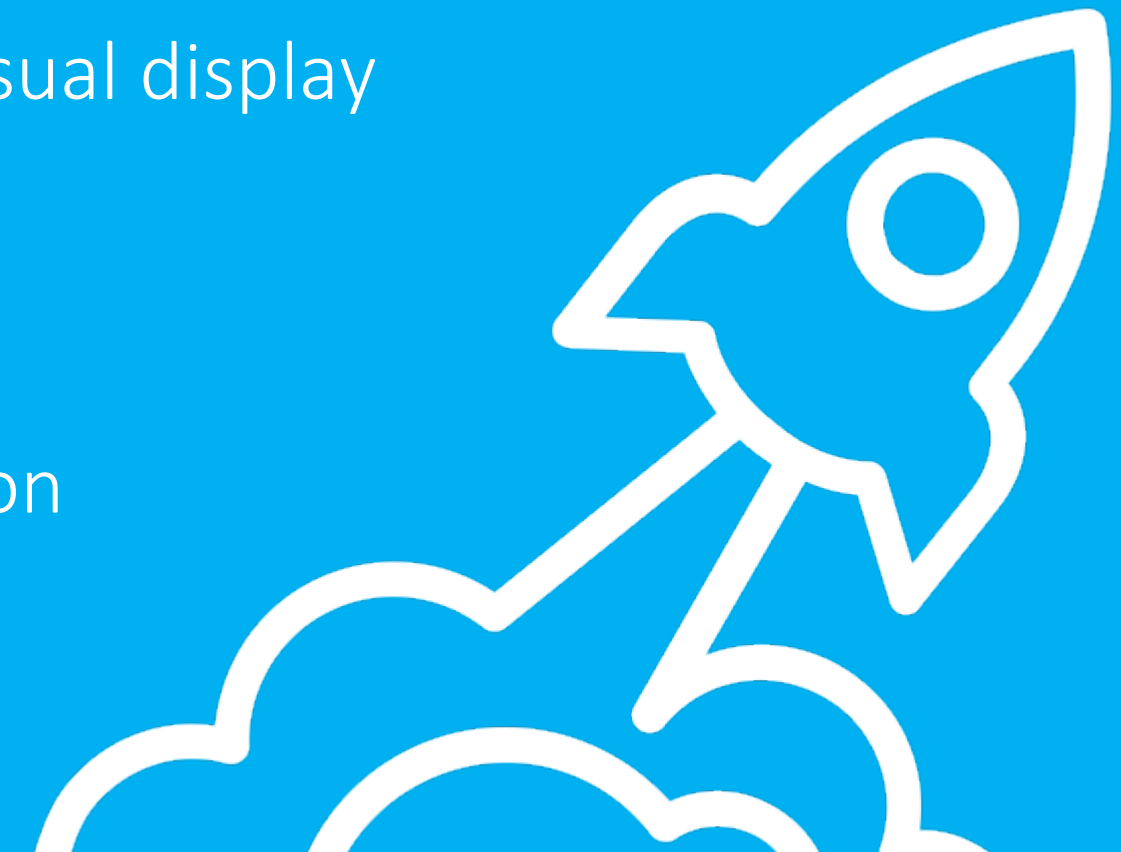
Readers of my reports are not authors, so my writing quality doesn't matter

VISUALS ARE REALLY IMPORTANT



HOW DO WE START?

1. Understand the context and craft your message
2. Choose an appropriate visual display
3. Eliminate clutter
4. Focus attention



1 Content/Message

vs

Who is your audience?

What do you want them to know?

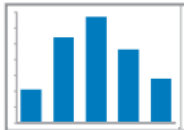
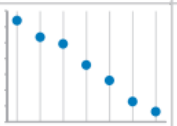
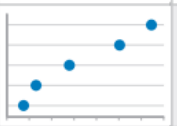
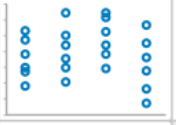
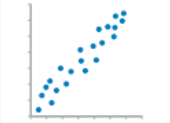
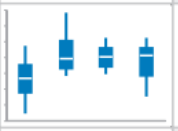
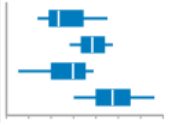
How can data help make this point?

What is my audiences' data reading level?

2 Choose An Appropriate Visual

Q: Which visual do I choose?

WHATEVER IS EASIEST TO READ

Relationship / Graph	Time Series Values display how something changed through time (yearly, monthly, etc.)	Ranking Values are ordered by size (descending or ascending)	Part-to-Whole Values represent parts (ratios) of a whole (for example, regional portions of total sales)	Deviation The difference between two sets of values (for example, the variance between actual and budgeted expenses)	Distribution Counts of values per interval along a quantitative scale from lowest to highest (for example, counts of people in an organization by age intervals of 10 years each)	Correlation Comparison of two paired sets of values (for example, the heights and weights of several people) to determine if there is a relationship between them	Nominal Comparison A simple comparison of values for a set of unordered items (for example, products or regions)
Bar Graph (vertical) 	**Yes** (to feature individual values and support their comparisons; quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)		**Yes** (quantitative scale must begin at zero)
Bar Graph (horizontal)		**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)	**Yes** (quantitative scale must begin at zero)		**Yes** (quantitative scale must begin at zero)
Line Graph	**Yes** (to feature overall trends and patterns and support their comparisons)			**Yes** (only when also featuring a time series or single distribution)	**Yes** (to feature the overall shape of the distribution)		
Dot Plot (vertical) 	**Yes** (when you do not have a value for every interval of time)	**Yes**					**Yes**
Dot Plot (horizontal) 		**Yes**					**Yes**
Strip Plot (single)					**Yes** (when you want to see each value)		
Strip Plot (multiple) 	**Yes** (only when also featuring distributions)				**Yes** (when comparing multiple distributions and you want to see each value)		
Scatter Plot 						**Yes**	
Box Plot (vertical) 	**Yes** (only when also featuring distributions)				**Yes** (when comparing multiple distributions)		
Box Plot (horizontal) 					**Yes** (when comparing multiple distributions)		

3

Eliminate Clutter

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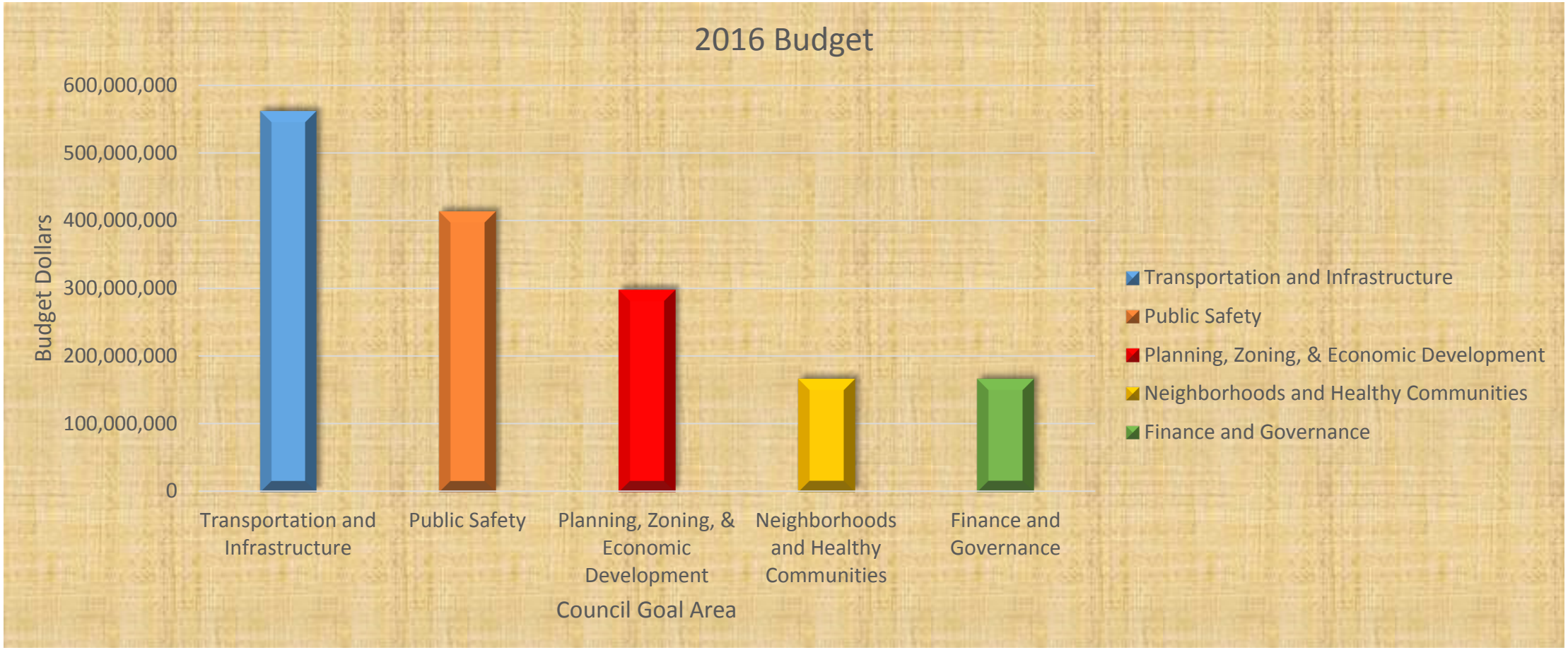

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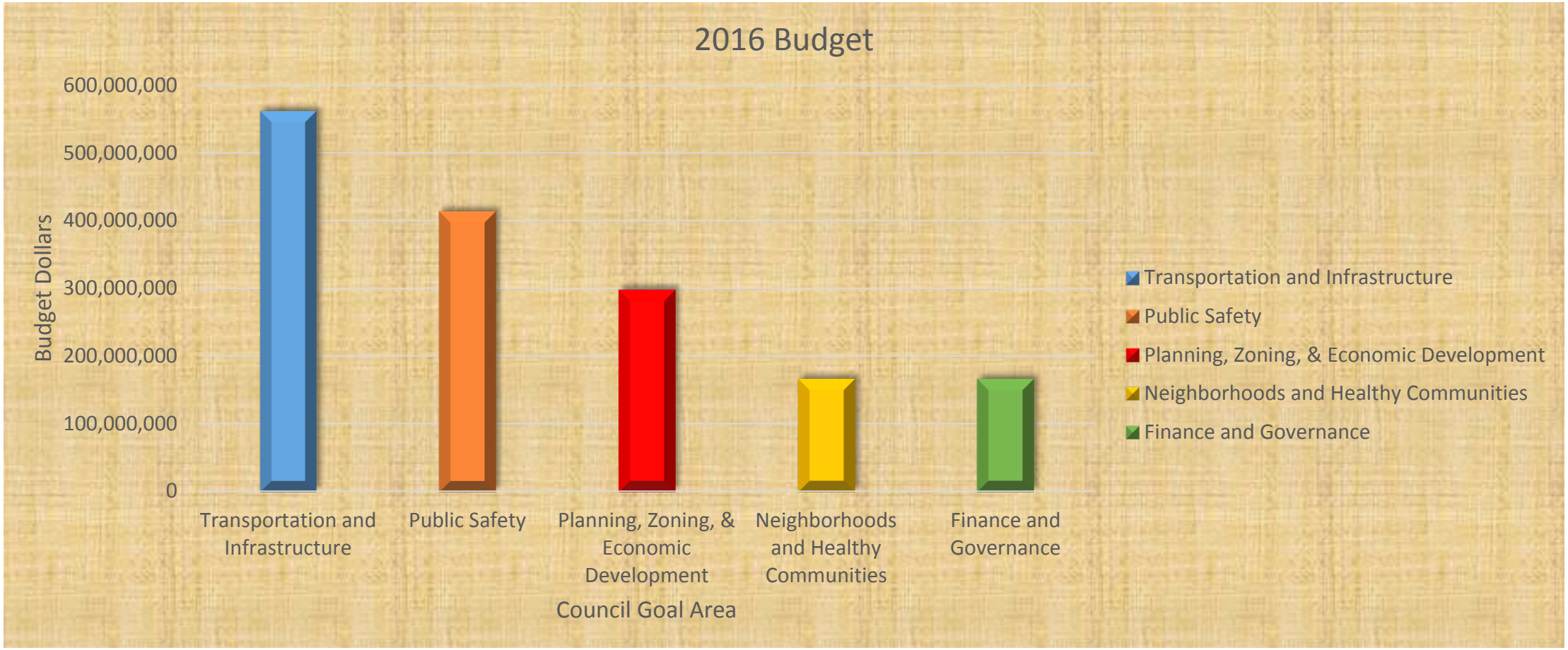
Shrink your title



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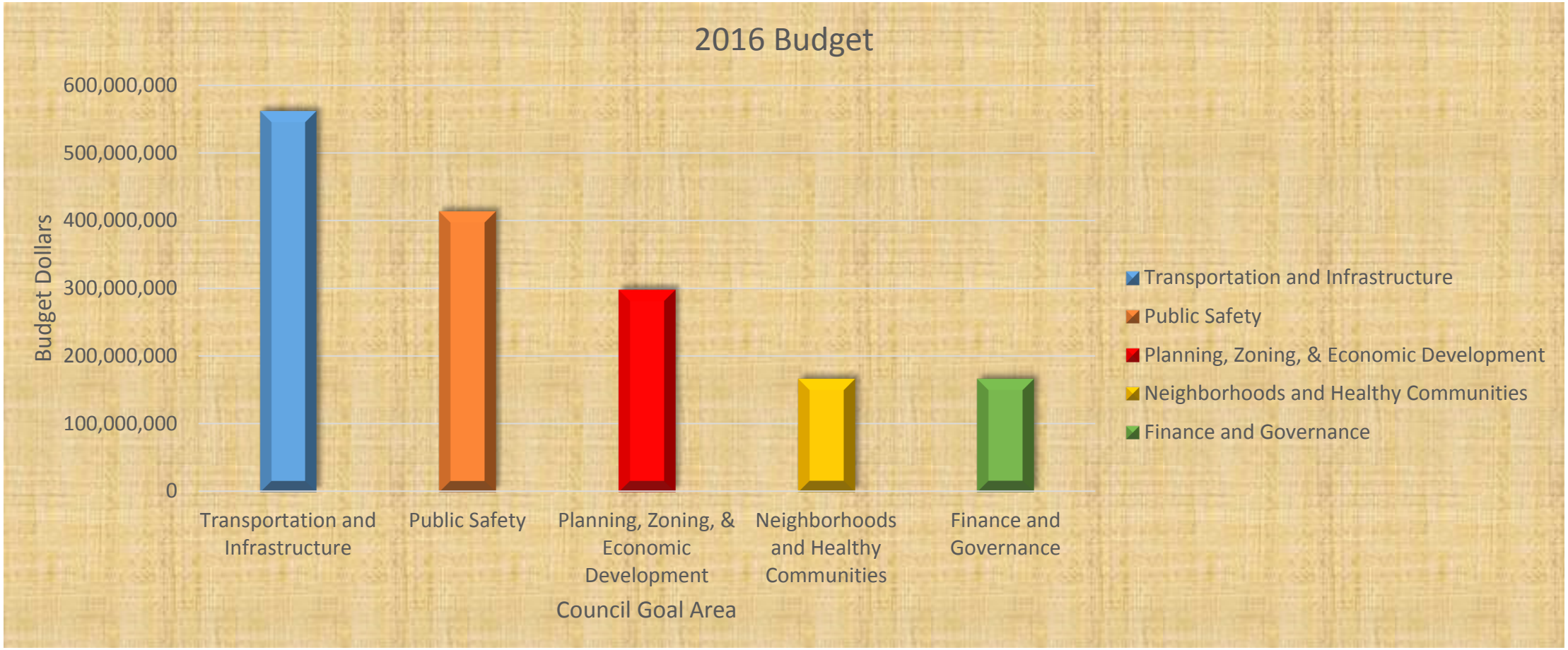

