

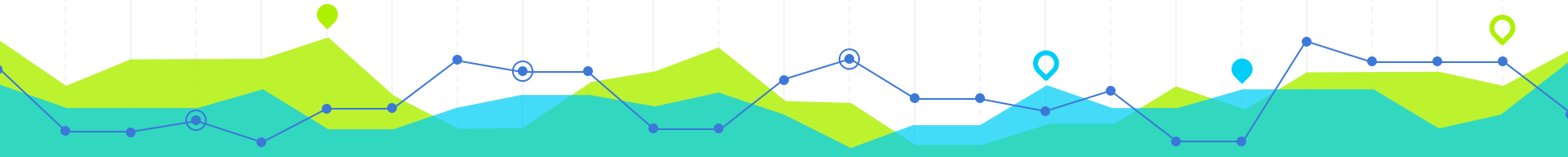
# Data101 with Community Facts

# Welcome!

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# Agenda

## Introduction

## Data 101 presentation

Data basics with Community Facts

Make a data plan

## Break

**Group Activity - Make a data plan to solve your work-related problem**

## Reflection



# Goal

Dive into it!



Get to know the power of  
Data Visualization

Get a list of Open Data Sources  
& Tools

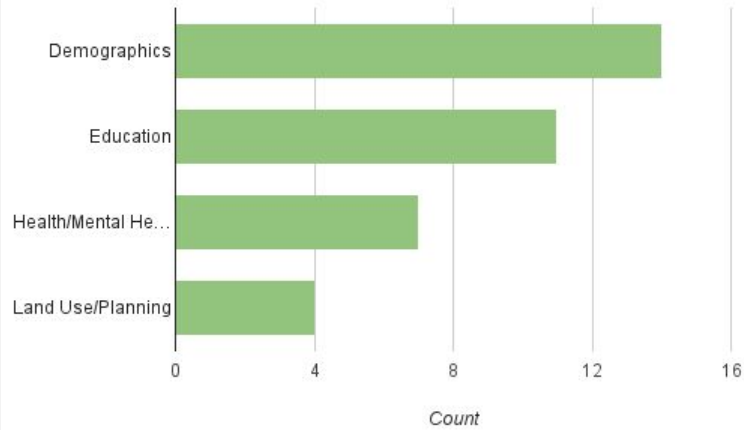


Digest with practice

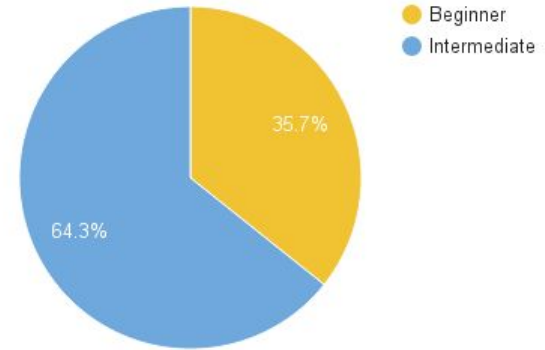


# Introduction

Topic of Interest



Data skill level



How do you use/plan to use data in your work?





# Data basics with Community Facts

Let's get started

1

# Welcome to the data world - Community Facts

[www.denvermetrodata.org](http://www.denvermetrodata.org)



# What is Data?

**Data** is a collection of different pieces of information or facts obtained from counts, measurements or experiments

to draw conclusions,

to answer a research question,

or just have an idea of what is going on regarding a particular issue

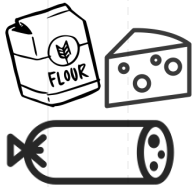




# Data $\neq$ Information



SOLVE



Location



### Five Points

#### Total Population:

14,321 (±1,105.01)

#### Population Age:

Population under 5: 5.43% (±1.72%)

% Under 18: 11.87% (±3.76%)

Population over 65: 5.30% (±1.25%)

#### Households:

Average Household Income: \$73,880.08 (±\$7,877.43)

Families in Poverty: 25.69% (±9.14%)

Housing Units: 7,620 (±170.65)



Number

Text



Five Points was one of the earliest neighborhoods developed outside the original boundaries of the congressional land grant awarded to Denver in 1864. In the late 1860s, several additions to the town were created in anticipation of growth resulting from the completion of railroad systems linking Denver with the East. The first addition within the Five Points Neighborhood - the Case and Ebert Addition - occupied an immense area south of the South Platte River and north of the commercial heart of the settlement at Fifteenth and Larimer Streets. To make the subdivision more attractive to potential homeowners, developers Case and Ebert created a 2.44 acre park on a block of land near the center of the addition. Case and Ebert donated the park to the city when the plat was filed in 1868, becoming the first public park in Denver. The park was named after early settler, Samuel Curtis. The San Rafael Read more »

- Number
- Text
- Location
- ...

