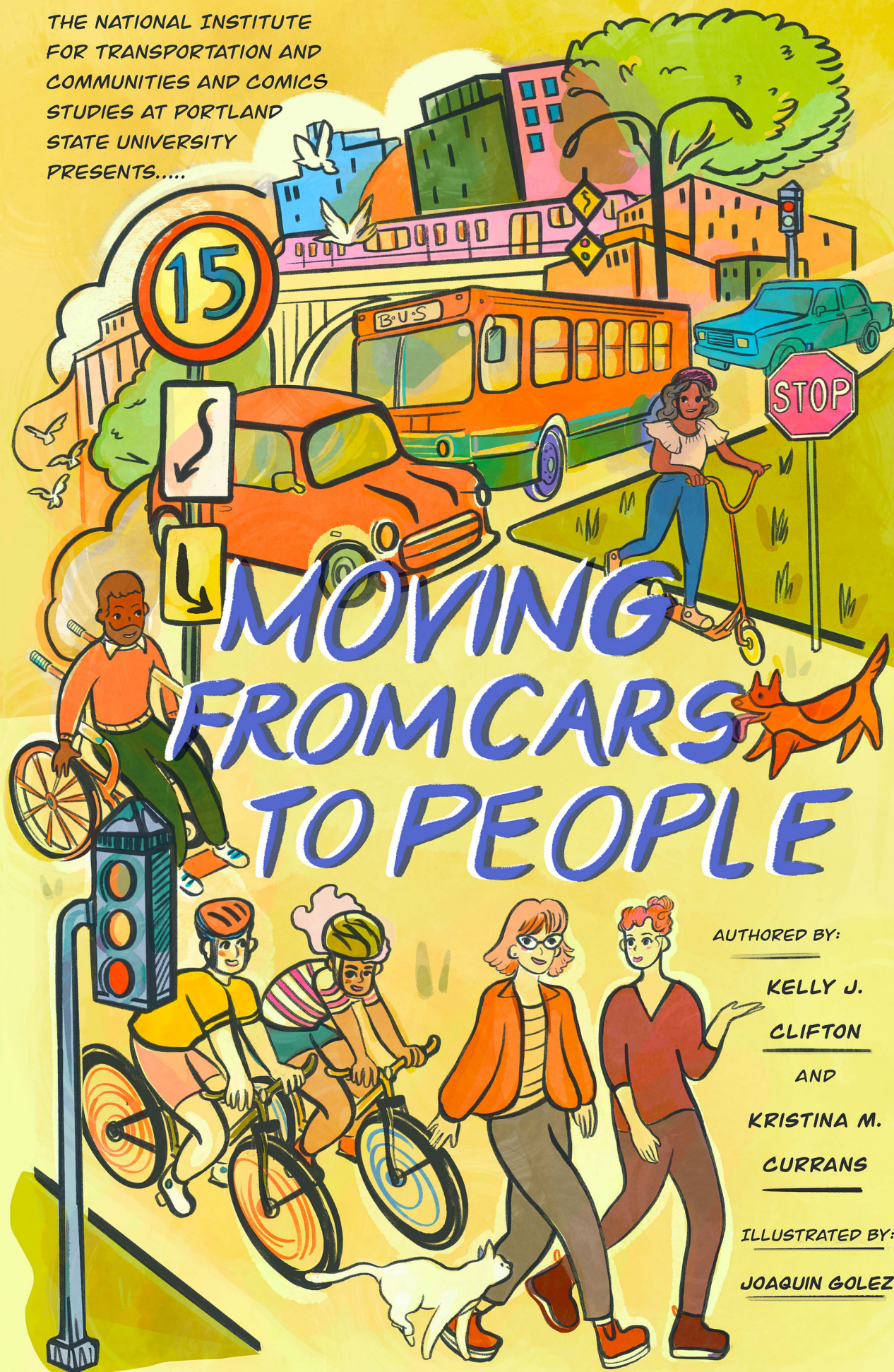


THE NATIONAL INSTITUTE  
FOR TRANSPORTATION AND  
COMMUNITIES AND COMICS  
STUDIES AT PORTLAND  
STATE UNIVERSITY  
PRESENTS.....



# MOVING FROM CARS TO PEOPLE

AUTHORED BY:

KELLY J.