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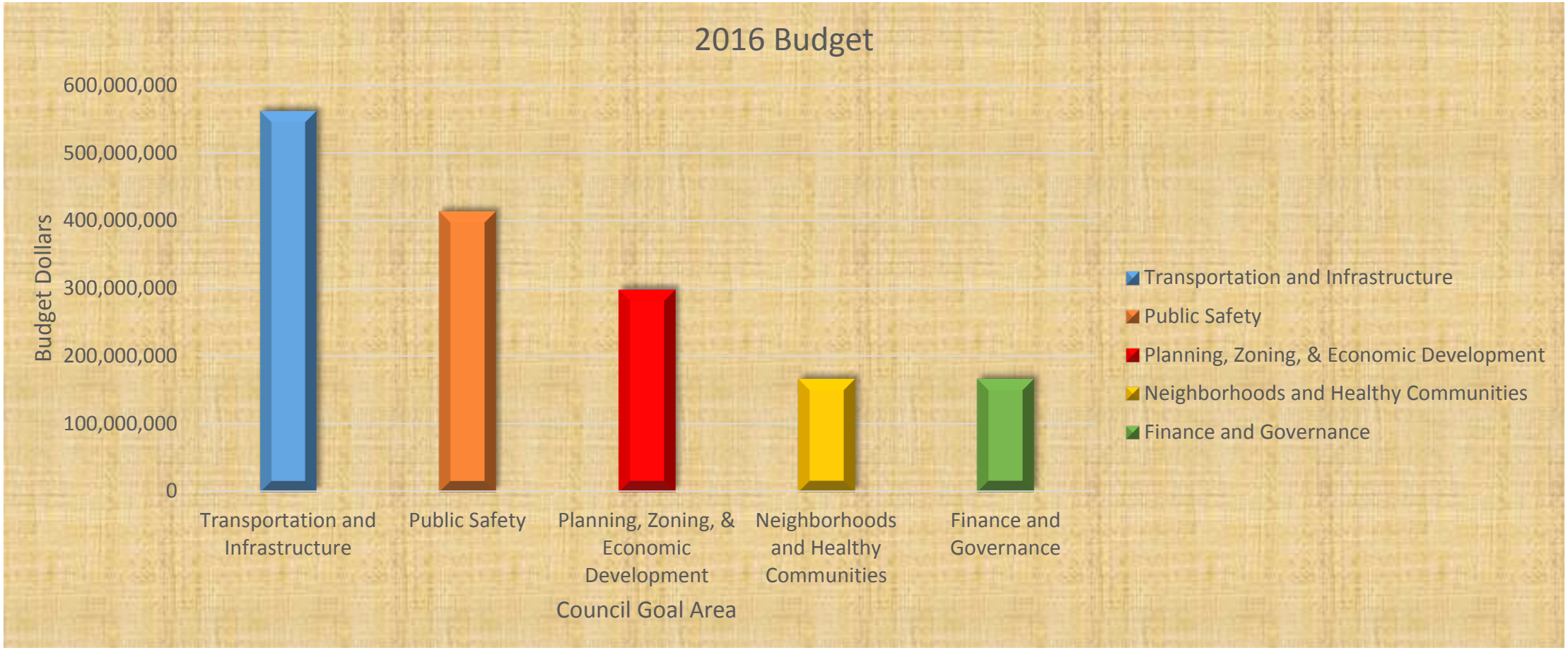
Enlarge your chart



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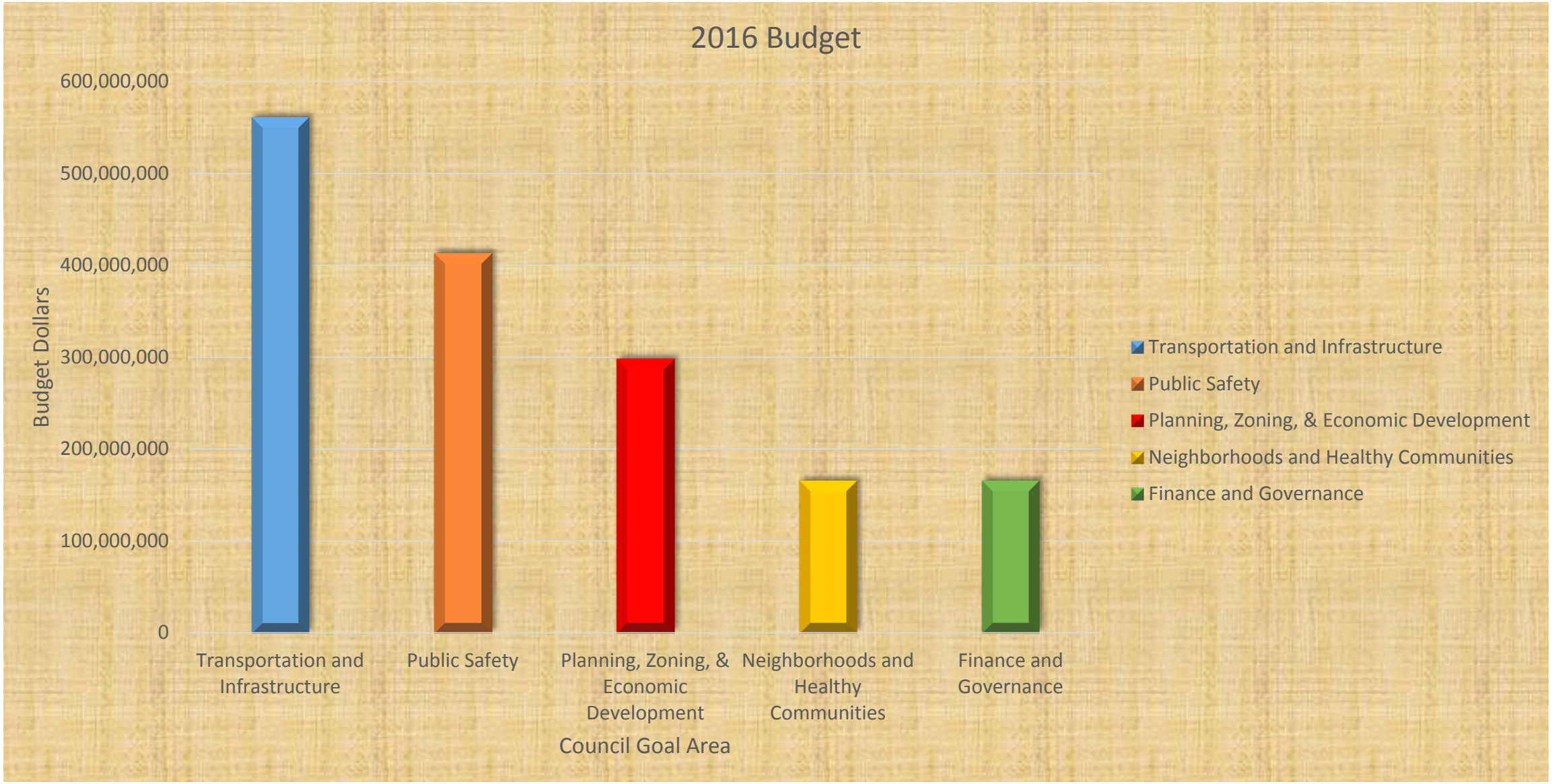

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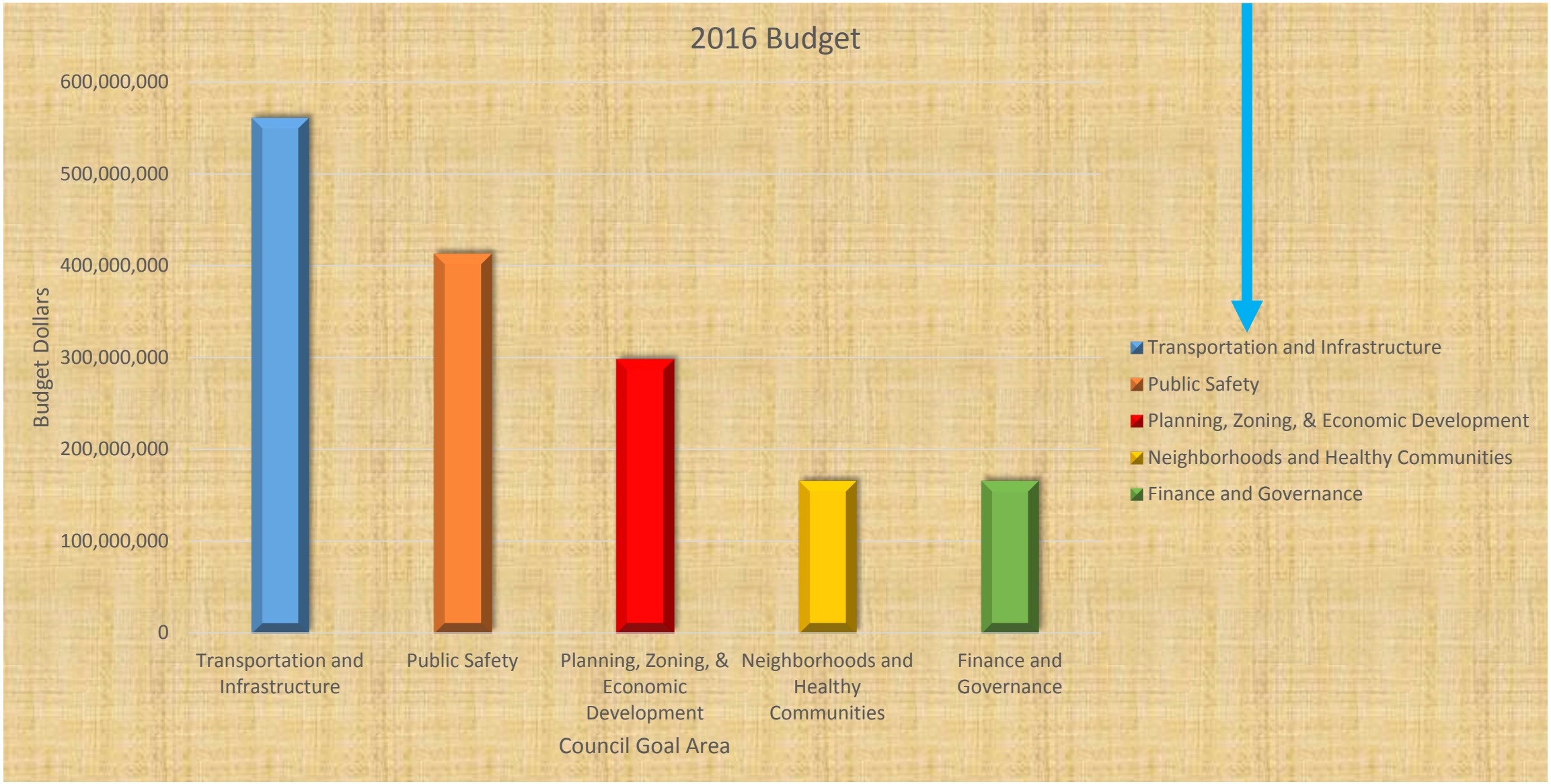
Make your text bigger (>22)



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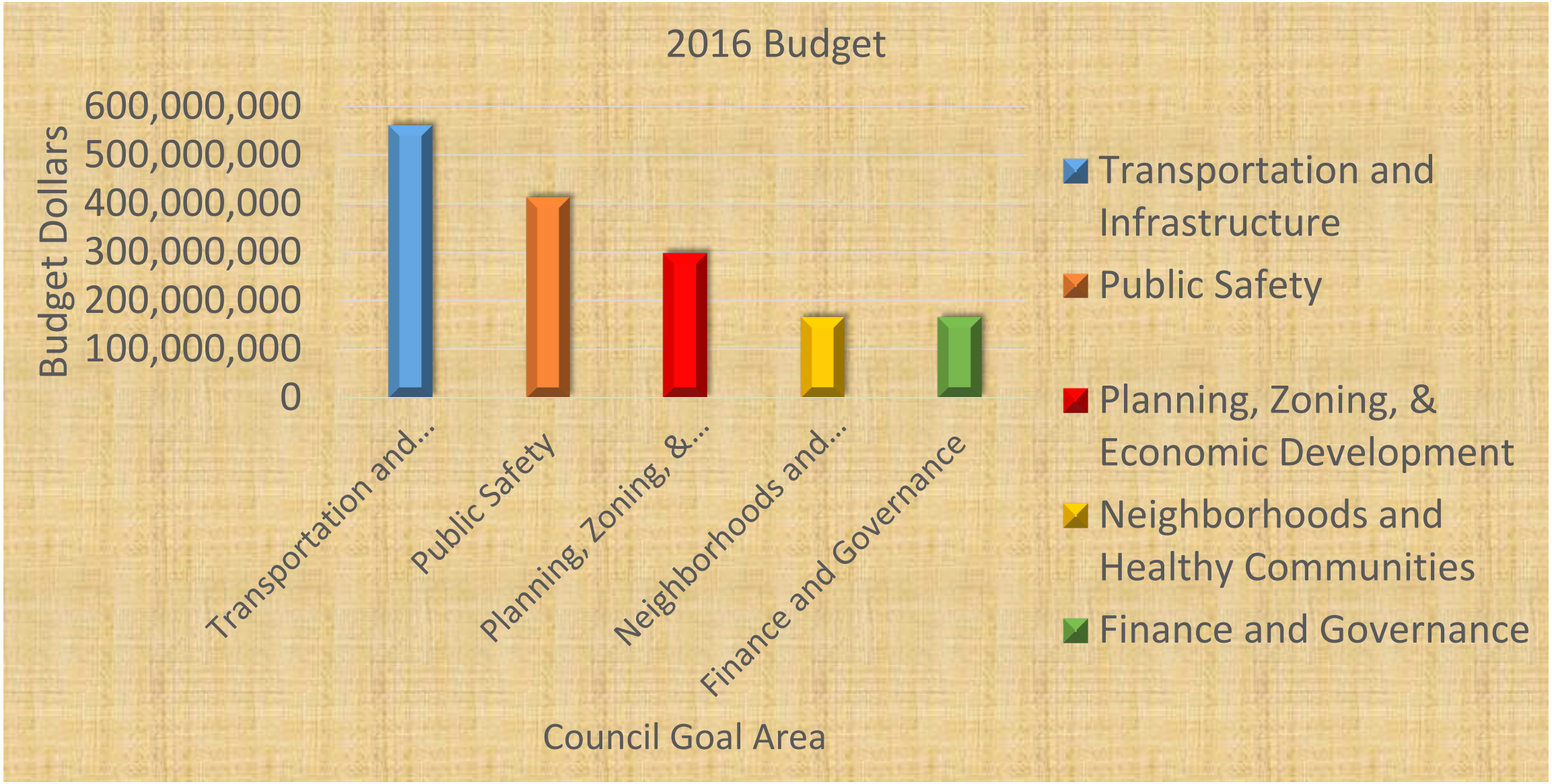

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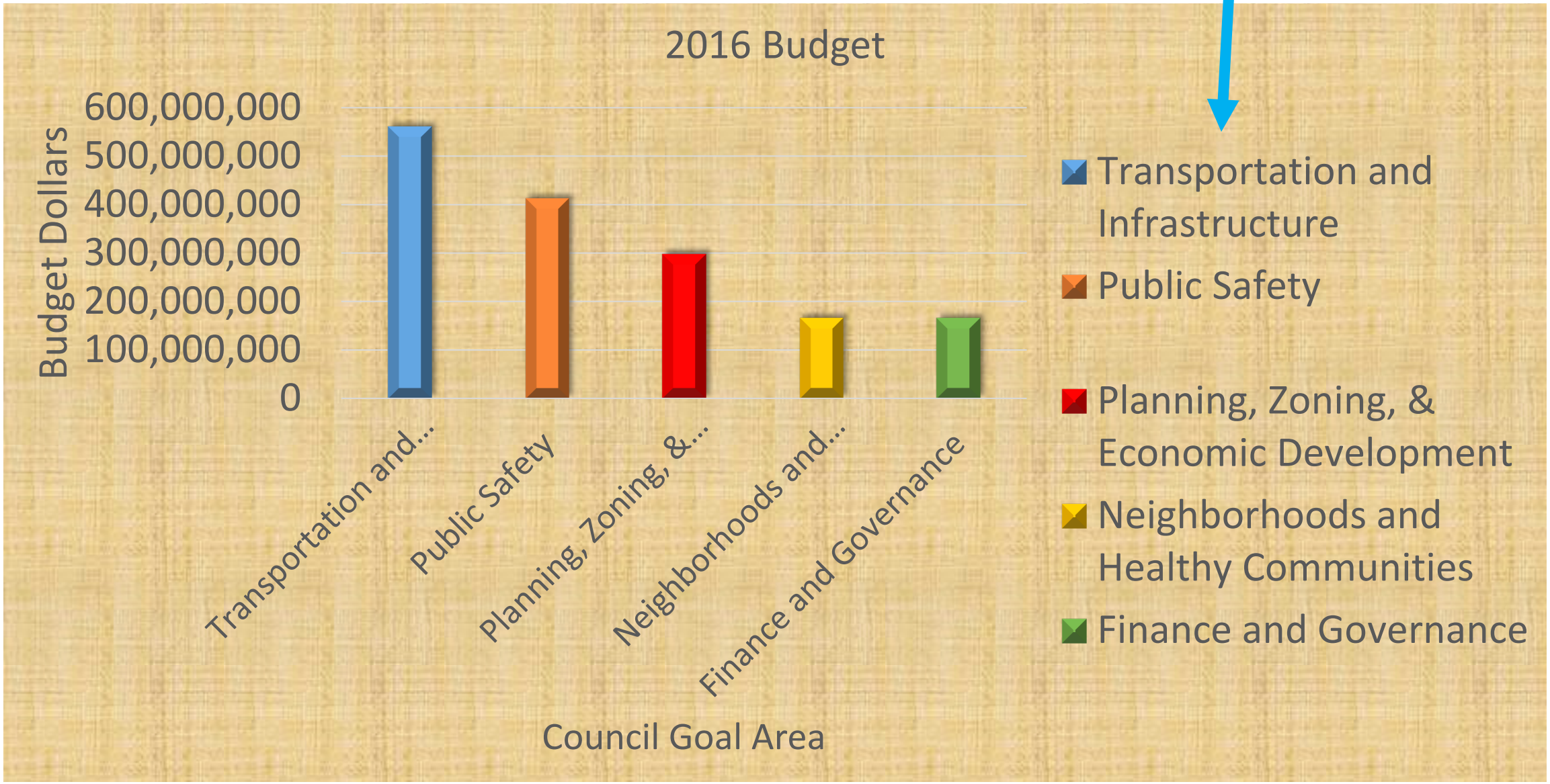
Get rid of background