### General

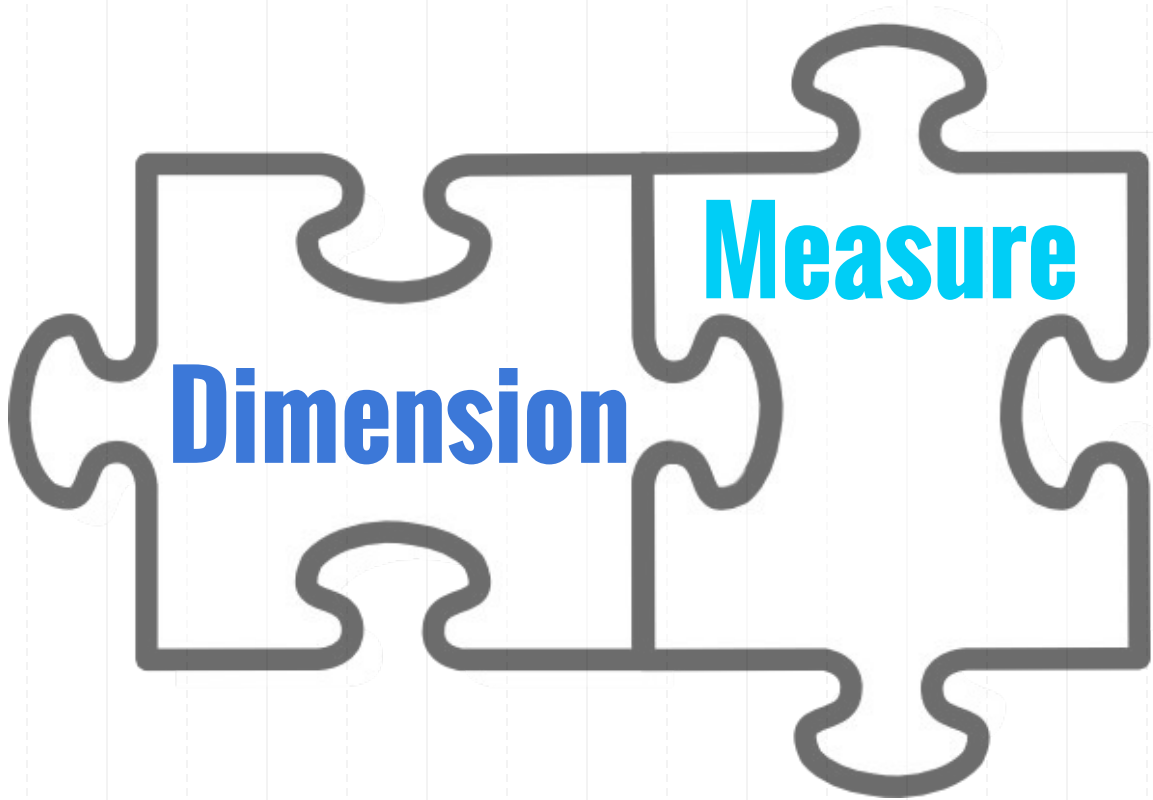
Comparison

Denver County

DOWNLOAD CSV

INDICATOR	FIVE POINTS	DENVER COUNTY	YEAR
Total Population	14,321 (±1,105.01)	633,777 (±0)	2014
Households	6,877 (±315.78)	271,054 (±1,382)	2014
Families	2,005 (±278.26)	130,387 (±1,910)	2014
Total Births	155	9,330	2014

<http://denvermetrodata.org/neighborhood/five-points?comparison=08031>



Context

- Time
- Indicator
- Category
- ...

Number

- Count
- Mean
- Percentage
- Standard Deviation
- ...