CLIFTON

AND

KRISTINA M.

CURRANS

ILLUSTRATED BY:

JOAQUIN GOLEZ

**WRITTEN AND RESEARCHED BY**

**KELLY J. CLIFTON, PHD**

**AND**

**KRISTINA M. CURRANS, PHD**

**ILLUSTRATED BY**

**JOAQUIN GOLEZ**

**EDITED BY**

**RYAN ALEXANDER-TANNER**

**AND**

**SUSAN KIRTLEY, PHD**

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THE COMIC WAS IMPROVED WITH THE FEEDBACK AND COMMENTS FROM OUR TECHNICAL REVIEWERS, INCLUDING KENNETH STAHL, ANNE HILL, SUSAN HANDY, DAVID SOMERS, AND WES MARSHALL, AND THE COMMUNITY MEMBERS FROM PORTLAND OR AND TUCSON AZ. TINA KIMMY AND EVREN SONMEZ WERE INVALUABLE IN HELPING US GET COMMUNITY FEEDBACK. CAIT MCCUSKER PROVIDED EARLY INPUT TO SHAPE THE PROJECT. AMY SPRING, JOHN MACARTHUR, AND KACY MCKINNEY, PHD GAVE THEIR TIME TO A HANDS-ON WORKSHOP.

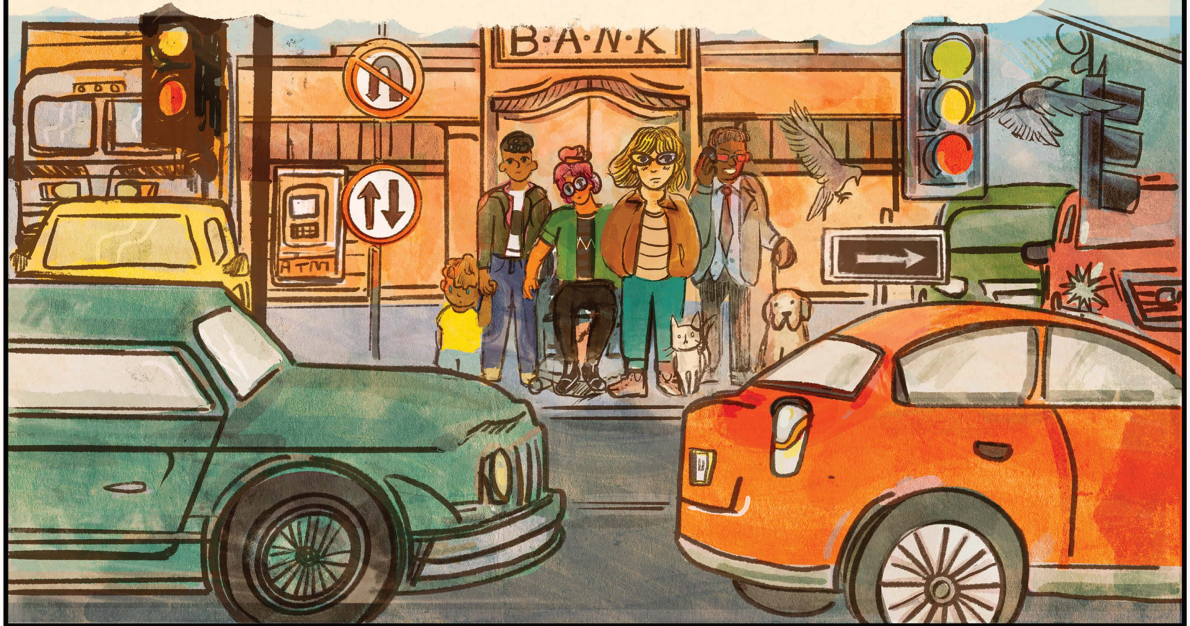
THIS PROJECT WAS INSPIRED BY THE COMICS COURSES OFFERED BY PORTLAND COMMUNITY COLLEGE CONTINUING EDUCATION. IT WOULD NOT HAVE COME TO LIGHT WITHOUT THE ENCOURAGEMENT AND KNOWLEDGE GAINED FROM RYAN ALEXANDER-TANNER, T. EDWARD BAK, AND SARAH MIRK.