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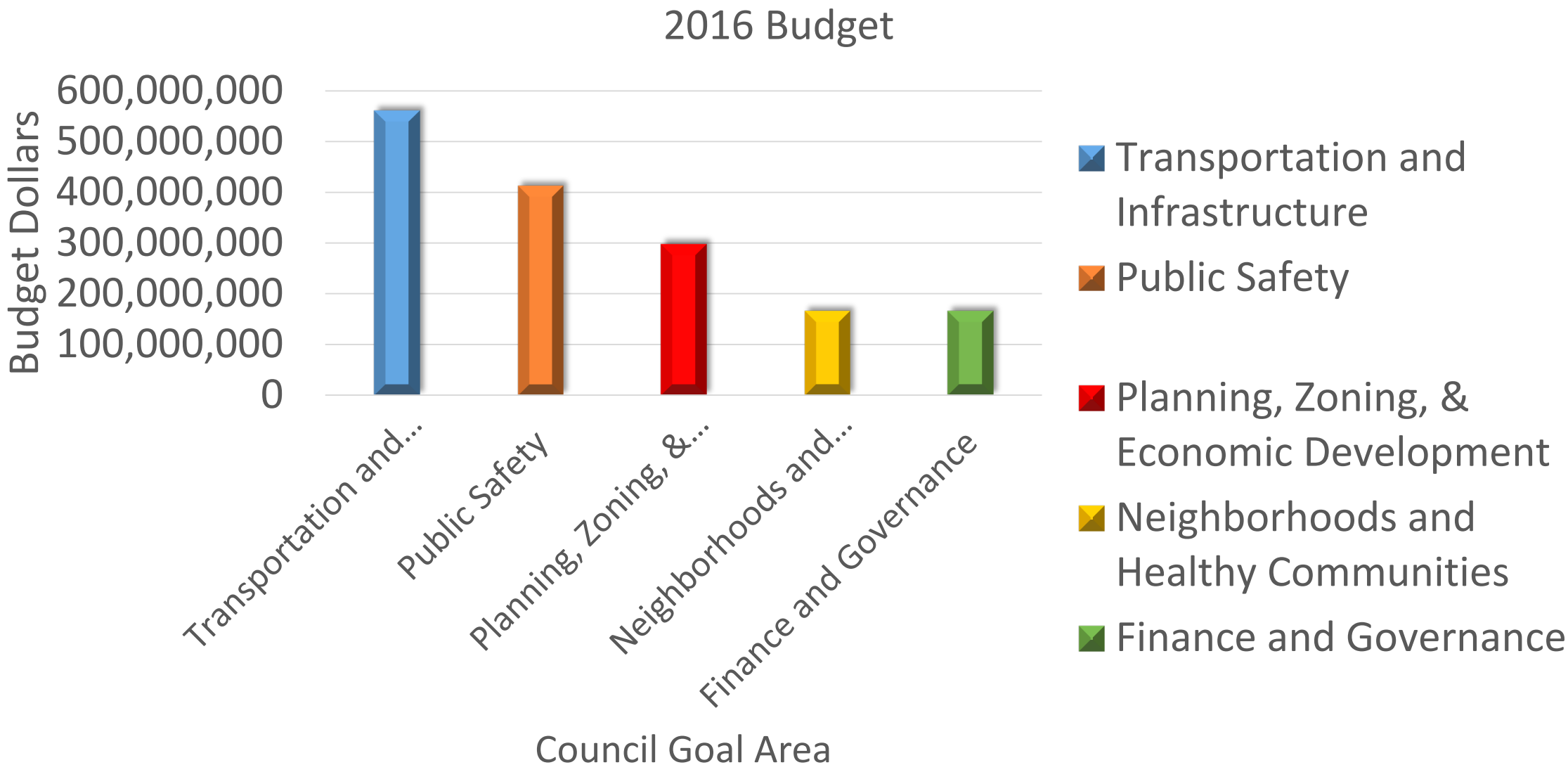

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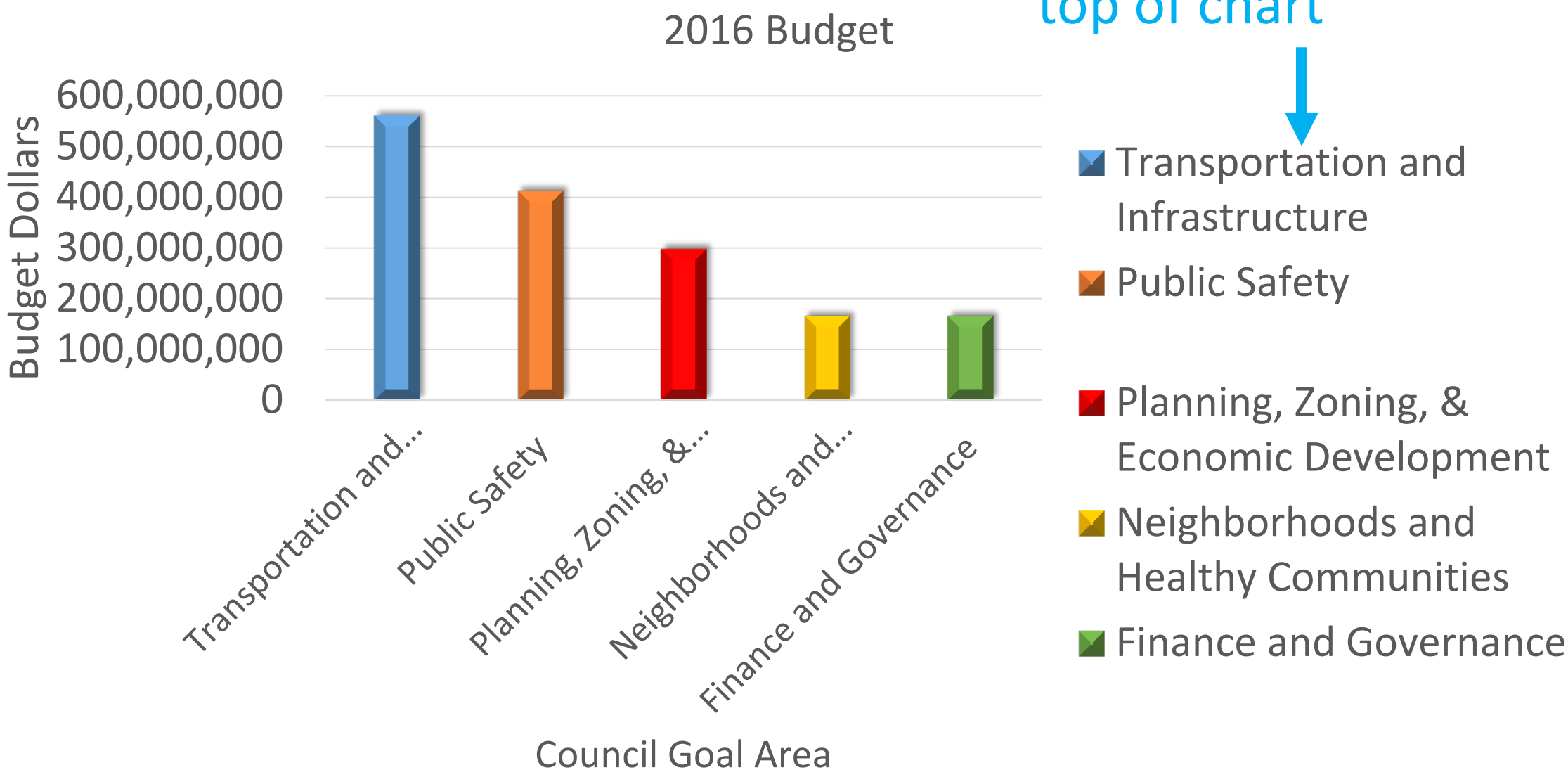
Remove the legend or move it to the top of chart



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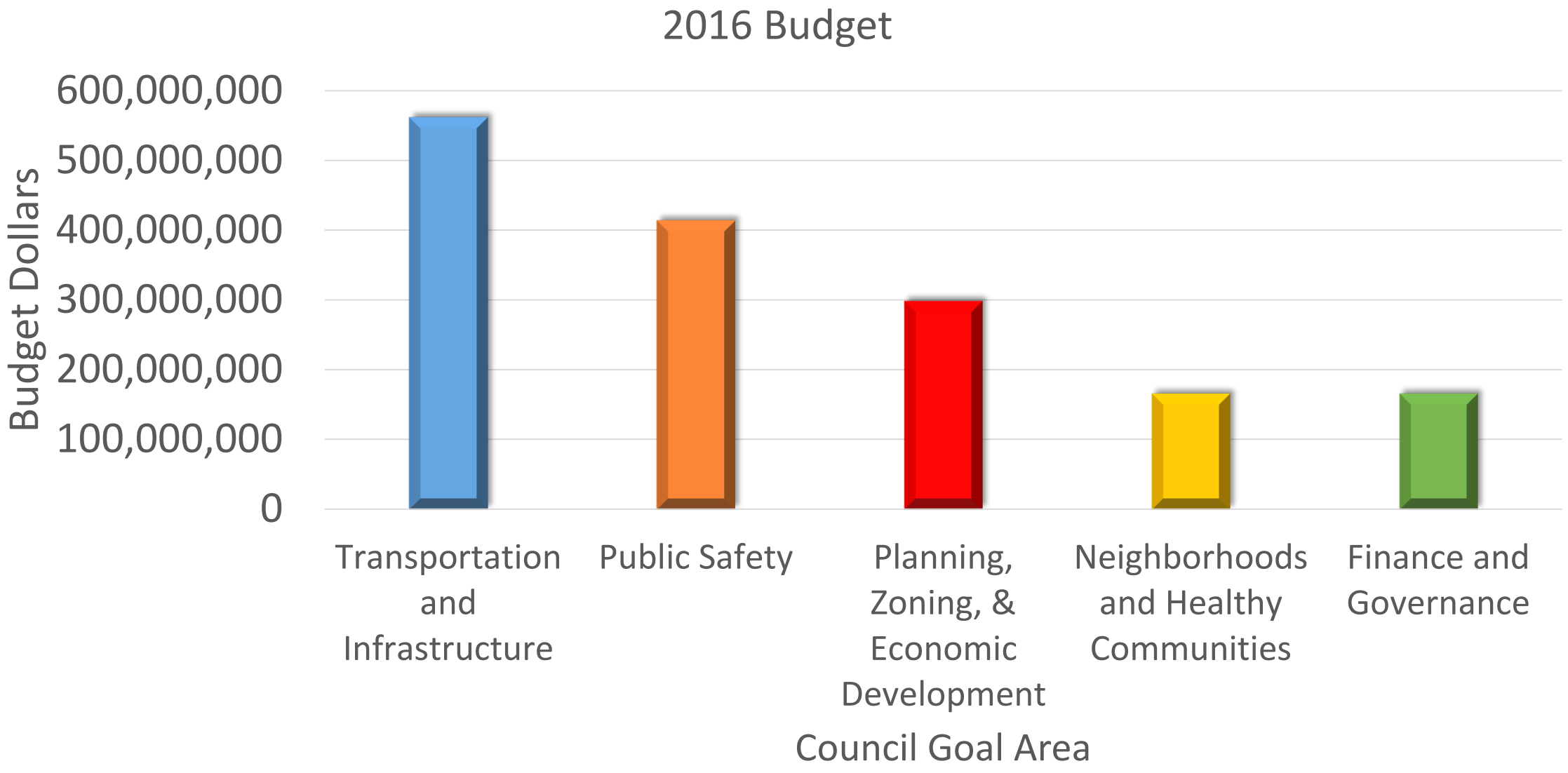