Measure

**271,054 Households**

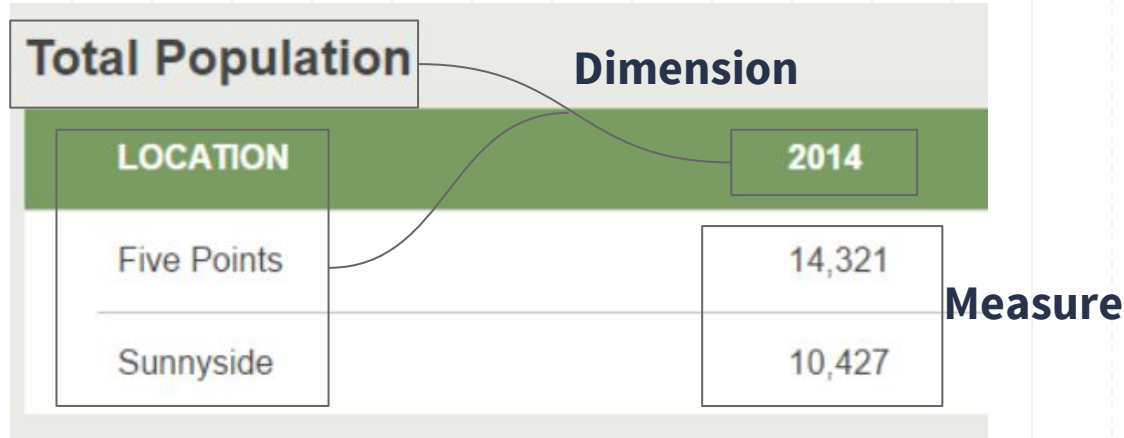
In Denver County

Dimension

**Data** → **Measure + Dimension**



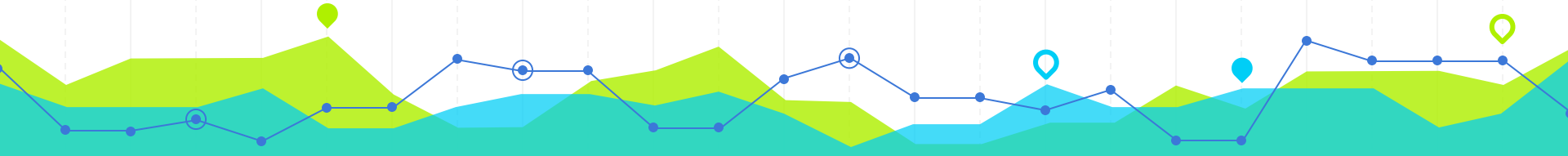
## Data have two different components



<http://denvermetrodata.org/advanced-search/false/neighborhood/14,128,153/52/26,62/false/false/10/all>

## Data from workshop registration survey sample result

Attendee	Data Skill	Used CF	First week
A1	Beginner	Yes	Yes
A2	Beginner	No	No
A3	Beginner	Yes	Yes
A4	Intermediate	Yes	No



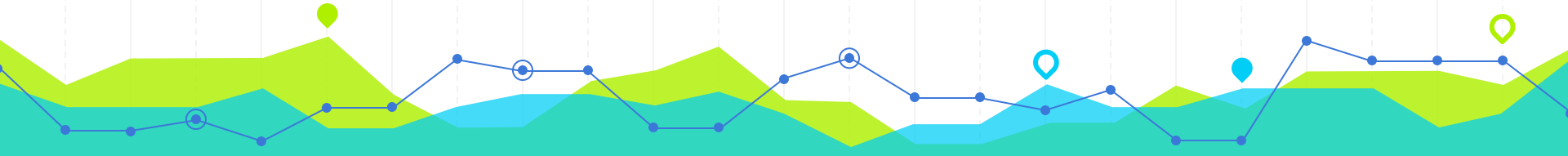


*If you can measure it,  
you can manage it*



## Data from workshop registration survey sample result

Attendee	Data Skill	Used CF	First week
A1	Beginner	Yes	Yes
A2	Beginner	No	No
A3	Beginner	Yes	Yes
A4	Intermediate	Yes	No

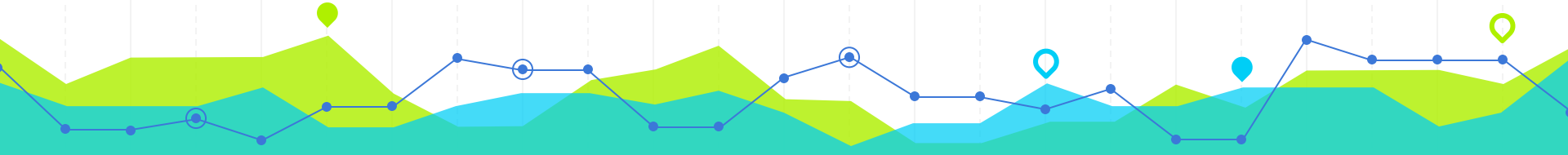




## Data from workshop registration survey

Dimensions	Count
Intermediate(Data Skill)	1(25%)
Beginner(Data Skill)	3(75%)
Existing CF user	3(75%)
Registered in the first week	2(50%)

Count vs Percentage



## Count vs Percentage

### Persons in Poverty

LOCATION	2014
Sunnyside	25% 2,578
Cole	28.64% 1,391

<http://denvermetrodata.org/advanced-search/false/neighborhood/226/52/62,18/false/false/9/all>