A SPECIAL THANKS GOES TO RYAN ALEXANDER-TANNER FOR HIS MAD COMIC SKILLS AND KEEPING US ON TASK; SUSAN KIRTLEY, PHD FOR SHAPING THE NARRATIVE AND CHAMPIONING OUR VISION; AND JOAQUIN GOLEZ FOR MAKING OUR WORDS COME TO LIFE. THIS COMIC COULD NOT HAVE BEEN COMPLETED WITHOUT THE HARD WORK OF THIS INTERDISCIPLINARY TEAM.

WE DEDICATE THIS COMIC TO \$BILL.

I'VE BEEN STRANDED AT THIS INTERSECTION FOR WHAT FEELS LIKE FOREVER WITH NO SAFE OR EASY WAY TO CROSS. THESE CARS ARE MOVING SO FAST. DRIVERS DON'T SEEM TO NOTICE THAT I'M HERE....DID ANYONE THINK ABOUT PEDESTRIANS? WHEN DID IT BECOME ....

# ALL ABOUT THE CAR ?



CARS, INVENTED IN 1886, WERE INITIALLY PLAYTHINGS FOR THE RICH. IN 1900, THERE WERE ONLY 8,000 OPERATING IN THE ENTIRE U.S.



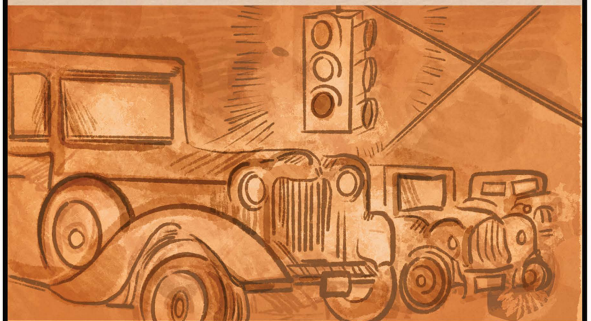
LAUNCHED IN 1908, THE MODEL T MADE CARS MORE AFFORDABLE FOR THE AVERAGE AMERICAN.



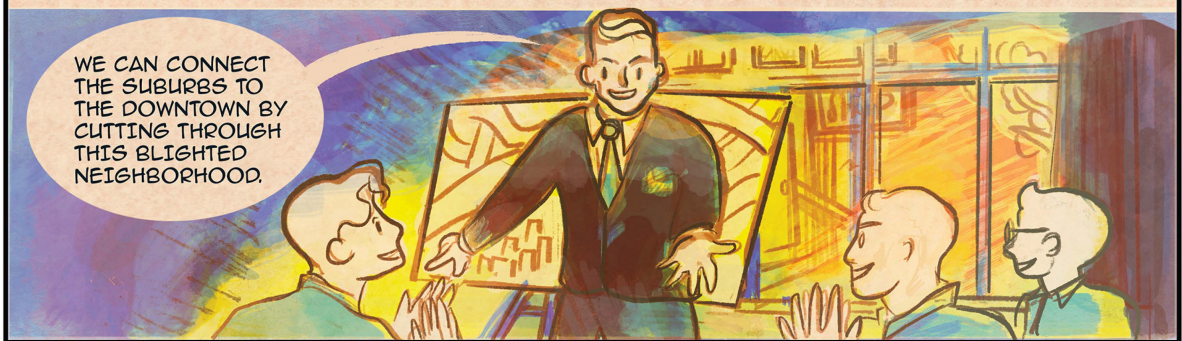
CARS QUICKLY SKYROCKETED IN POPULARITY AND BY 1920 THERE WERE 8 MILLION CARS ON THE ROADS. THE STREETS BECAME CHAOTIC.



TO CREATE A MORE ORDERLY FLOW, ENGINEERS DEVELOPED DESIGN STANDARDS AND "RULES OF THE ROAD". HELLO, TRAFFIC LIGHTS!



AFTER WWII, AUTOMOBILES AND NEW SUBURBAN HOUSING BECAME HALLMARKS OF THE AMERICAN DREAM. PLANNERS, ARCHITECTS, AND ENGINEERS STARTED TO THINK ABOUT OTHER WAYS THAT CARS COULD RESHAPE CITIES.