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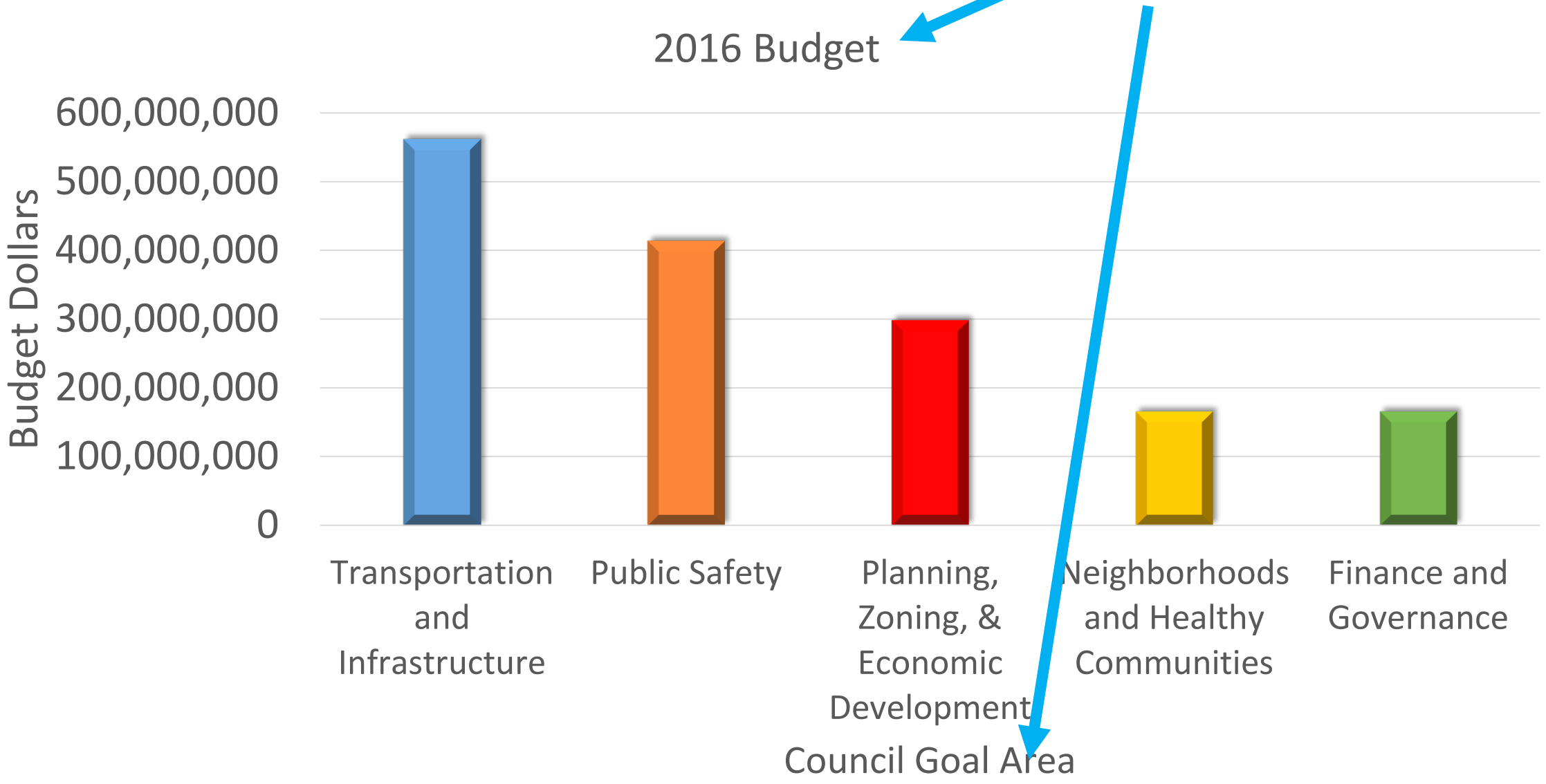
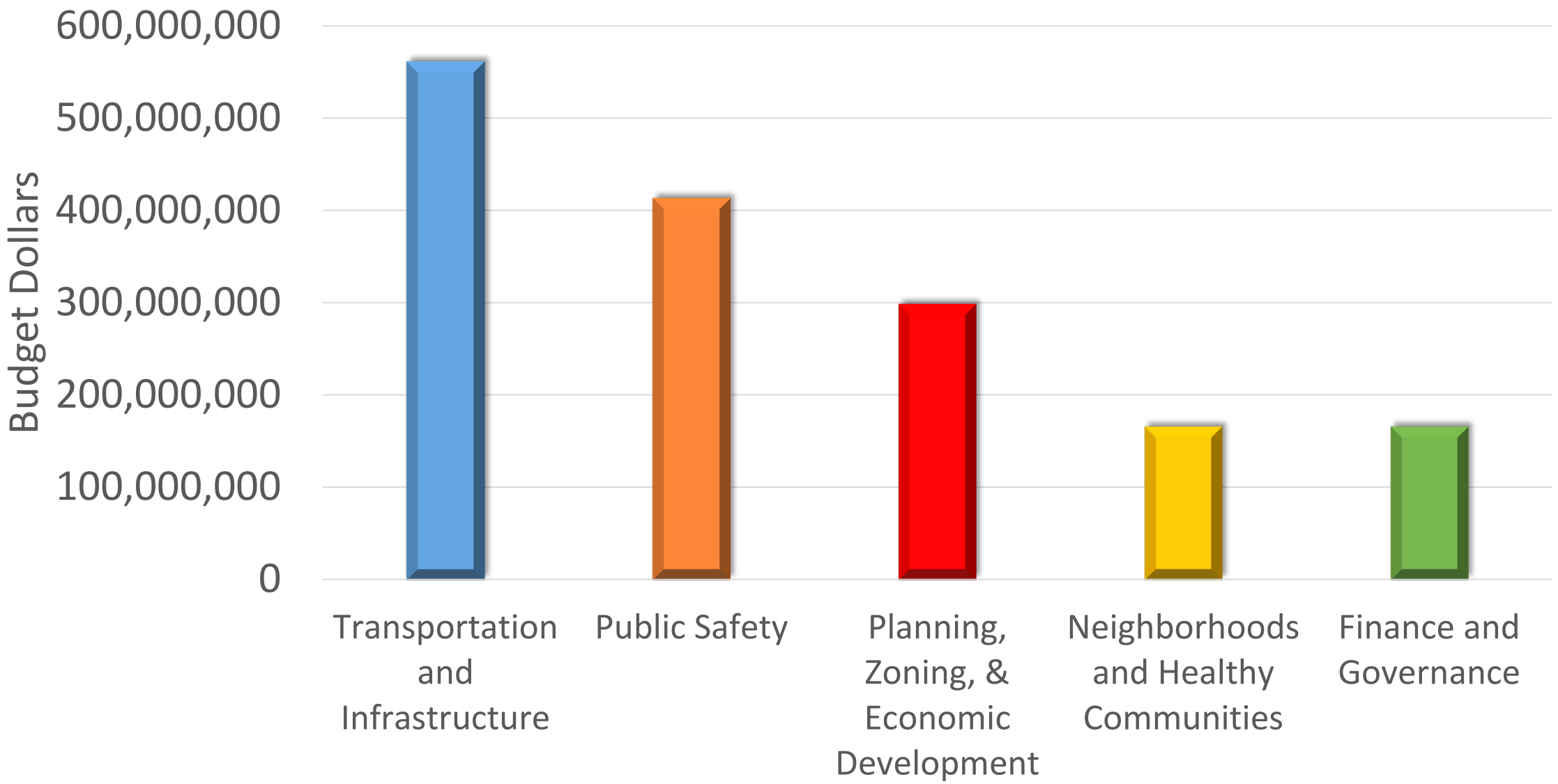
Use Title to describe chart



2016 Budget by Council Goal Area



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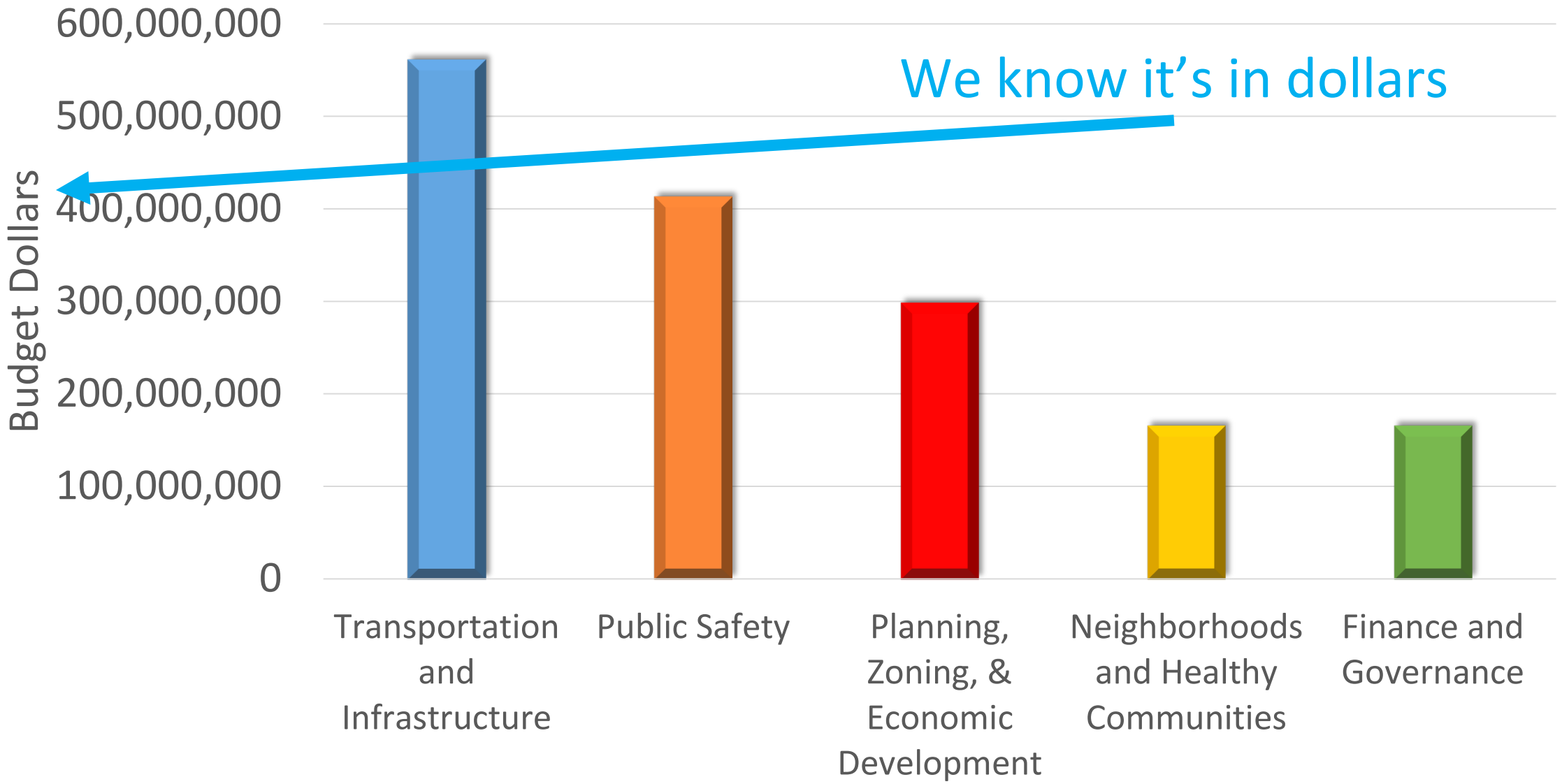
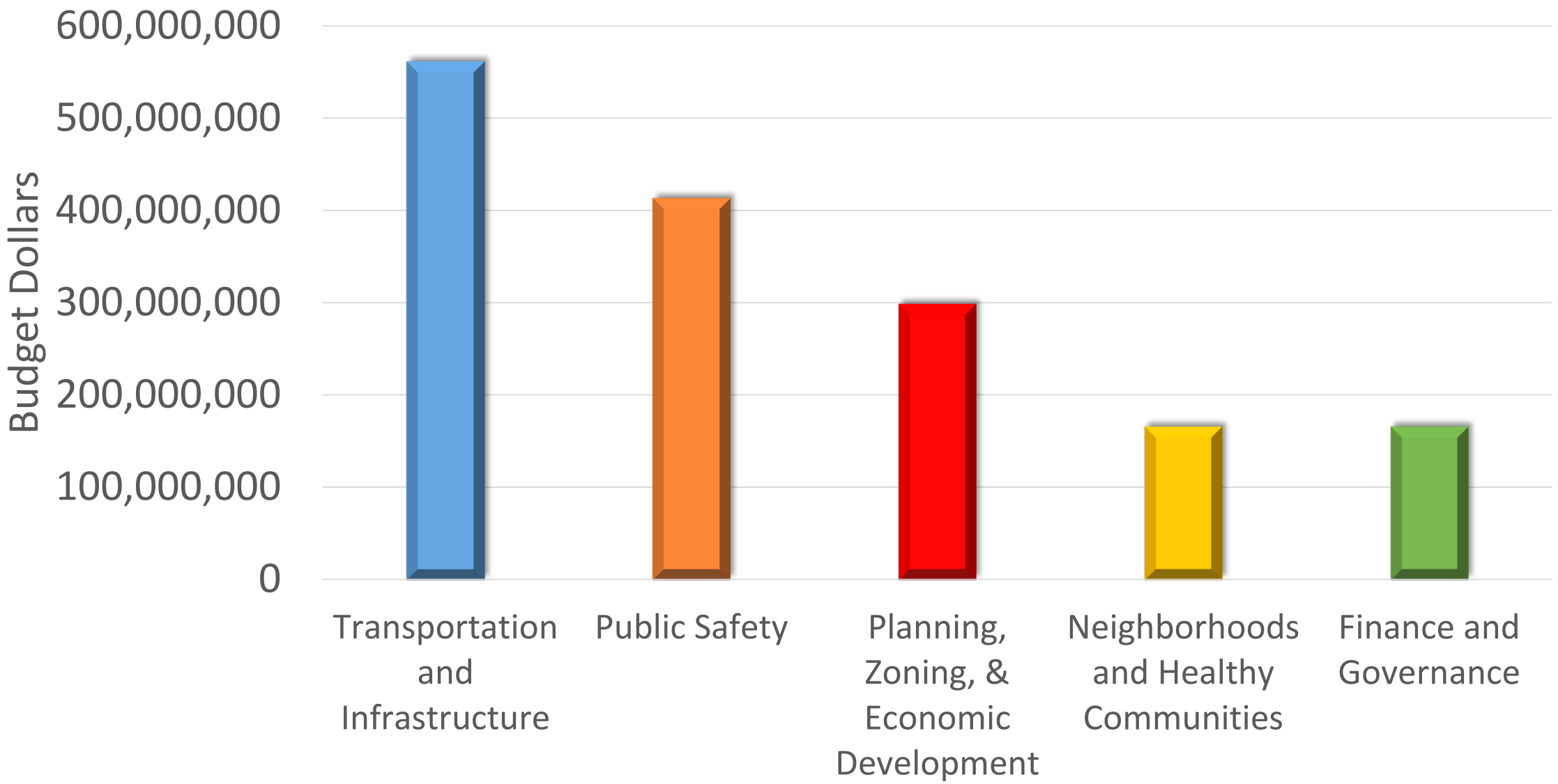
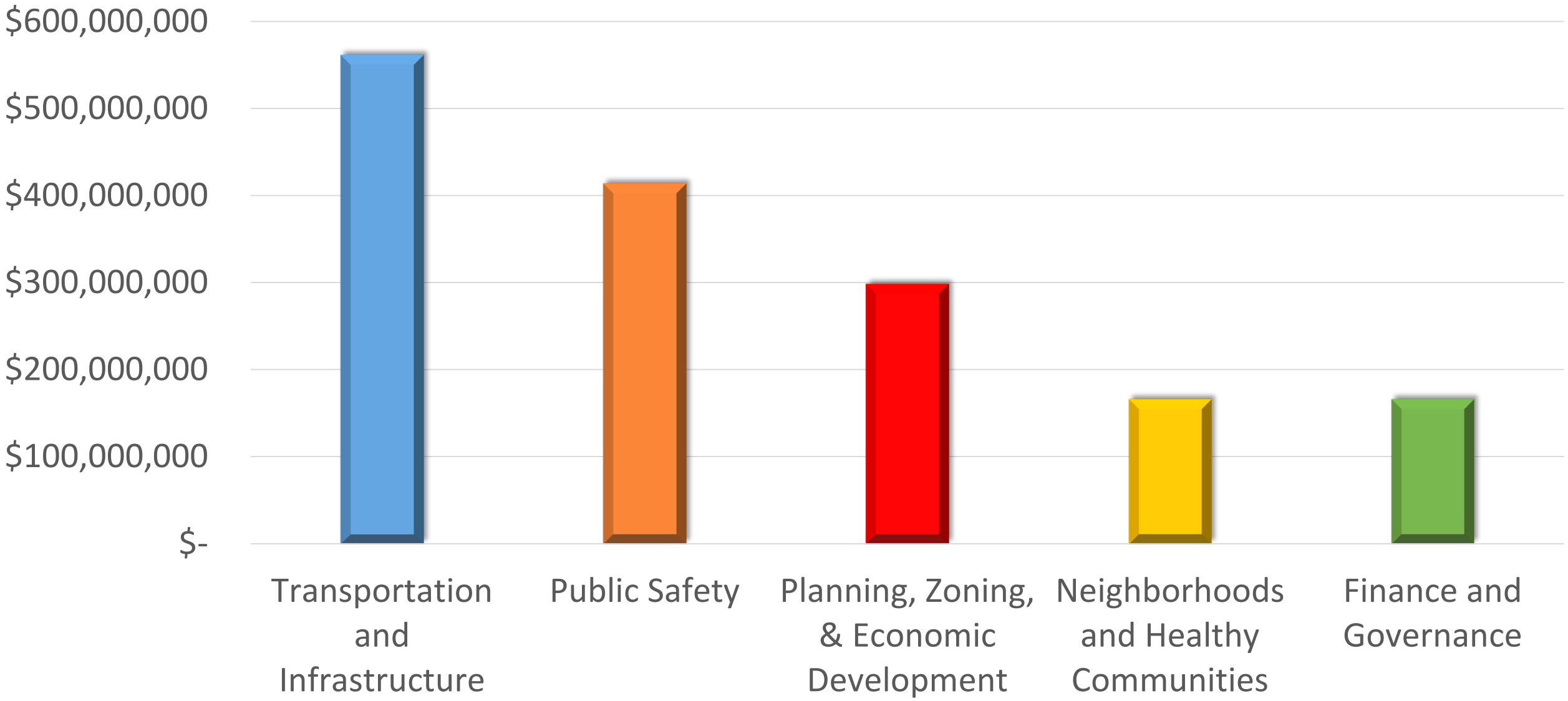