**2,578(25%) + Sunnyside & 2014 & Persons in Poverty**  
**1,391(28.64%) + Cole & 2014 & Persons in Poverty**

**LET'S REVIEW**

Persons in Poverty	
LOCATION	2014
Sunnyside	25% 2,578
Cole	28.64% 1,391

**Data → Measure + Dimension**

<http://denvermetrodata.org/advanced-search/false/neighborhood/226/52/62.18/false/false/9/all>

# To explore your data...

## Search Results

PRINT

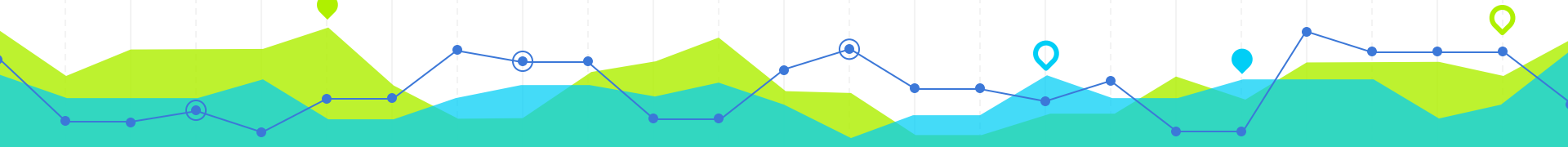
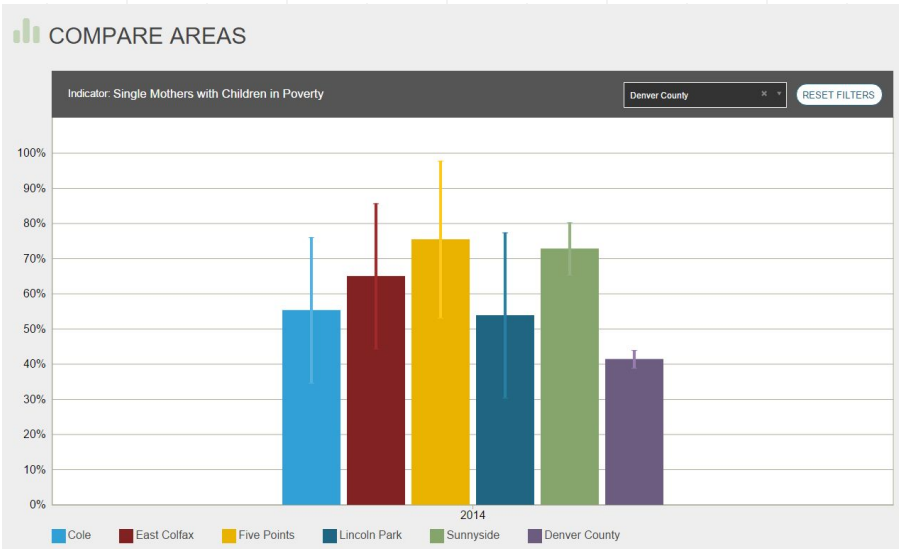
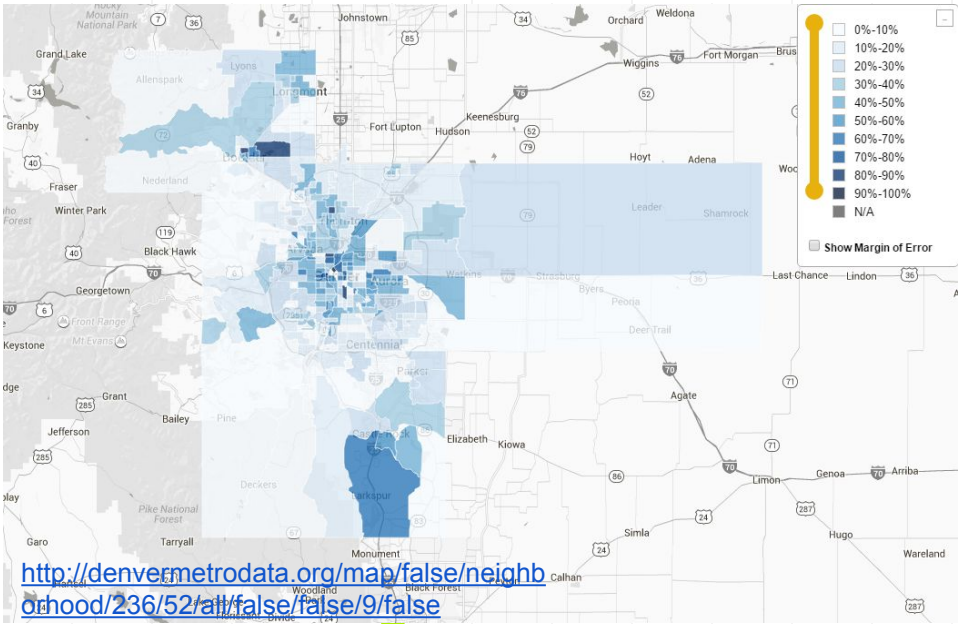
DOWNLOAD ALL DATA