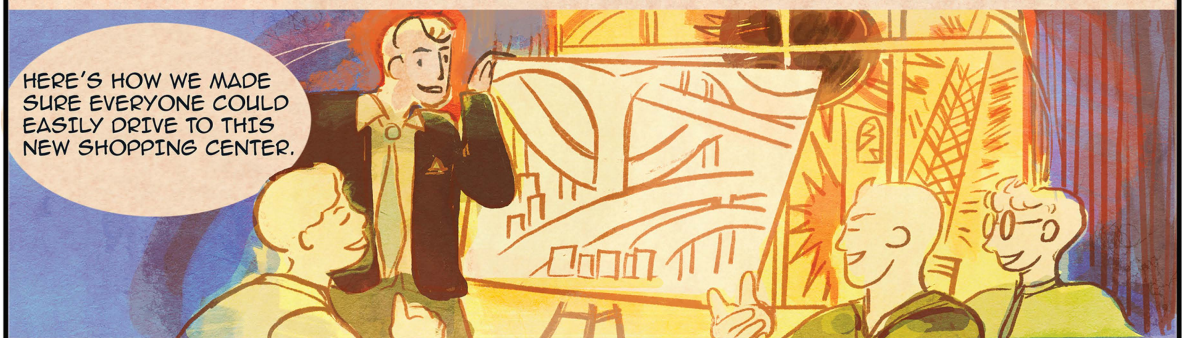


WE CAN CONNECT THE SUBURBS TO THE DOWNTOWN BY CUTTING THROUGH THIS BLIGHTED NEIGHBORHOOD.

MANY CITIES EAGERLY EMBRACED THIS NEW TECHNOLOGY, BUILDING HIGHWAYS TO MOVE VEHICLES IN AND AROUND THE CITIES AS QUICKLY AS POSSIBLE. BUT MANY POOR NEIGHBORHOODS, MOSTLY COMMUNITIES OF COLOR, WERE INTENTIONALLY DESTROYED. WE STILL LIVE WITH THE CONSEQUENCES OF THIS RACIST LEGACY.

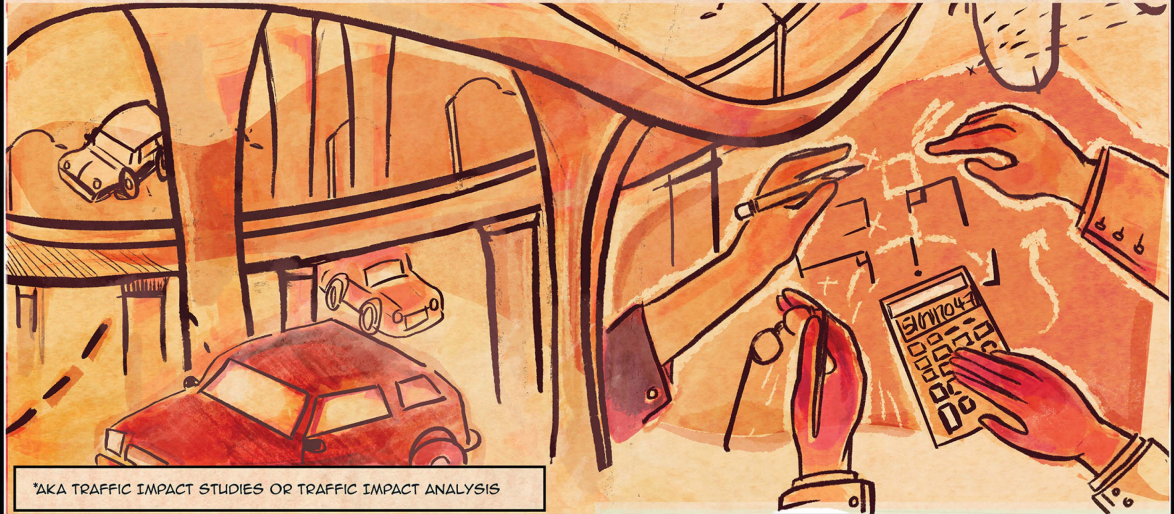


PERSONAL VEHICLES EVOLVED INTO SYMBOLS OF AMERICAN CULTURE. CITY PLANNERS AND ENGINEERS CONTINUED TO PRIORITIZE THEM AT ALL SCALES - FROM THE REGION TO INDIVIDUAL PLOTS OF LAND.



HERE'S HOW WE MADE SURE EVERYONE COULD EASILY DRIVE TO THIS NEW SHOPPING CENTER.

