Visual Analytics Final Project

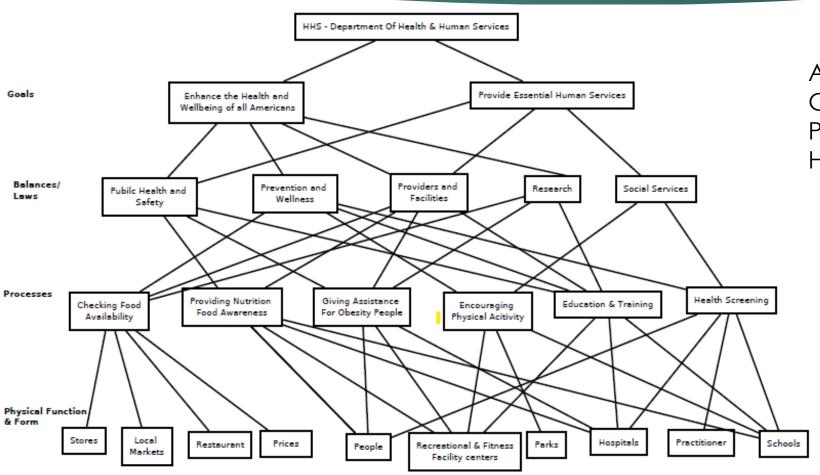
Swathi Dadi

Project Description

- ► The objective of this project is to present how certain food environment factors are contributing to increase in obesity and diabetes in America.
- The underlying report is meant for Human and Health services
 Department to evaluate impact of food environment indicators on health condition of Americans.

Work Domain Analysis

Abstraction Hierarchy



Abstract hierarchy depicting the Goals, Laws, Processes and Physical Forms of Department of Health and Human services.

Part – Whole Decomposition

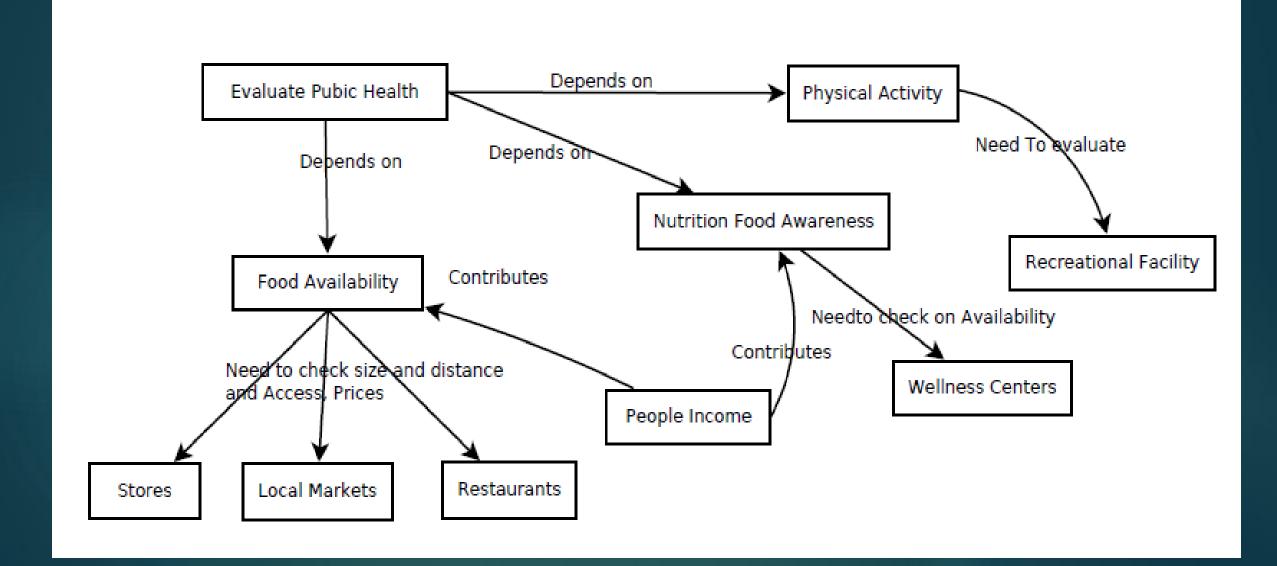
	Public Health	Disease Prevention and Wellness	Providers and Facilities	Social Services
Goals	Promoting Healthy lifestyle,	Disease Prevention	Accessibility to nutricious food	improve the well- being of individuals, families, and communities.
Balances/Laws	Health Awareness programs Vaccination, Health Checks	Providing Nutrition Food Awareness	Facilities availability for all	Assistance for people in need
Processes	Encouraging Physical Activity, Health Screening	Promoting, Educating	Availability,Pro ximity,Price	Supplemental Nutrition Assistance
Physical Function/Form	People, Hospitals	Training Centers, Schools, Hospitals,Parks,Health Screening centers	Stores, Local Markets, Restaurants, Price	food banks