### Single Mothers with Children in Poverty

LOCATION	2014	MARGIN OF ERROR
Five Points	75.53% 287	±22.31% ±163.24
Lincoln Park	53.94% 171	±23.51% ±96.02
Sunnyside	72.89% 336	±7.43% ±87.61
Cole	55.39% 113	±20.73% ±63
East Colfax	65.07% 272	±20.67% ±134.74

<http://denvermetrodata.org/advanced-search/false/neighborhood/236/52/26.41,9.62,18/false/false/9/all>

# To explore your data...



To explore your data...

The Power of Data Visualization:

Communication Effort Survey Evaluation

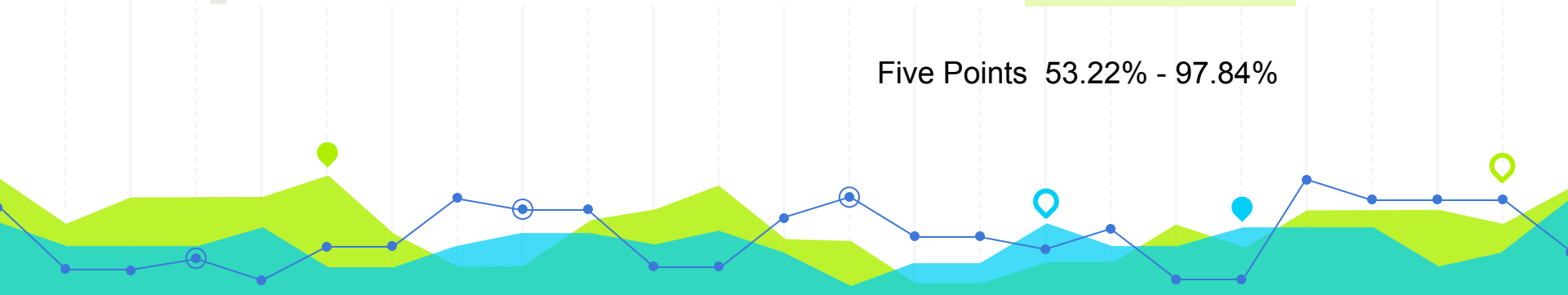


## Data is not perfect...

### Single Mothers with Children in Poverty

LOCATION	2014	MARGIN OF ERROR
Five Points	75.53% 287	±22.31% ±163.24
Lincoln Park	53.94% 171	±23.51% ±96.02

Five Points 53.22% - 97.84%



## Hilltop Today

According to [DenverMetroData](#), the average household income in Hilltop is about \$197,000 (compared to Denver's median household income of \$62,530).

Income  
2,3,5,12,58K

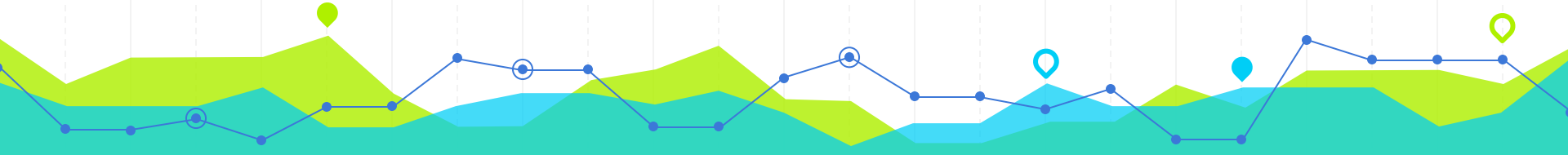
Average

vs

Median

16K

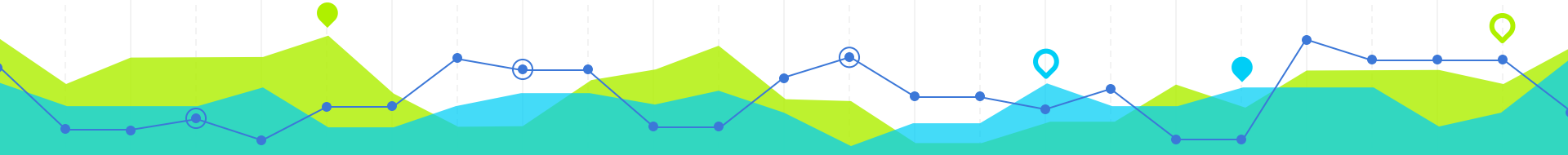
5k





## LET'S REVIEW

- Data Visualization helps us understand our data efficiently
  - Chart
  - Map
- Different types of measure may represent different information
- Do not compare different types of measure



# Know your data source

The image features a decorative background with a blue line graph that fluctuates across the bottom. Below the line are two overlapping areas: a light green one on top and a teal one on the bottom. Vertical dashed lines are spaced evenly across the background. Several data points on the blue line are highlighted with circular markers in light blue, light green, and teal.