2016 Budget by Council Goal Area

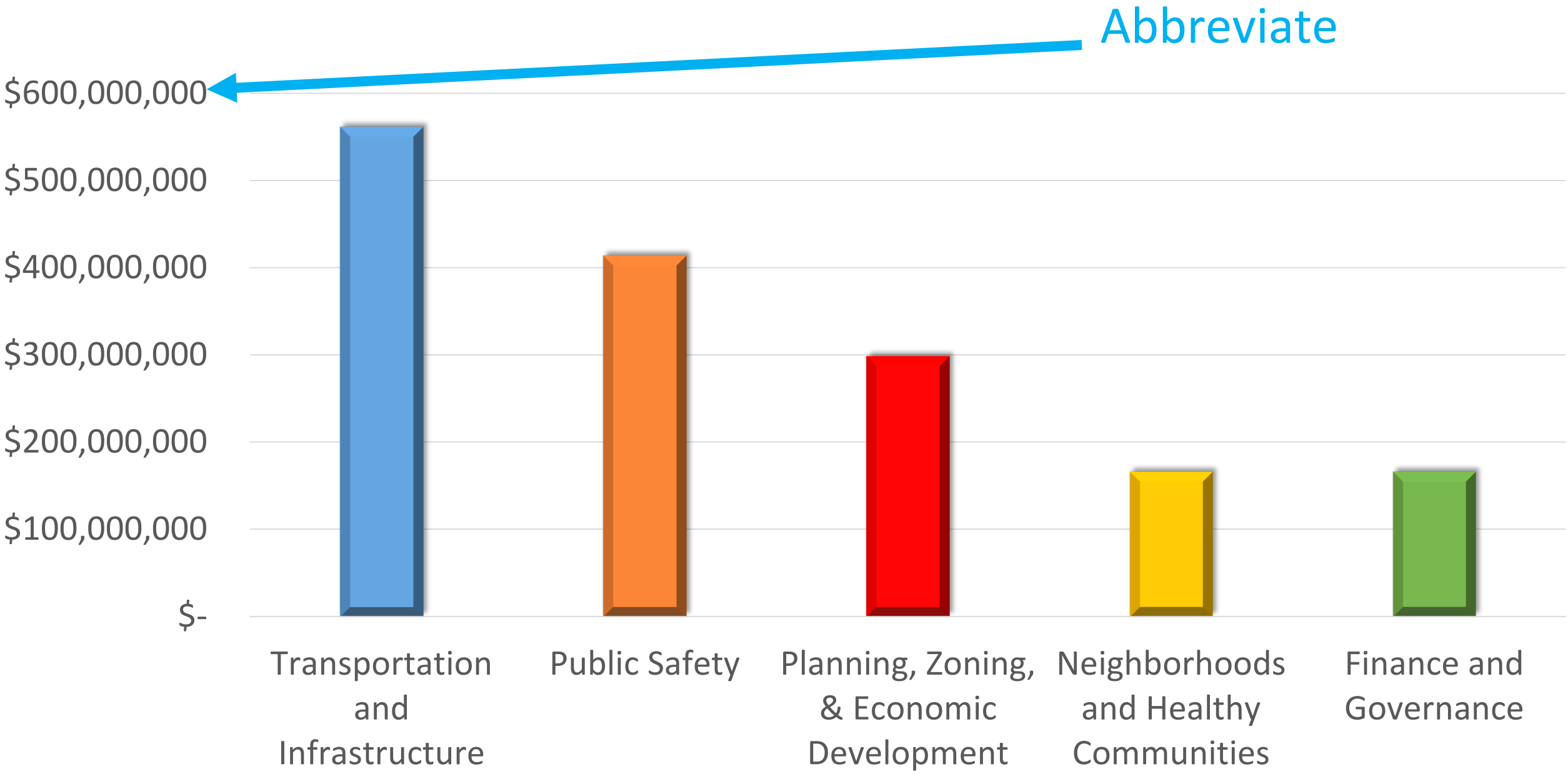
Resize again



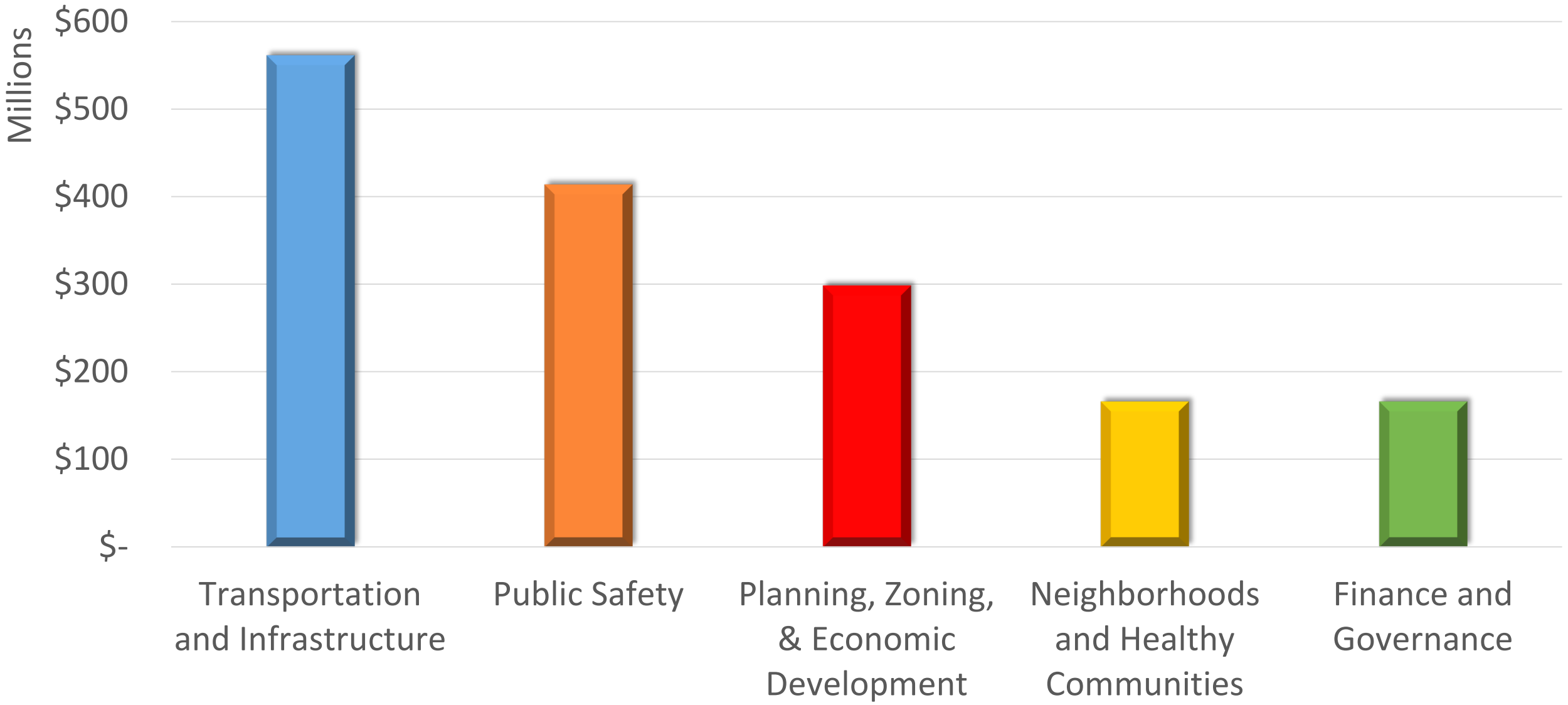
2016 Budget by Council Goal Area



2016 Budget by Council Goal Area



2016 Budget by Council Goal Area



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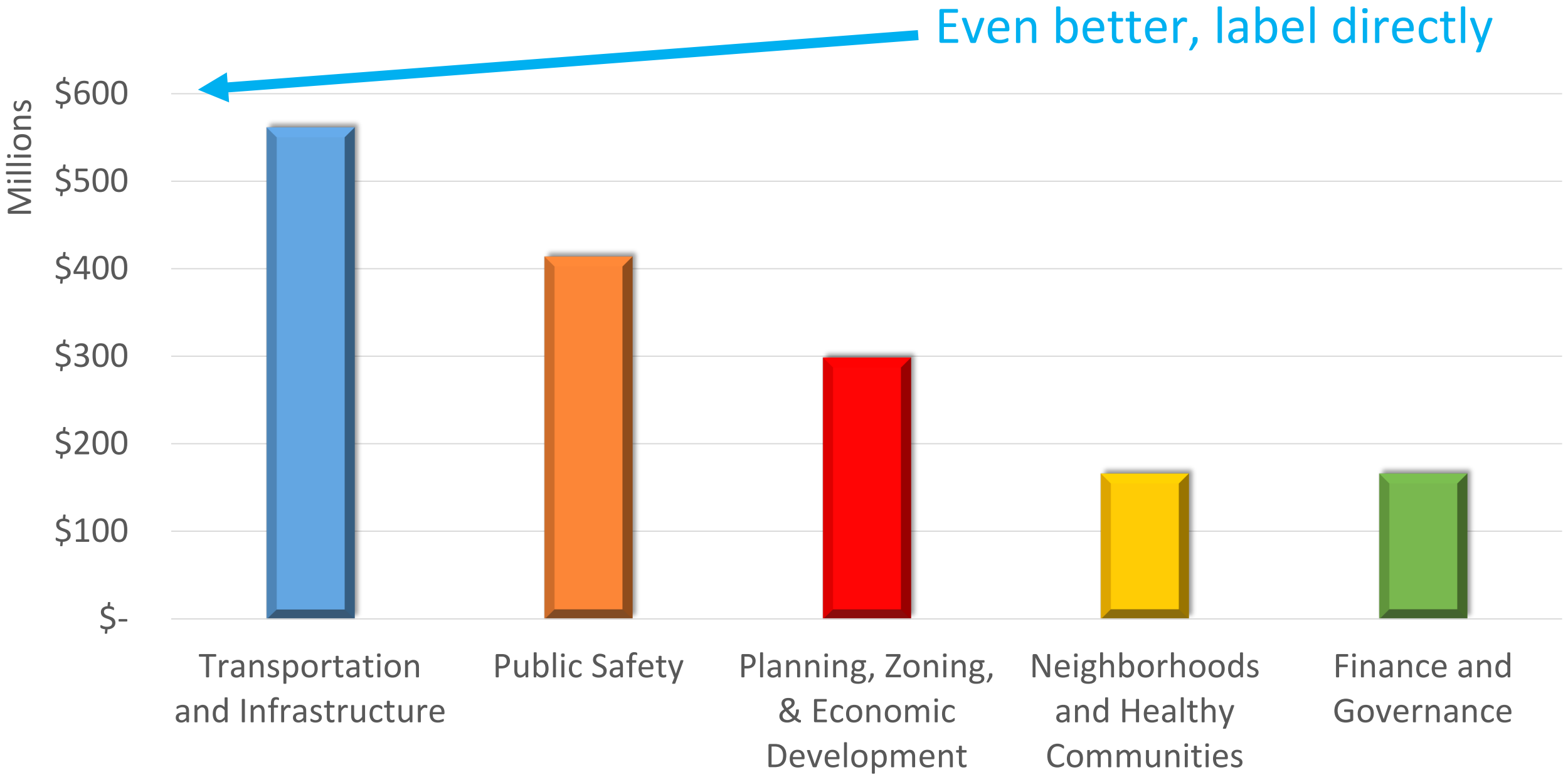

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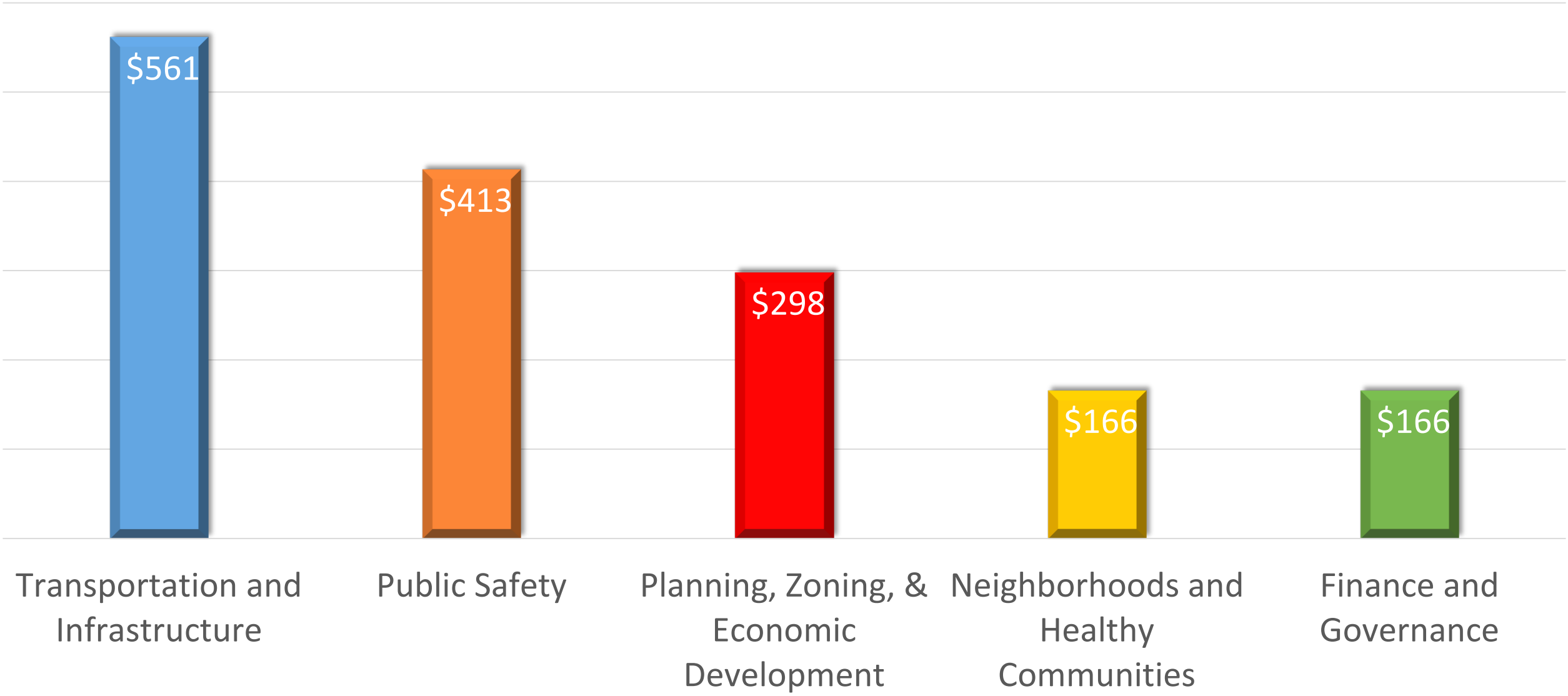