1000	Exhaustove List of Variables	A STORY OF BUILDING A STORY	a second recess	and and a	Meanwhat Between Variables	Letterent man
Comme	E-CORRECT LIST OF THE SECTION S	THE REAL PROPERTY AND ADDRESS.	Continue	Communication of the Communica	THE PERSON NAMED IN COLUMN	Deliver County
	Number of Wellness Centers per					
		Number of wellness Centers				
	coming,% of People getting benfit, improvement Percentage	per community, Improvement Percentage	Universate Multivariate	Wellness Centers Available, Improvement % should >0	People Should see improvement in their health	
willbeing of all Americans	Number of Human Service	Percentage	Multivariate	should 70	their health	of People
	centure per community, People				Service Centers should get good	
Provide Essential Human	working on it, Income for				funding and support from	Affects Sevice Center
Services	centure	Income Per Centers	Univariate	Income should responses	Government	Functioning
Ralances/Laws	Palaconthus I has of North Africa	Finalized List of Variables	Type of Constraint	Controletti	Means/End Between Variables	Meany Ends Ralationship between Balance/Laws
Balancis Laws		Finalized List of Variables	Constraint	Constraint(s)	Meany Lad Between Variables	Detween Halance Laws
	Number of Hospitals per state, type facilities provided by					
		Number of Hospitals per		People working should appropriate for Hospital		Limited by Income and
Public Health & Safety	people recovered	state, people working	University	size	Affected by Health Insurance	Health Insurance
,					,	
	Number of Wellness Centers per	Number of Wellness Centers				Limited by Income and
Prevention and wellness		per state	Universate	Wellness Centers Available	Affected by Health Insurance	Health Insurance
	% of obosity people per					
		% of obesity people per				
		community, Number of stores				
Providers and Facilities	Local markets, Number of fitness centers per community	per community, Number of Local markets.	Universate Universate	Stores Available, Local Markets Available	Community Population, Income	Limited by Income
Principles and Pacifiches	,	Local markets,	Carrieran	Stores Avanable, Lixar Markets Avanable	Commany Population, Income	Limited by McGreen
	%of people per ethnicity, income %, service centers per	Service centers per		Service Centers should be available based on	Affected by Funding and	
Social Services		community	Multivariate	population.	Government Support	Affects Social Service
		· ·	Type of	•		Meany Ends Ralationship
Processes	Exhaustive List of Variables	Finalized List of Variables	Constraint	Constraint(s)	Means/End Between Variables	between Processes
	Number of Centers per					
Bestilian Visitation Food	community, Number of People	Number of Contrast and			Afficient by Facial Francisco	
Providing Nutrician Food Awareness		Number of Centers per community	University	Centers should be available	Affected by Social Services, Providers and Facilities	N/A
	Conf. and State of	Number of Local Markets per				The same of the sa
	Number of Local Markets per	community. Number of	Multivariate			
	community, Number of	Stores, Number of	Universate		Affected by Storus, Markets,	
Checking Food Availability	Stores, Number of Restaurants	Restaurants	Universate	Markets, Stores, Restaurants should available	Rostaurants	N/A
	Number of Trining Centers,				Affected by Social Services,	
People		Number of Trining Centers	Univariate	Centers should be available	Providers and Facilities	N/A
Encouraging Physical Activity	centure, People, Number of	Number of Fitness centers, Number of parks	Universate Universate	Parks and Fitness Centers available	Affected by Social Services, Prevention and Wellness Centers	NA
Encouraging Physical Acitivity	-	Number of parks	Control of the Control	Park and Parket Control Printers		and a
					Affected by Social Services	
	Number of Trainers, Number of				Affected by Social Services, Providers and Facilities, Provention	
Eucation & Training	Number of Trainers, Number of people, equipment	Number of Trainers	Universate	Trainers available		N/A
	people, equipment Number of Hospitals, People		Universate		Providers and Facilities, Provention and Wellness Centers Affected by Health Insurance,	
Eucation & Training Health Screening	people, equipment Number of Hospitals, People	Number of Trainers People Working, Charges		Trainer available Working People chould available, charges:=0	Providers and Facilities, Prevention and Wellness Centers	N/A
	people, equipment Number of Hospitals, People		Universate		Providers and Facilities, Provention and Wellness Centers Affected by Health Insurance,	N/A
Health Screening	people, equipment Number of Hospitals, People	People Working, Charges	Universate Multivariate		Providers and Facilities, Provention and Wellness Centers Affected by Health Insurance,	N/A Meany Ends Katabonship
Health Screening	people, equipment Number of Hospitals, People Working , Distance, Chargos Exhaustive List of Variables	People Working, Charges Finalized List of Variables	Univariate Multivariate Type of Constraint	Working People clouid available, chargoc=0	Providers and Facilities, Prevention and Wellanes Contacts Affected by Health Insurance, Social Services Means/End Between Variables	N/A Meany Ends Ratationship between Physical
Health Screening	people, equipment Number of Hospitals, People Working , Distance, Charges	People Working, Charges	Univariate Multivariate Type of Constraint Univariate	Working People clouid available, chargoc=0	Providers and Facilities, Provention and Wellness Contess Affected by Health Insurance, Social Services	N/A Meany Ends Ratationship between Physical
Health Screening Physical Function & Forms	people, equipment Number of Hospitals, People Working, Distance, Charges Exhaustive List of Variables Number of Consument Store, Number of authorized Stores	People Working, Charges Finalized List of Variables Number of Convenient Store,	Univariate Multivariate Type of Constraint Univariate	Working People chould available, charges:=0 Constraint(s)	Providers and Facilities, Prevention and Wellness Contact Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and	N/A Meany Lads Matatoostap between Physical Functions Forms