Indicator  Category

<http://denvermetrodata.org/indicators>

Indicator	Description	Data Definition	Category
% Residential Units within Half Mile of a Park	Residential units within 1/2 mile of a park as a percentage of total housing units. Source: County Assessor/Greenprint Data (Denver Metro Green Space Study 2011)	Source: County Assessor/Greenprint Data (Denver Metro Green Space Study 2011)	Land Use/Built Environment
1-Person Households	Single-person households as a percentage of the total number of households Source: U.S. Census Bureau 2000/2010:Census SF1 2014:ACS 2010-2014 5-Year Estimates	Source:U.S. Census Bureau(2000:Census 2000 SF1 Table P18. 1-person household / Total household; 2010:Census 2010 SF1 Table P19. 1-person household / Total household; 2014:ACS 2010-2014 5-Year Estimates Table B11016 1-person household / Total household)	Families and Households
Adults Non-English Speaking	Percent of population >18 reporting that they speak a language other than English, and do not speak English well or at all Source: U.S. Census Bureau 2000:Census SF3 2010:ACS 2006-2010 5-Year Estimates 2014:ACS 2010-2014 5-Year Estimates	Source:U.S. Census Bureau(2000:Census 2000 SF3 Table P19. Population 18+ speak a language other than English and speak English "not well" or "not at all"; 2010:ACS 2006-2010 5-Year Estimates Table B16004. Population 18+ speak a language other than English and speak English "not well" or "not at all"; 2014:ACS 2010-2014 5-Year Estimates Table B16004. Population 18+ speak a language other than English and speak English "not well" or "not at all")	

Neighborhood Summary

Report Builder

► Data Definitions

<https://www.socialexplorer.com/data/ACS2010/metadata/?ds=ACS10&table=B25014>

# LET'S LIST SOME OPEN DATA SOURCE



## General

1. State agencies
2. Federal agencies
3. Census
4. [ESRI](#)
5. [Regional councils\(DRCOG\)](#)
6. [OpenColorado](#)
7. [Colorado Information Marketplace](#)
8. [The Piton Foundation](#)
  - a. [Data Engine](#)



## Demographic

1. [Census](#)
2. [U.S. Bureau of Labor Statistics](#)
3. [LEHD](#)



## Health/Mental Health

1. [CDPHE](#)
2. [Tri-County](#)



## Education

1. [Colorado Department of Education](#)
2. School District(DPS, APS)



## Built Environment

1. County Assessor
2. Jurisdiction website
3. [CHAFA](#)

## The List



# LET'S LIST SOME FREE TOOLS without coding



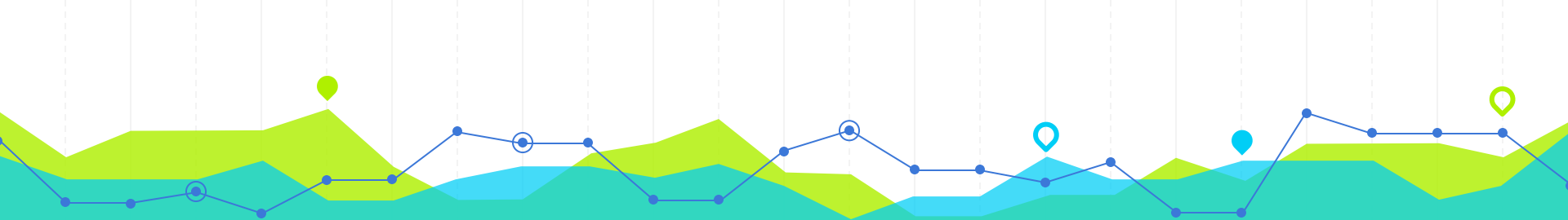
## Map

1. [ArcGIS online](#)  
- [Piton's page](#)
2. [Google Fusion table + Google Maps](#)
3. [CartoDB](#)
4. [Mapbox](#)
5. [QGIS](#)
6. ...



## Chart

1. [Google Sheet](#)
2. [Tableau public](#)
3. [Piktochart](#)
4. [Infogr.am](#)
5. [Chartblocks](#)
6. [Plotly](#)
7. [LibreOffice](#)
8. ...