2016 Budget by Council Goal Area

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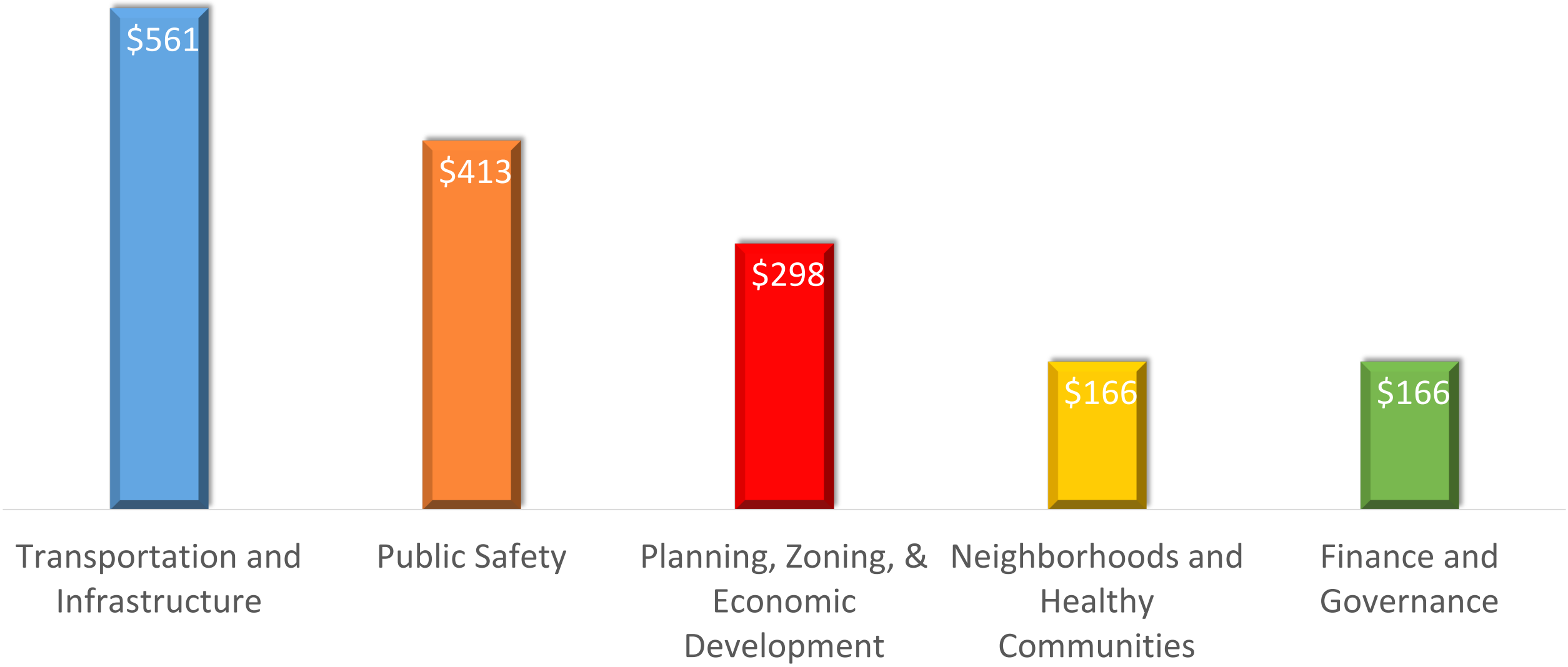
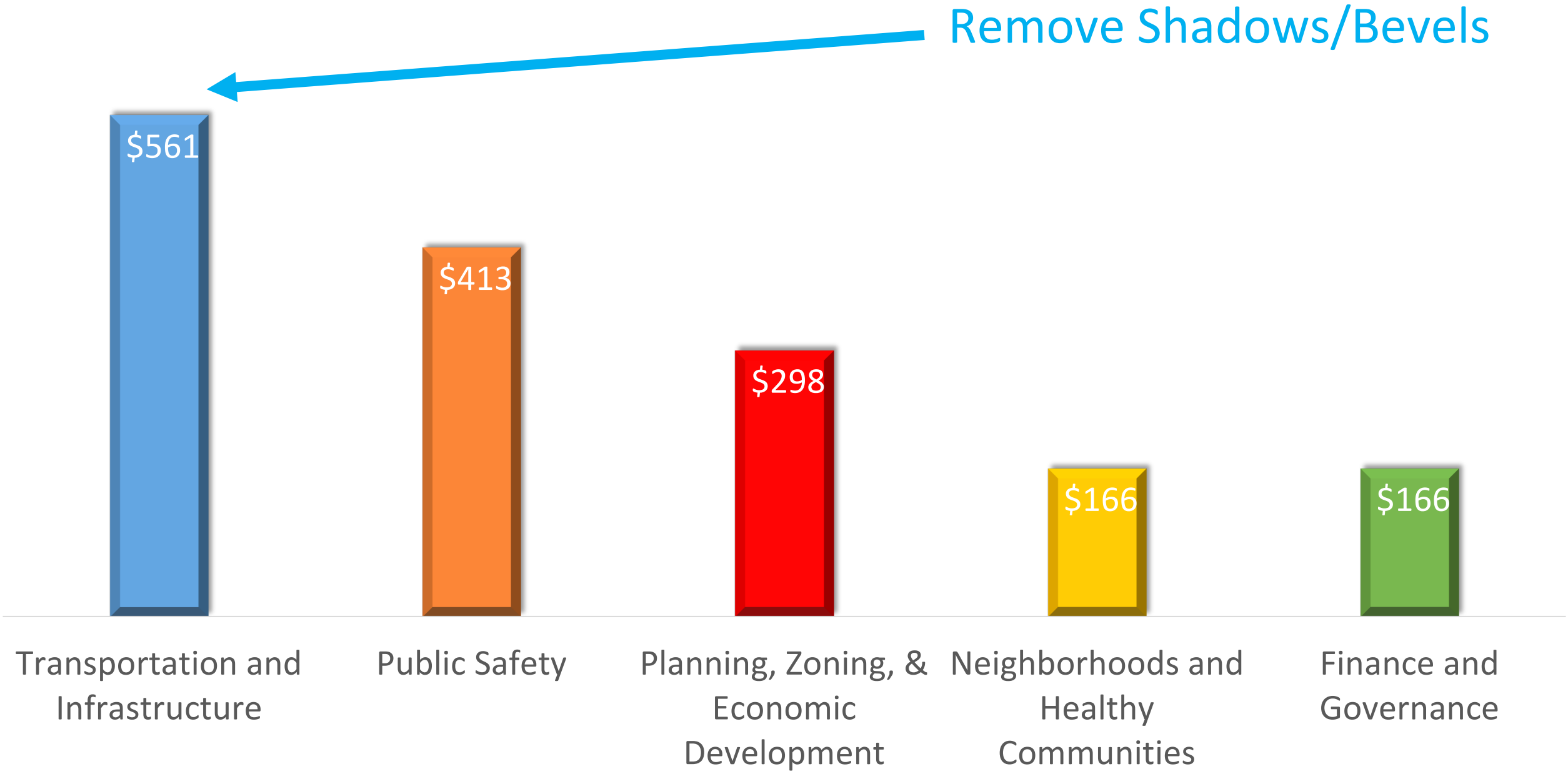
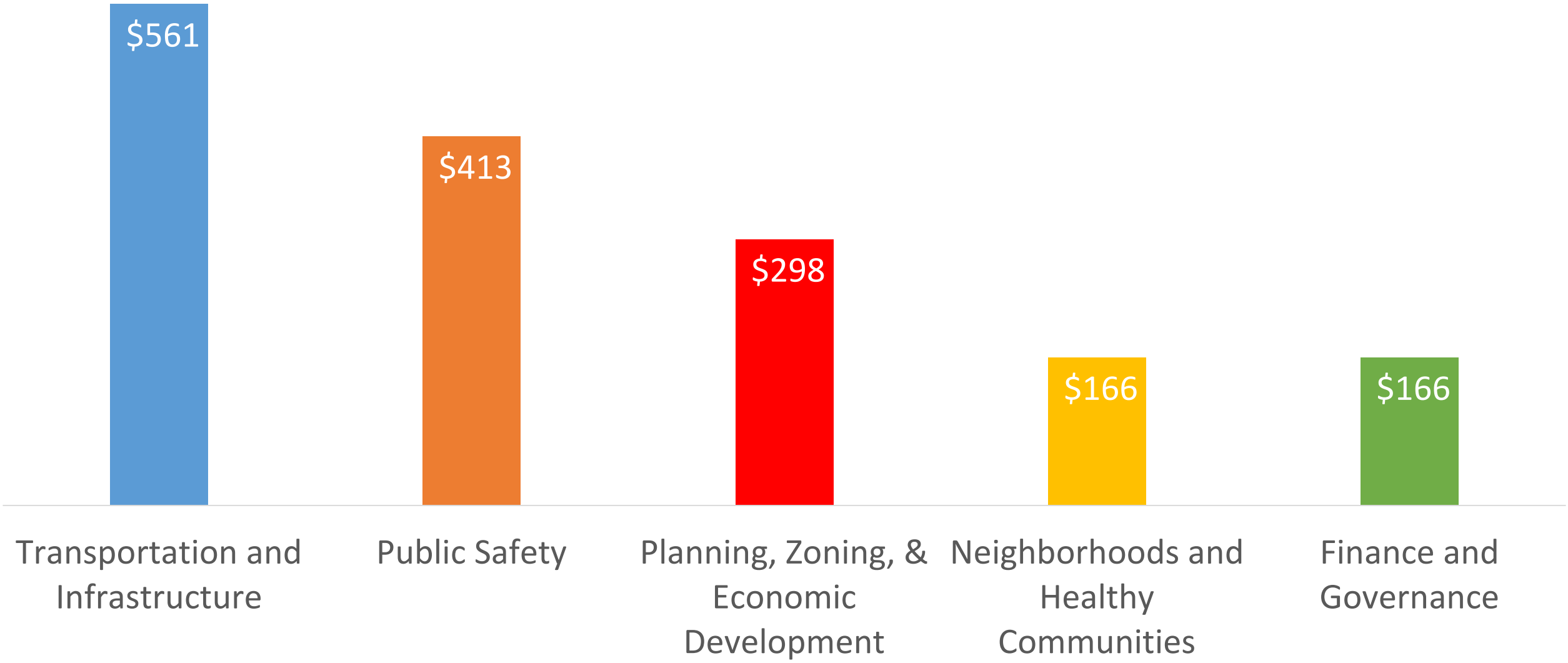