Health Screening Physical Function & Forms Stones	people, equipment Number of Hospitals, People Working, Distance, Chargos Exhaustive List of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm	People Working, Charges Finalized List of Variables Number of Convenient Store, Number of authorized Stores	Univariate Multivariate Type of Constraint Univariate	Working People chould available, charges:=0 Constraint(s)	Providers and Facilities, Prevention and Wellness Contant Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities	N/A Meany Lads Hatatoestap between Physical Functions Forms
Health Screening Physical Function & Forms Stores Local Markets	people, equipment Number of Hospitals, People Working, Distance, Charges Exhaustive List of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products	People Working, Charges Finalized List of Variables Number of Convenient Store, Number of authorized Stores no of Farm Markets with other products	Universate Multivariate Type of Constraint Universate Universate Universate	Working People chould available, charges:=0 Constraint(s) Stores Available Farm Markets Available	Providers and Facilities, Prevention and Wellness Contact Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities Affected by Providers and Facilities Affected by Providers and Facilities	N/A Memort and Maintenining between Physical Functions Forms N/A N/A
Health Screening Physical Function & Forms Stores Local Markets Restaurants	people, equipment Number of Hospitals, People Working, Distance, Charges Exhaustive List of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products Distance, Food Prices,	People Working, Charges Finalized List of Variables Number of Convenient Store, Number of authorized Stores no of Farm Markets with	Universite Multivariate Type of Constraint Universite Universite	Working People classid available, chargos:=0 Constraint(s) Stores Available	Providers and Facilities, Prevention and Wellness Contans Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities	N/A Meany Ends Matatoestop between Physical Functions Forms
Health Screening Physical Function & Forms Stones Local Markets Restaurants	people, equipment Number of Hospitals, People Working, Distance, Chargos Exhaustive List of Variables Number of Consument Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products Distance, Food Prices, Grecery cost, Fax on Grocery,	People Working, Charges Finalized List of Variables Number of Convenient Stores no of Farm Markets with other products Food Prices	Univariate Multivariate Type of Constraint Univariate Univariate Multivariate Multivariate	Working People chould available, chargos:=0 Constraint(s) Stores Available Farm Markets Available >0	Providers and Facilities, Prevention and Wellness Contans Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities Affected by Providers and	N/A Meaner ands Maintenesting between Physical Functions Forms N/A N/A N/A
Health Screening Physical Function & Forms Stores Local Markets Restaurants prices	people, equipment Number of Hospitals, People Working, Distance, Chargos Exhaustive List of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products Dietance, Food Prices, Grecery cost, Tax on Grocery, Tax on fast food	People Working, Charges Finalized List of Variables Number of Convenient Stone, Number of authorized Stones ne of Farm Markets with other products Food Prices Grocery cost	Universate Multivariate Type of Constraint Universate Universate Universate	Working People chould available, charges:=0 Constraint(s) Stores Available Farm Markets Available	Providers and Facilities, Provention and Wellness Contant Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities	N/A Memort and Maintenining between Physical Functions Forms N/A N/A
Health Screening Physical Function & Forms Stores Local Markets Restaurants prices	people, equipment Number of Hospitals, People Working, Dietance, Charges Working, Dietance, Charges Exhaustive Liet of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products Dietance, Food Prices, Grucury cost, Tax on Grocery, Tax on fast food otholicly, Hulpers, Number of	People Working, Charges Finalized List of Variables Number of Convenient Stores no of Farm Markets with other products Food Prices Grocery cost Number of people have	Univariate Multivariate Type of Constraint Univariate Univariate Univariate Multivariate Multivariate	Working People cheeld available, chargoc=0 Constraint(s) Stores Available Farm Markets Available >0 >0	Providers and Facilities, Prevention and Wellness Contans Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities Affected by Providers and	N/A Meanwrads Ratationing between Physical Functions Forms N/A N/A N/A
Health Screening Physical Function & Forms Stores Local Markets Restaurants prices	people, equipment Number of Hospitals, People Working, Distance, Chargos Exhaustive List of Variables Number of Convenient Store, Number of authorized Stores Direct Farm Salos, no of Farm Markets with other products Dietance, Food Prices, Grecery cost, Tax on Grocery, Tax on fast food	People Working, Charges Finalized List of Variables Number of Convenient Stone, Number of authorized Stones ne of Farm Markets with other products Food Prices Grocery cost	Univariate Multivariate Type of Constraint Univariate Univariate Univariate Multivariate Multivariate	Working People chould available, chargos:=0 Constraint(s) Stores Available Farm Markets Available >0	Providers and Facilities, Provention and Wellness Contant Affected by Health Insurance, Social Services Means/End Between Variables Affected by Providers and Facilities Affected by Providers and	NVA Steamer Early Ratiotioning between Physical Functions Forms NVA NVA NVA NVA