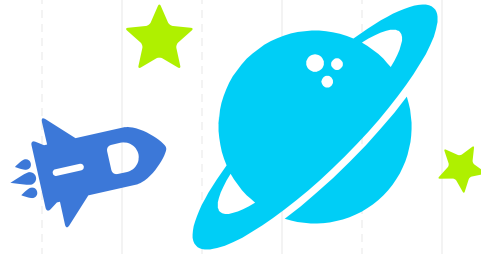


# Q & A

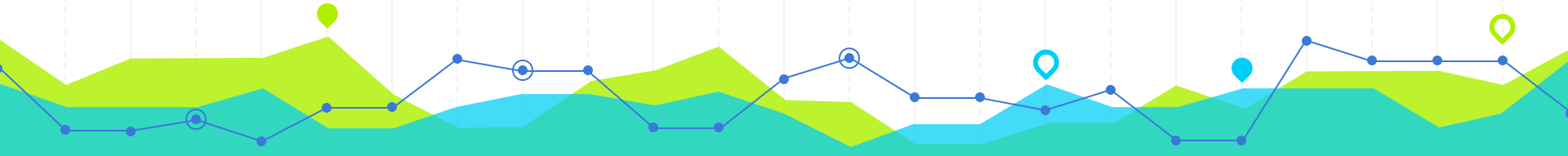
## Review - Community Facts examples

- [Neighborhood Summary](#)
- [Search information and view in table](#)
- [Create Chart](#)
- [Create Map](#)
- [Find data source](#)





# Quiz!







# How to transfer your idea to actionable plan

Ask the right question(s) before you touch data

# 2

# Be S.M.A.R.T

**S**pecific

**M**easurable

**A**ttainable

**R**elevant

**T**ime-bound

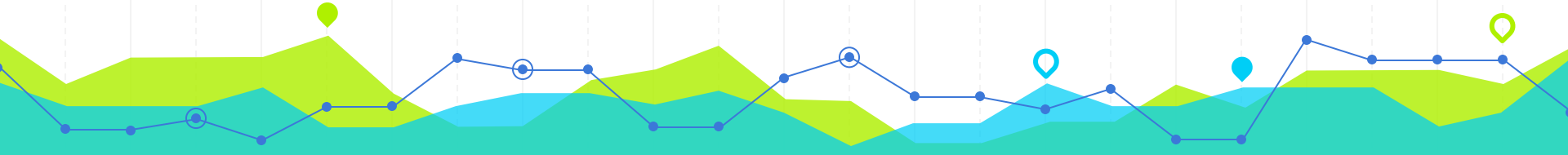
Improve the household income in targeted neighborhoods

Targeted neighborhood's median income increase by 15% in 5 years

ACS(median income, census tract)

Demographic

One year

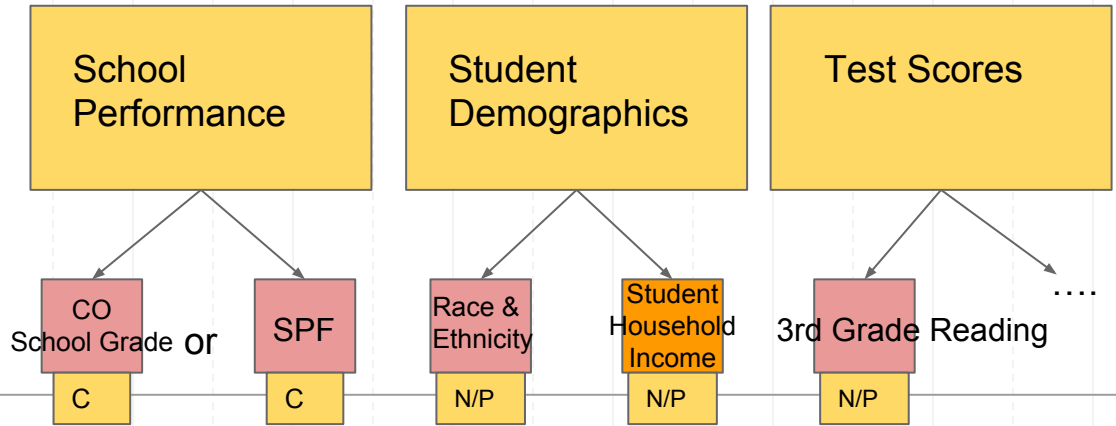


What's your problem?  
What do you want to get from data?