2016 Budget by Council Goal Area

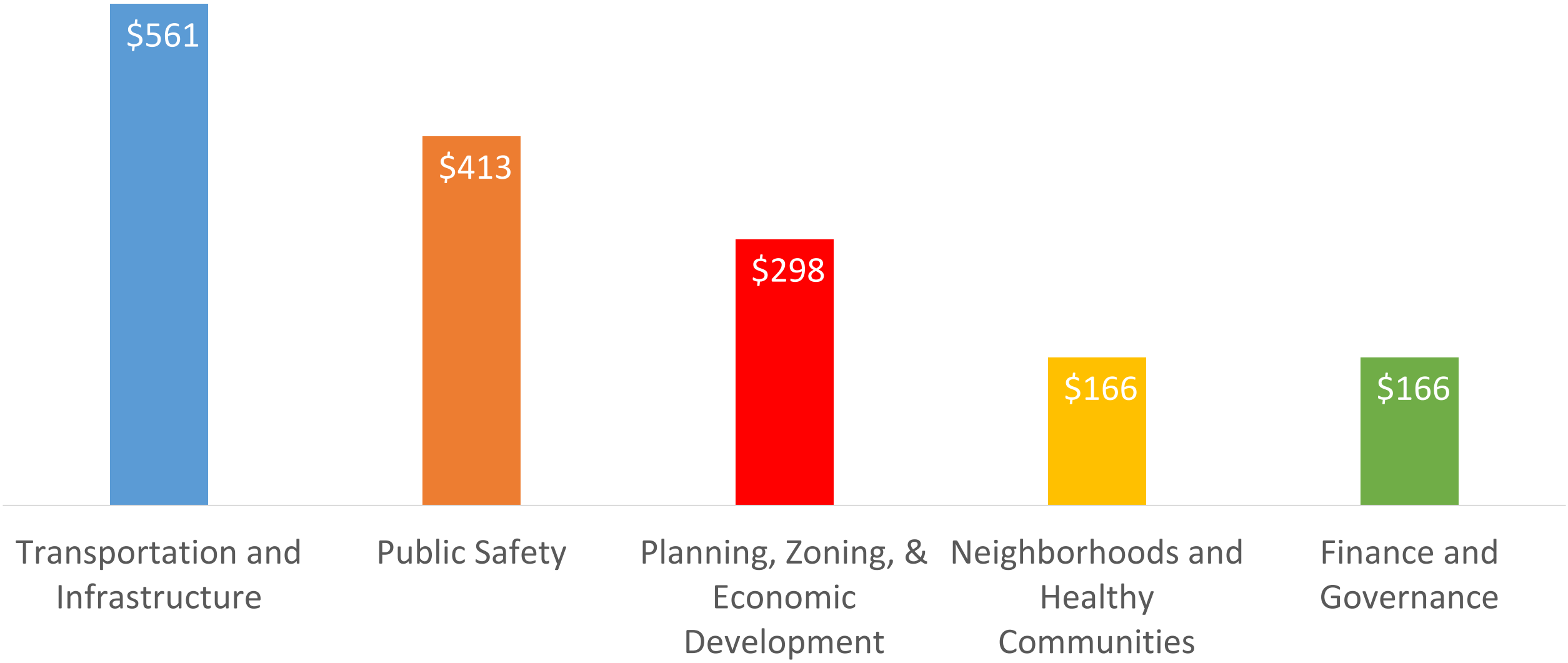


2016 Budget by Council Goal Area



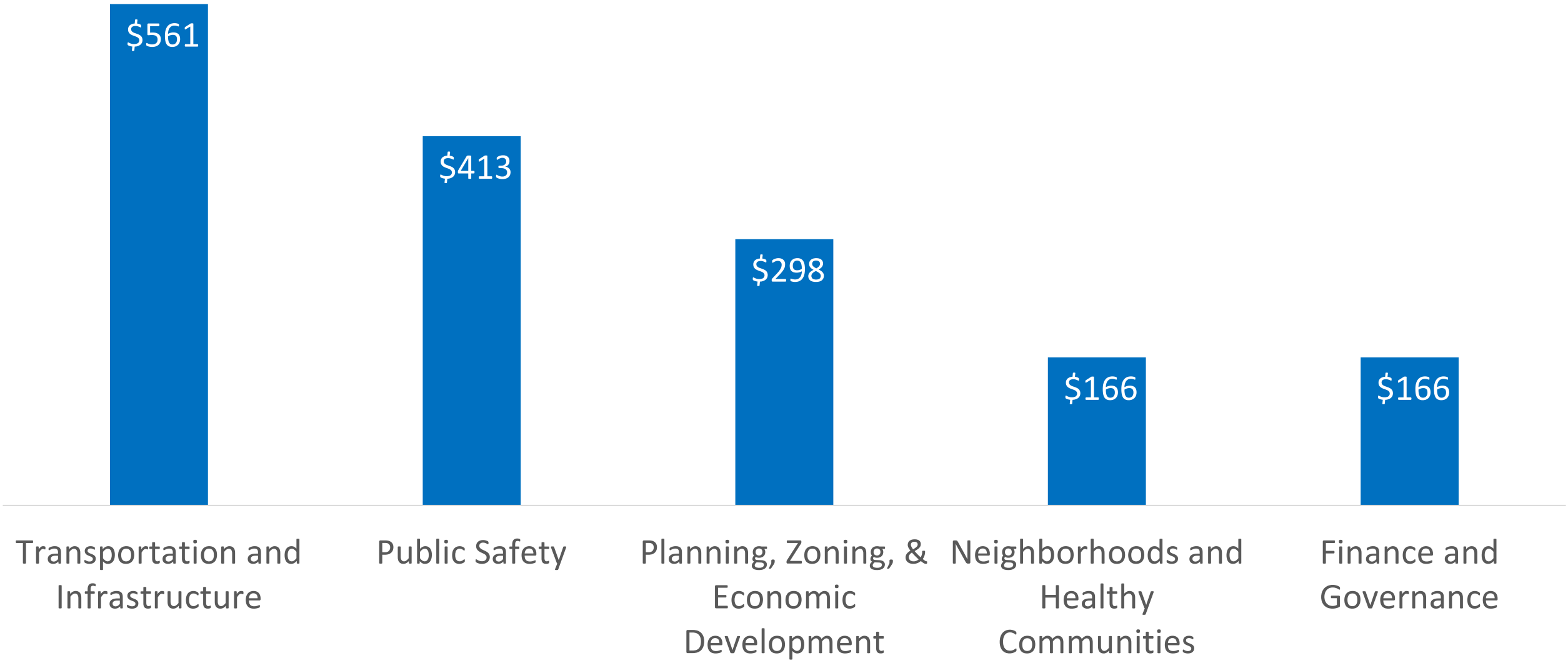
2016 Budget by Council Goal Area

Reduce colors



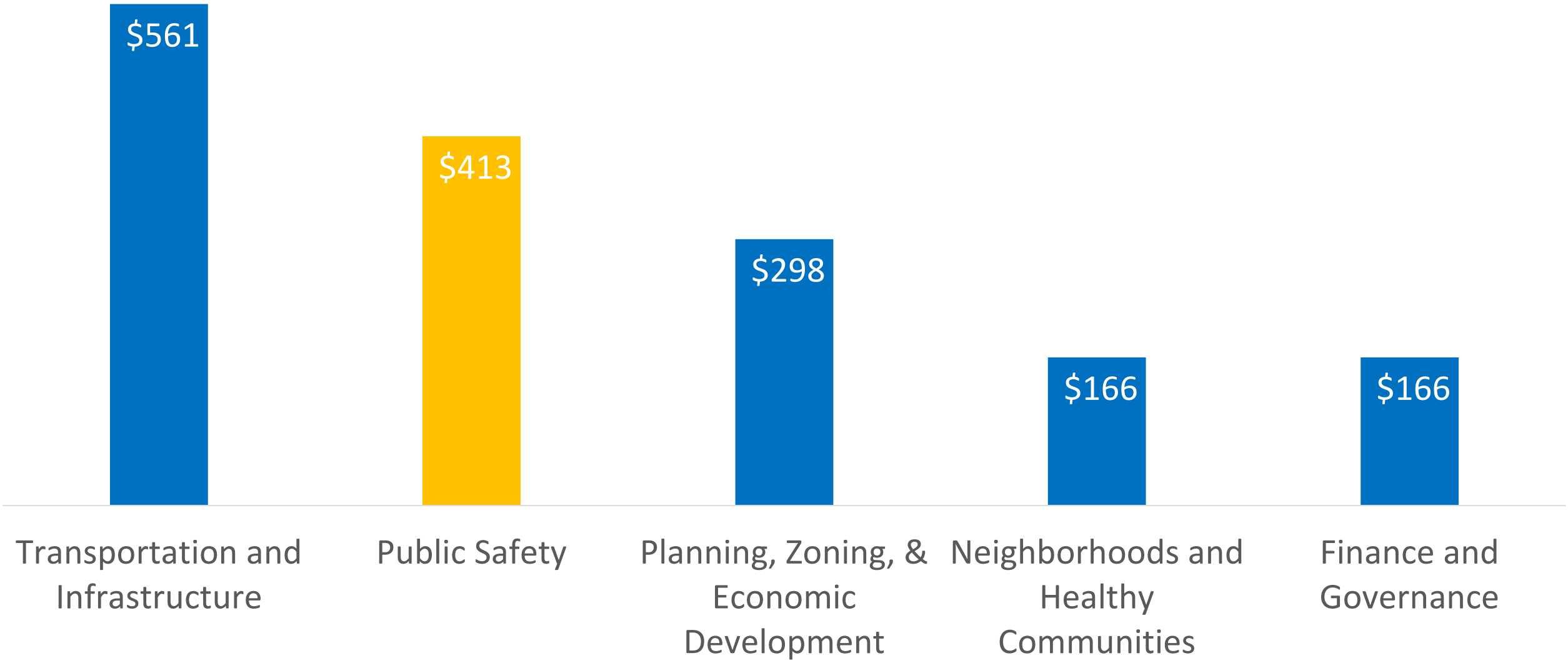
2016 Budget by Council Goal Area

Reduce colors

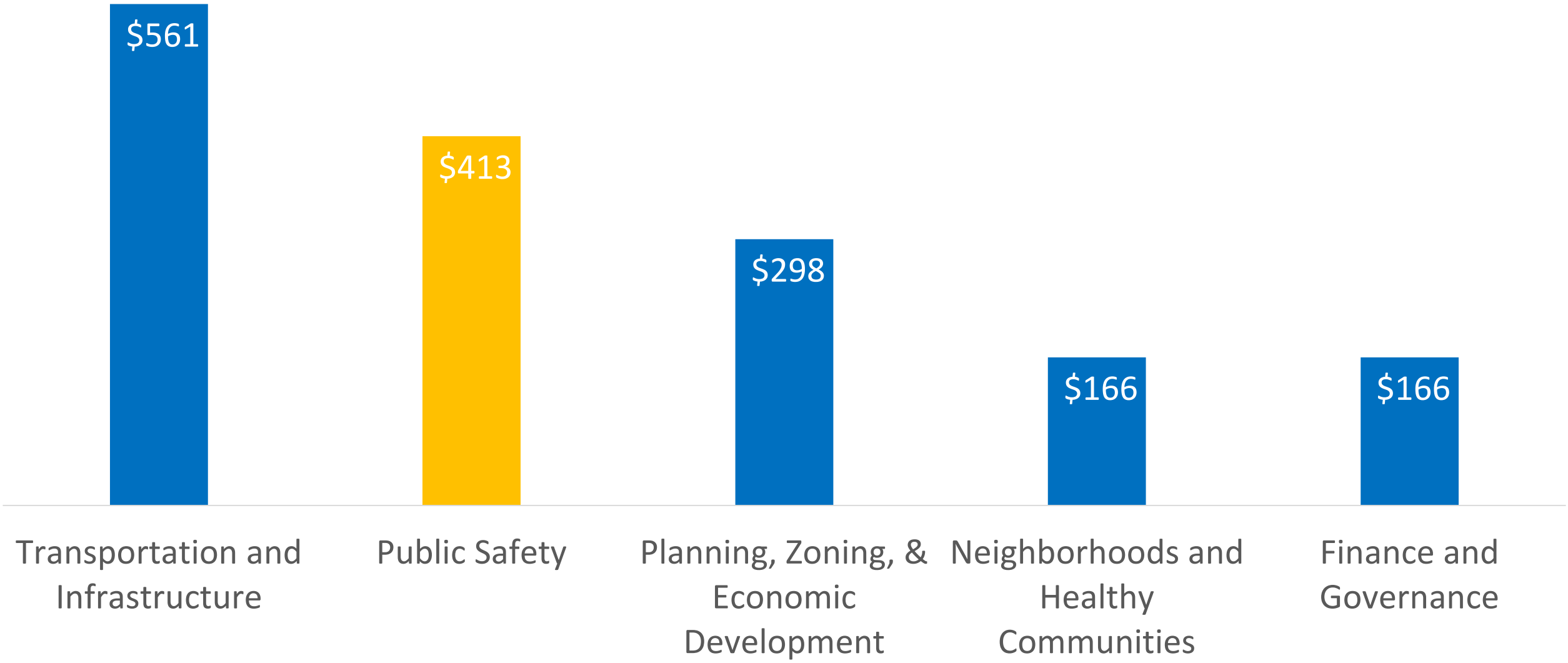


2016 Budget by Council Goal Area

Add back color emphasis

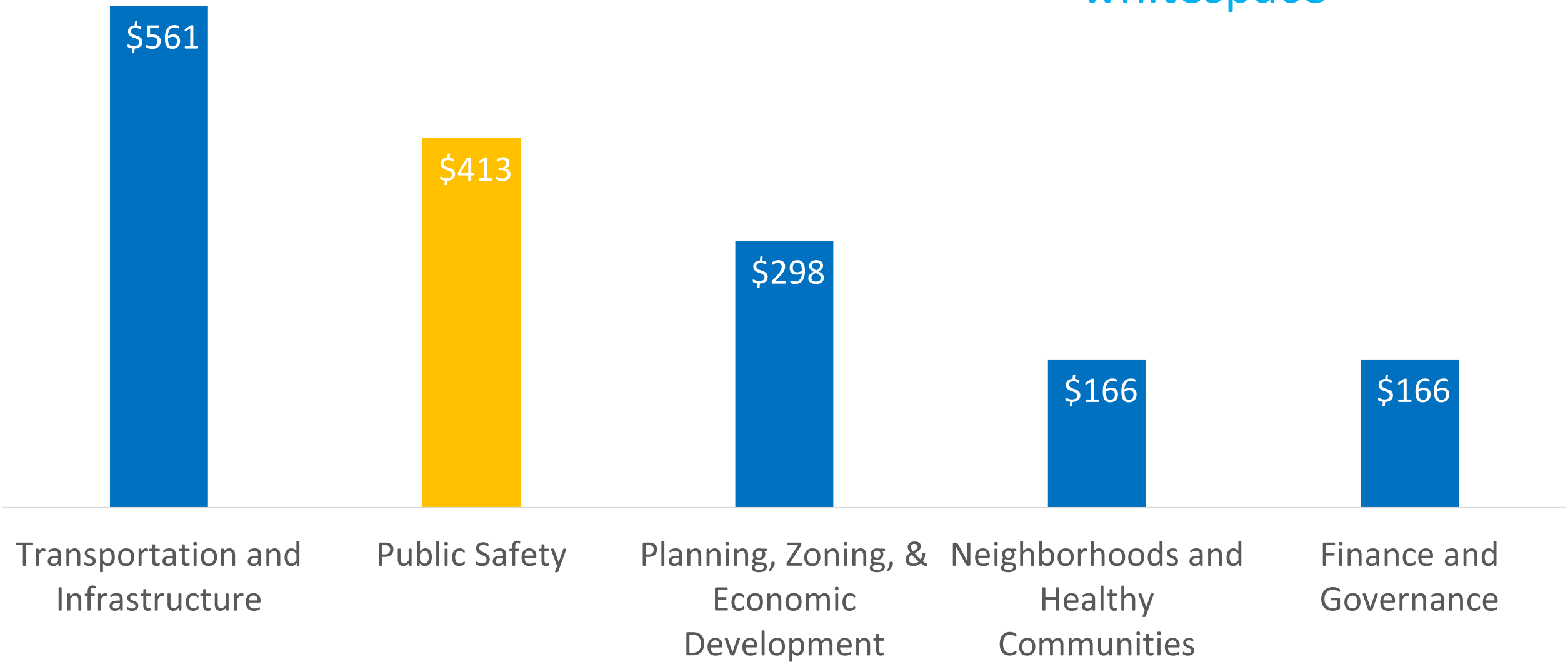


2016 Budget by Council Goal Area

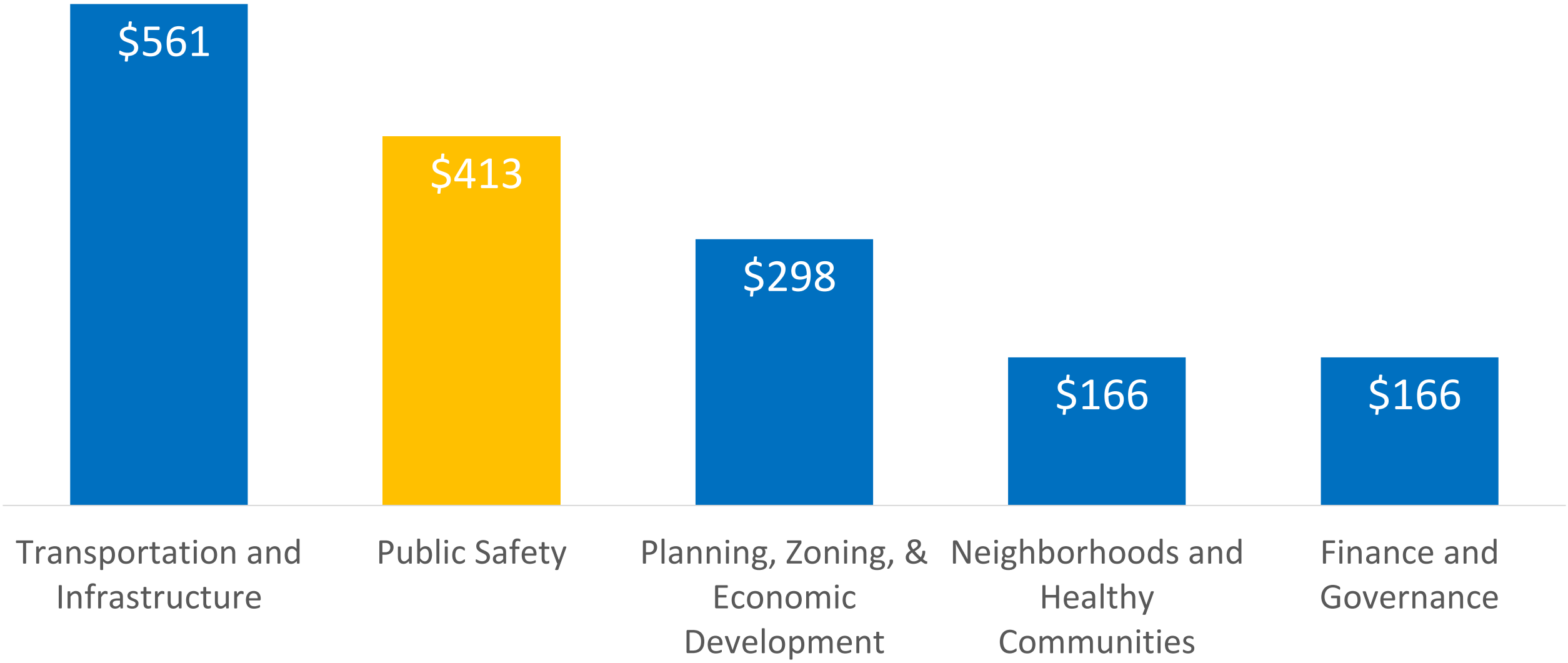


2016 Budget by Council Goal Area

Tweak bar width to balance whitespace

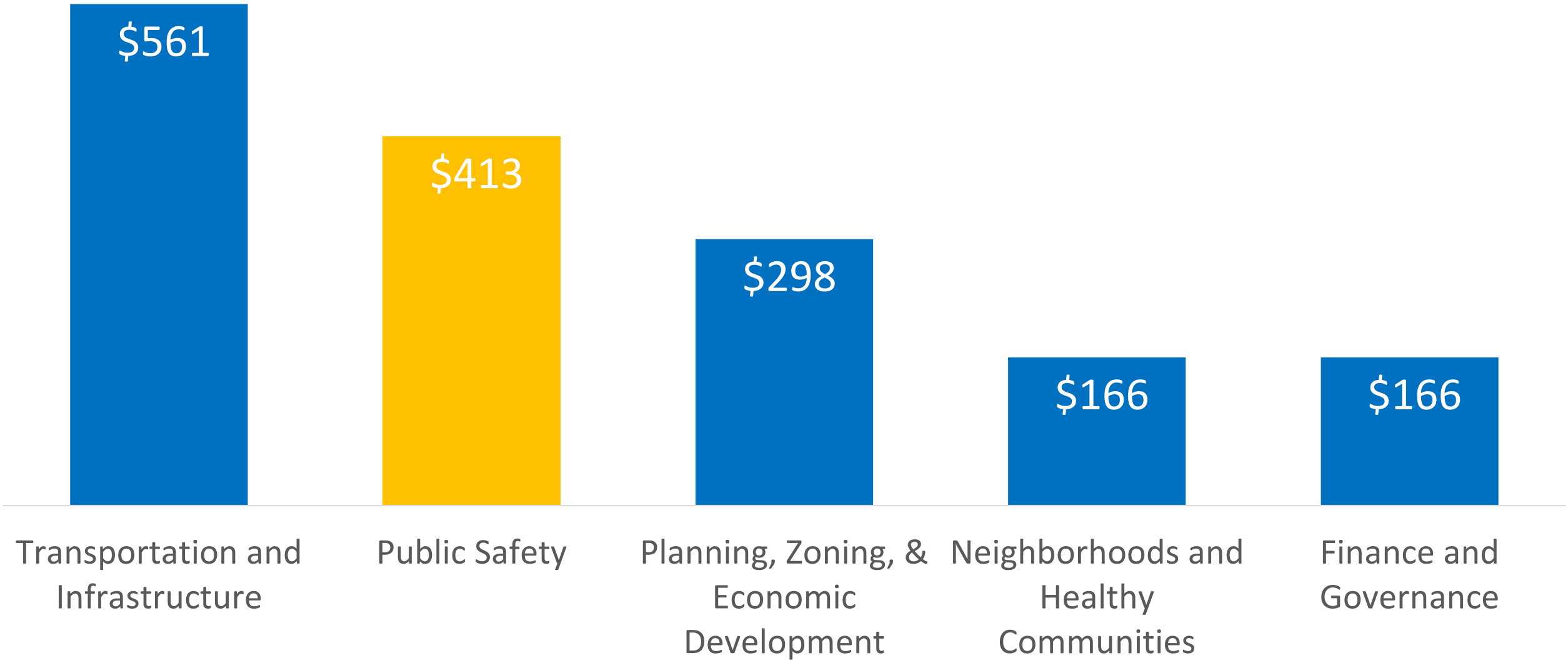


2016 Budget by Council Goal Area

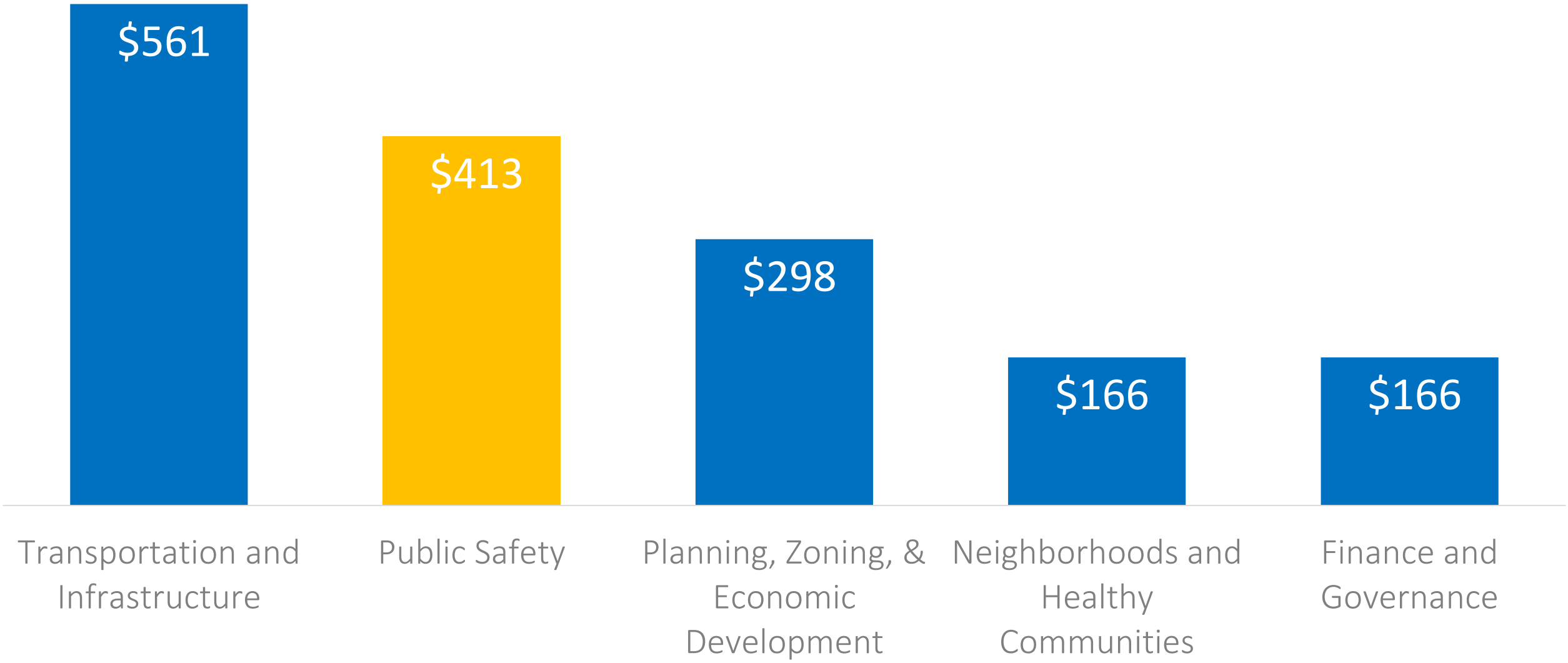


2016 Budget by Council Goal Area

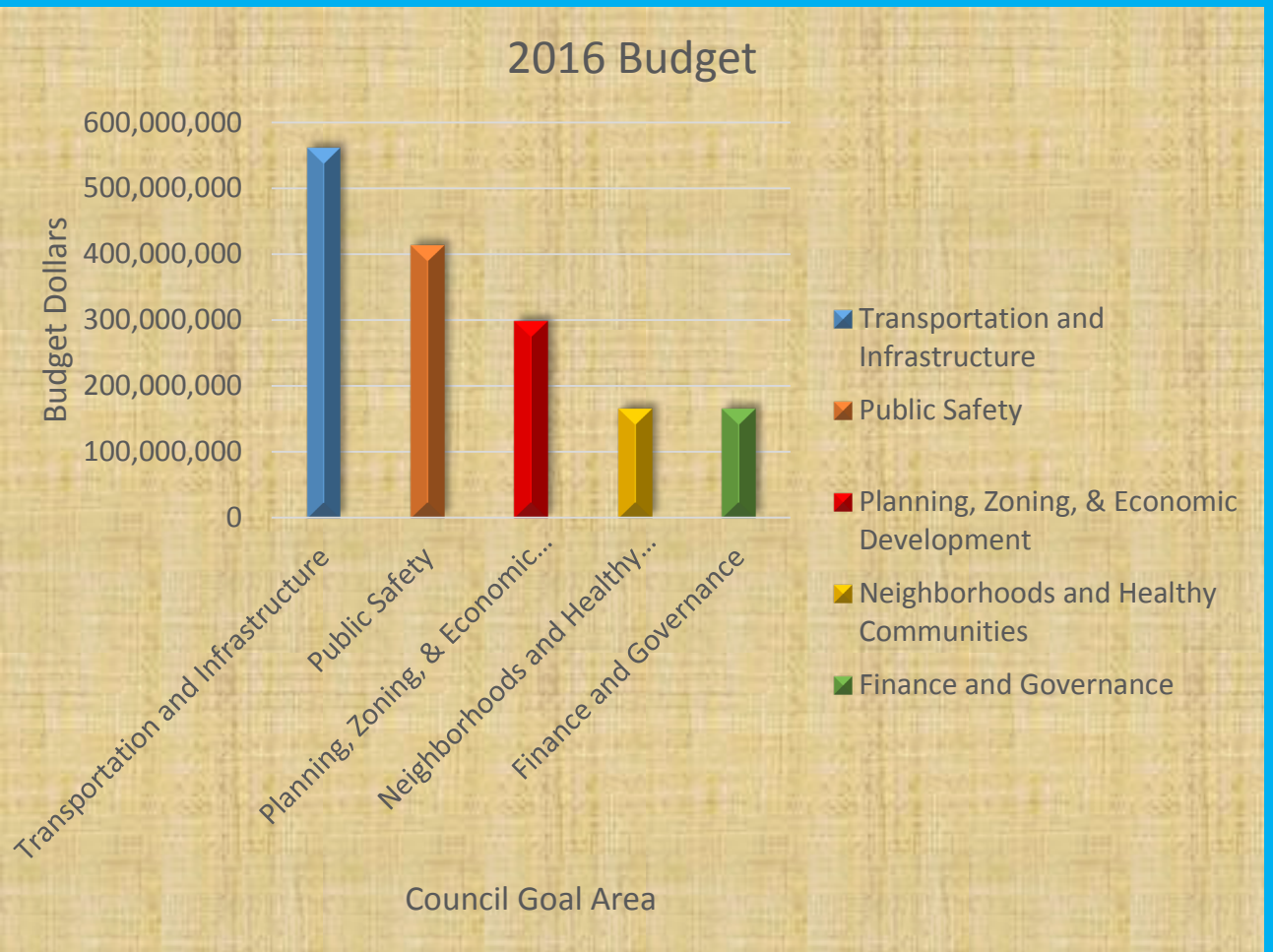
Change text colors and font



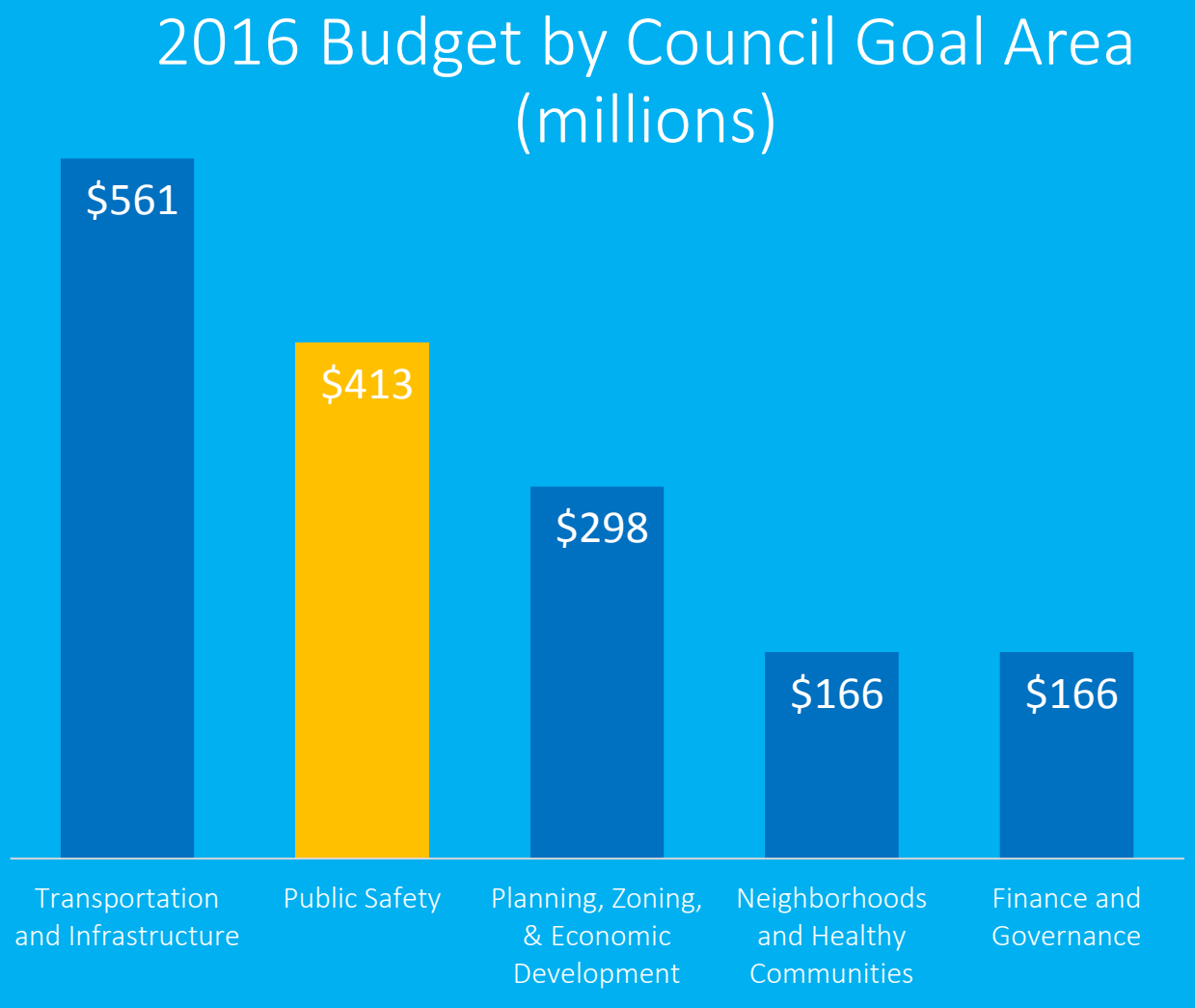
2016 Budget by Council Goal Area (in millions)



Before



After



Tips On Choosing Color

Be aware of color blindness

- **Avoid** red and green charts