Variables, Constraints

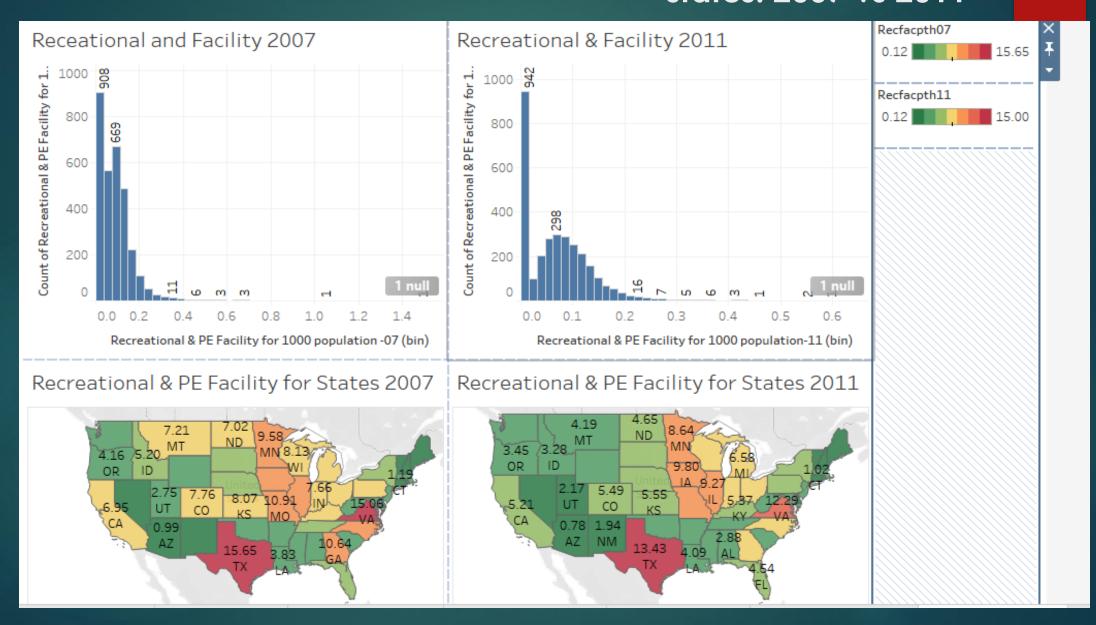
Variables, Constraints are listed in a separate excel sheet for reference.