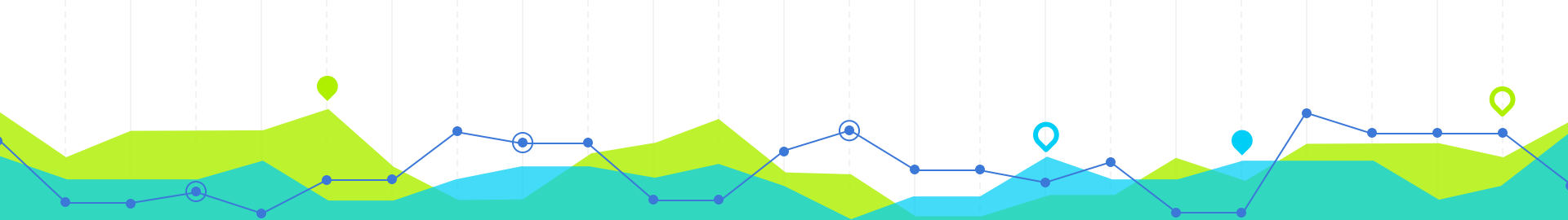
Improve schools' performance  
--Get the current status  
--Which group of students needs help

Dimension

Education  
Extend: Denver Public School District  
Year: 2009-2014  
Unit: School



Measure



# Break

Whoa! You made it, aren't you proud?

## Group Activity - Make a plan to solve the problem

Explore the data source

Propose your data problem

Vote for the problem you want  
to solve

Top 2

Join one group



# ACTIVITY

5-10 minutes Refine the  
problem statement

Develop the rest of the plan

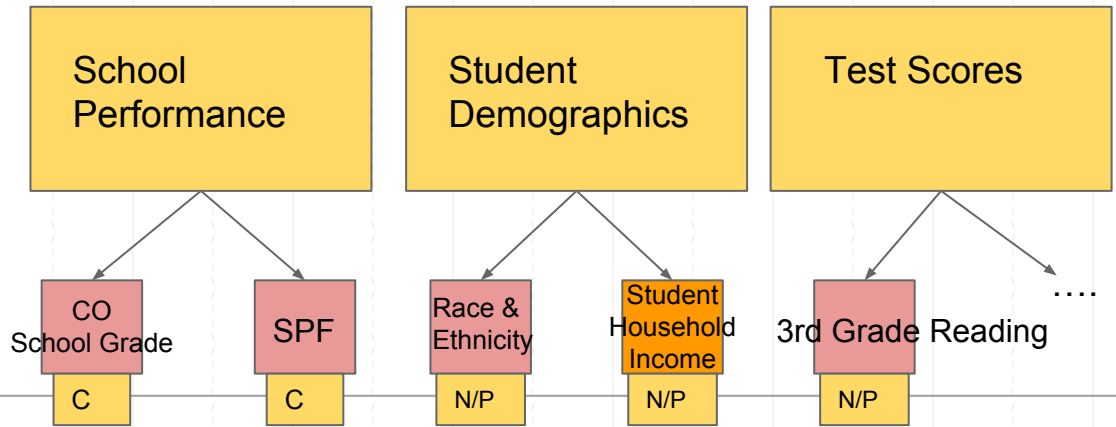
2 minutes each group present  
the plan

What's your problem?  
What do you want to get from data?

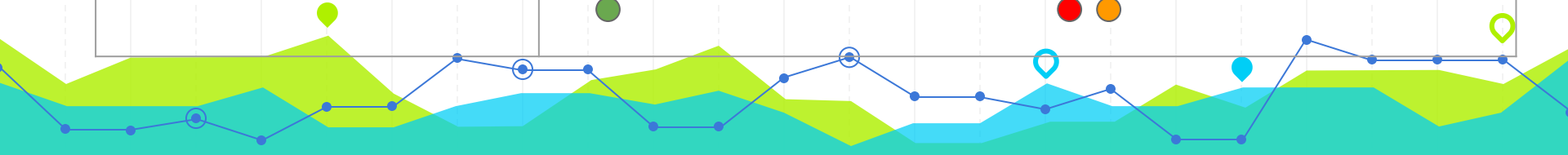
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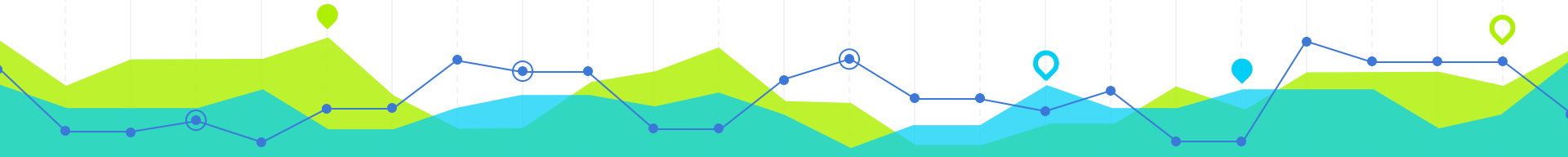
Measure



# THANKS!

**Any questions?**

[mzhang@garycommunity.org](mailto:mzhang@garycommunity.org)



## CREDITS

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by [SlidesCarnival](#)
- Photographs by [Unsplash](#)