- Orange and blue are great!

Find a default color scheme and use color to highlight

Explore the **Kuler Wheel** to find great color pallets! → https://color.adobe.com

Adobe Color CC Create Explore My Themes SIGN IN Adobe

Most Popular

sandy stone beach ocean... 9K+ 9K+ 363

Firenze 9K+ 9K+ 191

Neutral Blue 9K+ 9K+ 54

Phaedra 9K+ 9K+ 26

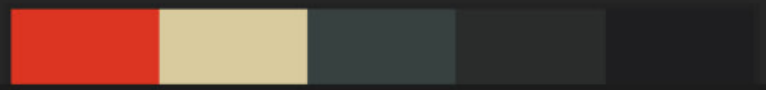
Honey Pot 9K+ 7K+ 50

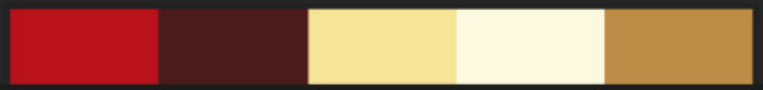
Aspirin C 9K+ 7K+ 32

Flat UI 9K+ 7K+ 26

Vitamin C 9K+ 6K+ 41

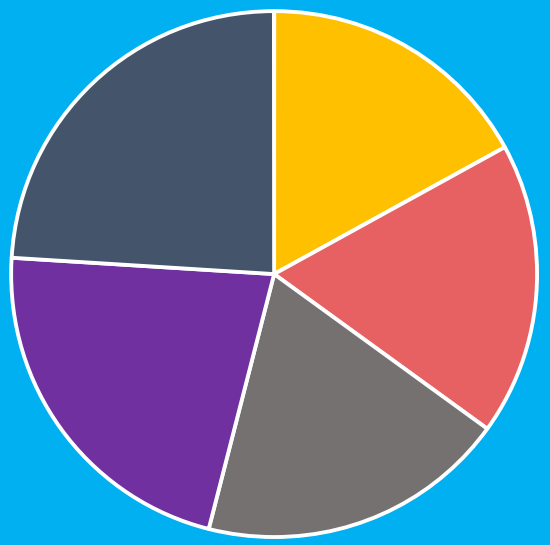
1944mustang 9K+ 6K+ 51

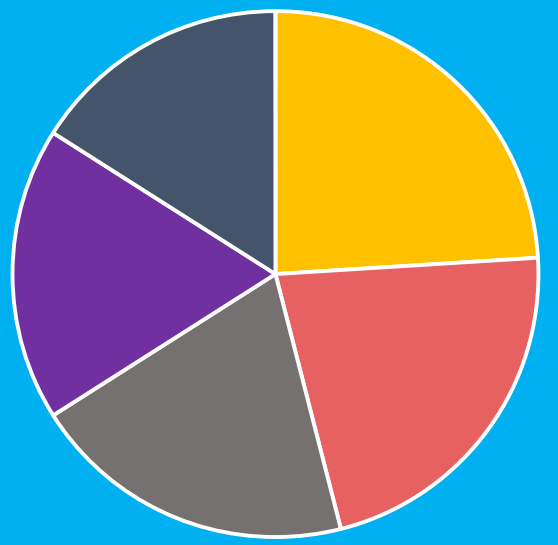


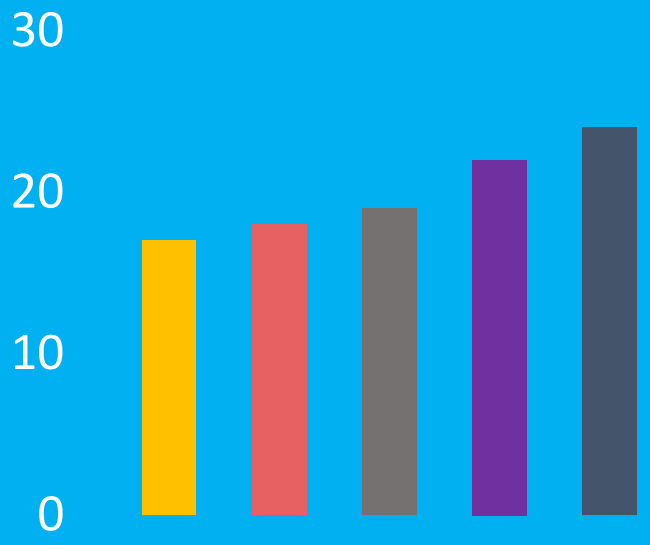


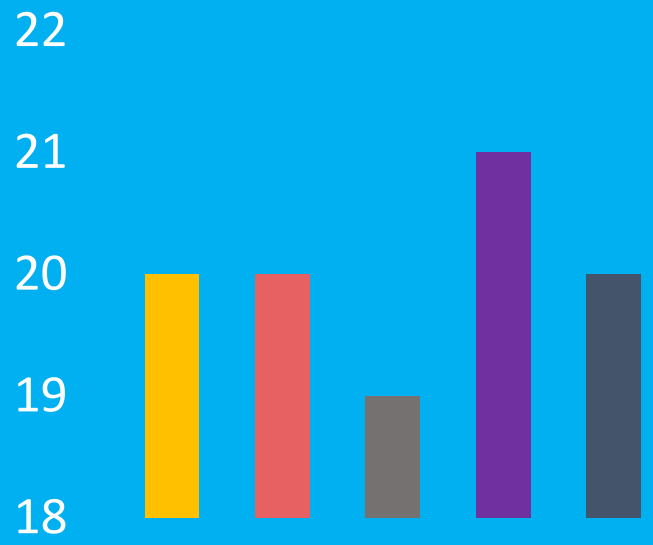
A Creative Cloud Service Language: English More Terms of Use & Privacy Policy

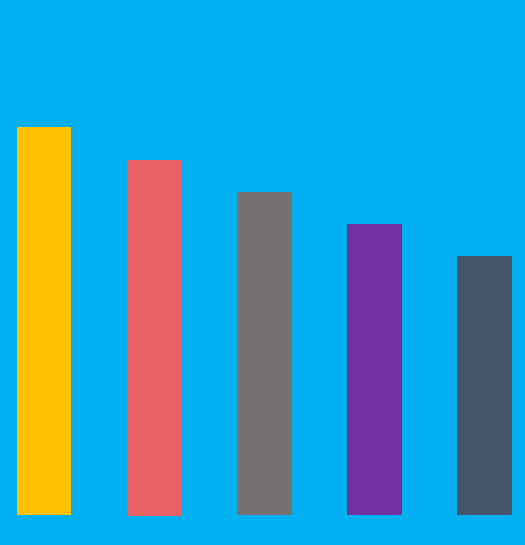
Which color is bigger?











Should I Use A Pie Chart?

Q: Are you comparing two quantities?

YES

NO!

Thank You!

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