Abstract Network

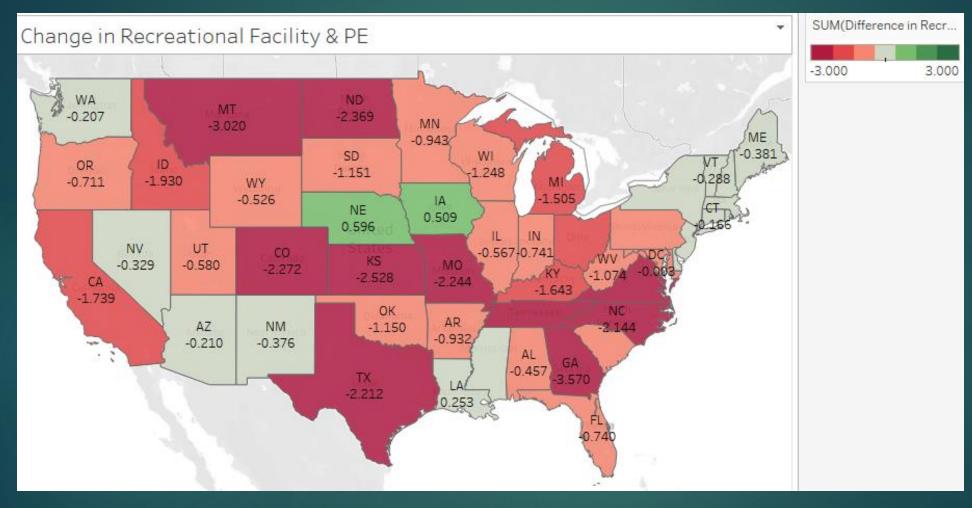


Visualizations

Dashboard representing Recreational and PE facility across states: 2007 vs 2011

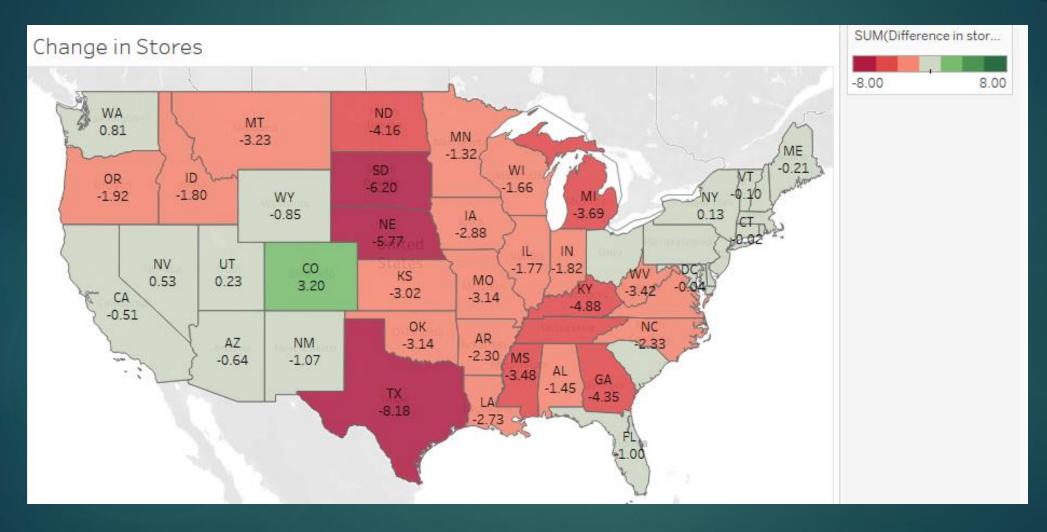


Change in Recreational & PE Facility



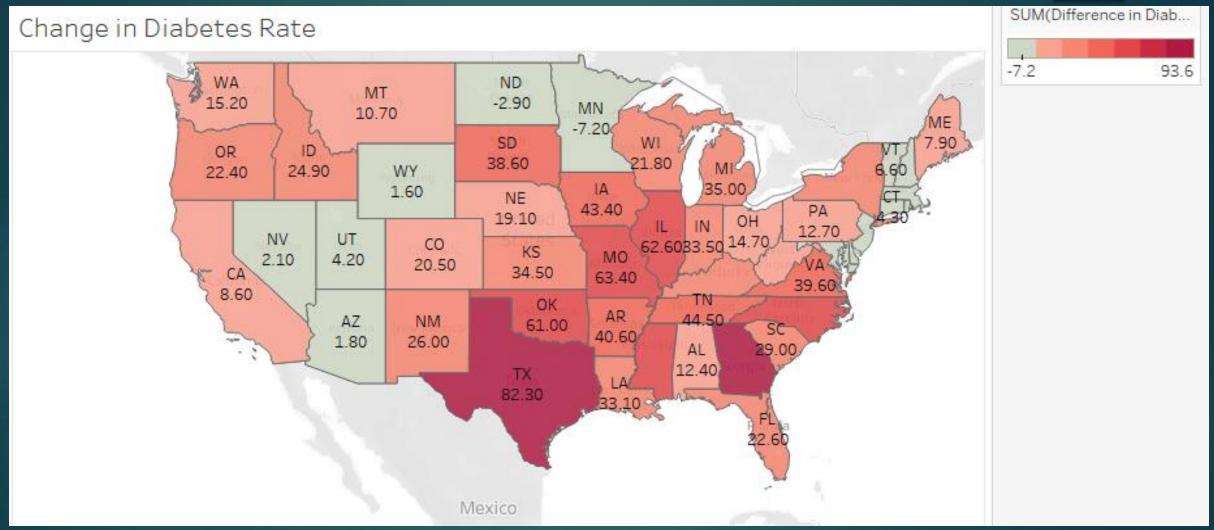
It can be observed from the above map recreational facilities are decreased in few states such as TX.

Change in Stores



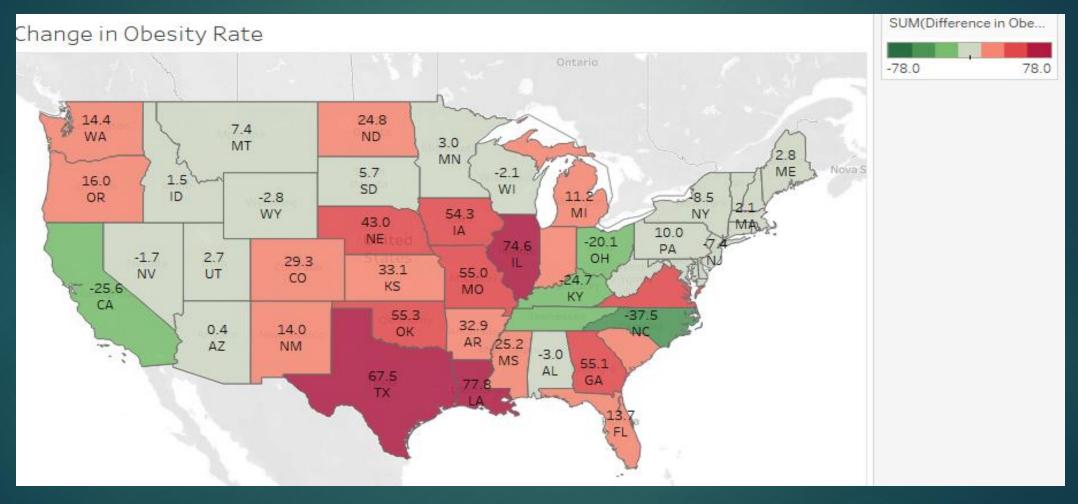
It can be observed from the above map Stores are decreased in few states such as TX.

Change in Diabetes Rate



From the above map it can be observed that Diabetes rate increased in few states which include TX

Change in Obesity Rate



From the above map it can be observed that Obesity rate increased in few states which include TX

▶Increase in Diabetes:

▶ From the above visualizations it is evident that decrease in stores and decrease in Recreational facilities has resulted in increase in Diabetes.

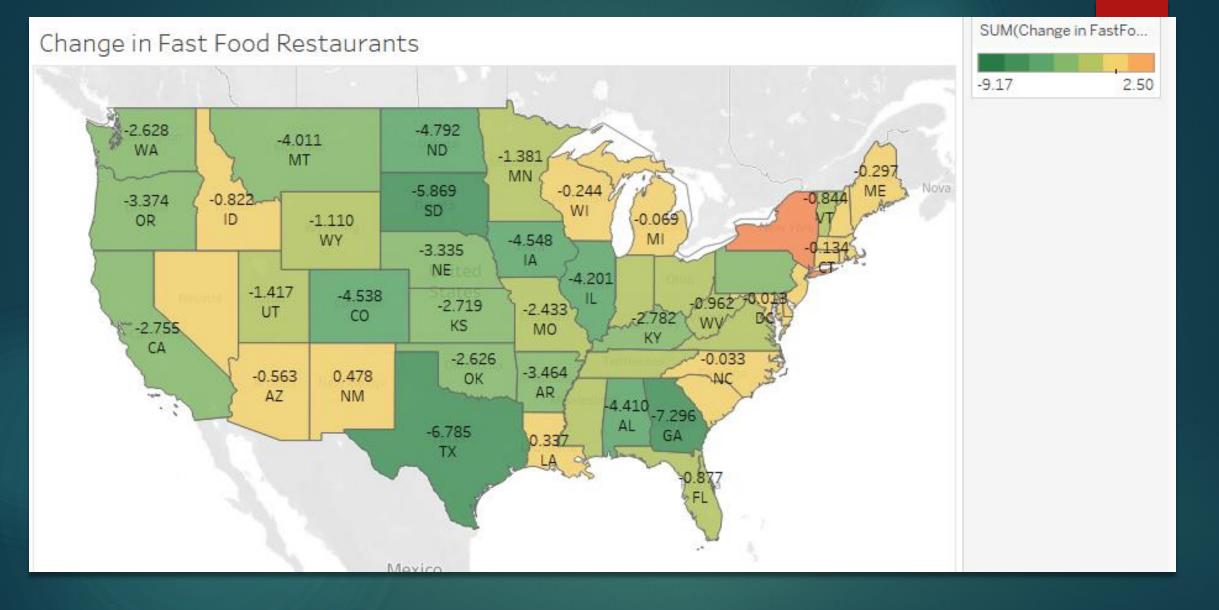
▶ Increase in Obesity:

▶ From the above visualizations it is evident that decrease in stores and decrease in Recreational facilities has resulted in increase in Obesity.

► Factors NOT effecting Diabetes & Obesity

▶ From the provided dataset it is observed that certain food environment indicators are not contributing to Diabetes or Obesity, for example decrease in fast food restaurants typically mean people are opting for healthier food options on contrary decrease in fast food restaurants did not impacted the diabetic, obesity rate which in fact increased.

▶*Please find supportive visualizations below



It can be observed from the above map Fast Food Restaurants were decreased in few states such as TX