TO INTEGRATE CARS INTO PLANNING FOR NEW DEVELOPMENT, ENGINEERS DEVELOPED AN APPROACH CALLED "TRANSPORTATION IMPACT STUDIES."\* THESE STUDIES ESTIMATE THE NUMBER OF VEHICLE TRIPS GENERATED FROM NEW DEVELOPMENT AND THE EFFECTS ON TRAFFIC FLOW.



\*AKA TRAFFIC IMPACT STUDIES OR TRAFFIC IMPACT ANALYSIS

AFTER THE IMPACT OF NEW DEVELOPMENT ON TRAFFIC IS DETERMINED, PLANNERS MAKE SUGGESTIONS FOR EASING CONGESTION, SUCH AS ADDING MORE LANES OR TRAFFIC SIGNALS.



KEY IN THIS PROCESS IS THE INSTITUTE OF TRANSPORTATION ENGINEERS TRIP GENERATION HANDBOOK AND MANUAL.\* FIRST PUBLISHED IN 1976, IT BECAME THE MOST WIDELY USED RESOURCE FOR TRANSPORTATION AND LAND USE PLANNING.



\*AKA TRIP GEN

IT IS A COMPILATION OF DATA ABOUT THE NUMBER OF VEHICLE TRIPS EXPECTED FOR SUPERMARKETS, STRIP MALLS, AND OTHER KINDS OF DEVELOPMENTS.



THESE DATA ARE GATHERED BY COUNTING CARS COMING AND GOING FROM SITES ACROSS THE U.S., WITH A FOCUS ON THE BUSIEST TIMES OF DAY.

THOSE LITTLE TUBES ON THE STREET - THEY'RE COUNTING CARS!



THIS INFORMATION HELPS PLANNERS FIGURE OUT HOW MUCH TRAFFIC IS CAUSED BY A NEW DEVELOPMENT. FOR EXAMPLE, LET'S SAY A DEVELOPER WANTS TO BUILD A BANK.



BASED ON RESULTS GATHERED FROM THE 1980'S THROUGH 2010'S, ITE TRIP GEN HAS DATA FOR TWO TYPES OF BANKS- WALK IN AND DRIVE IN.



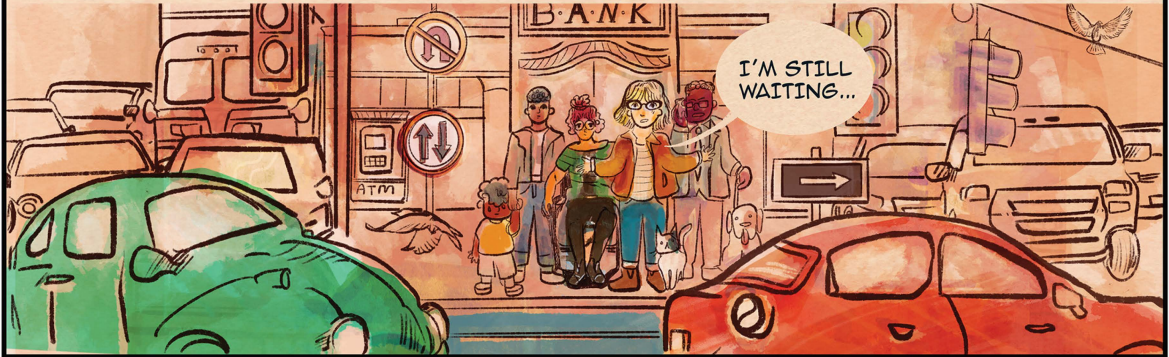
IT ESTIMATES THAT A 4,000 SQUARE FOOT WALK IN BANK GENERATES ABOUT 100 VEHICLE TRIPS PER HOUR DURING THE BUSIEST TIME.



THESE ESTIMATED TRIPS ARE COMPARED WITH THE CURRENT TRAFFIC LEVELS. IF IT LOOKS LIKE THIS WILL CAUSE UNACCEPTABLE DELAYS, CHANGES ARE MADE - LIKE ADDING LANES, DRIVEWAYS, OR TRAFFIC SIGNALS.



BUT TODAY, WE STILL HAVE CONGESTION. WASN'T ALL THIS PLANNING SUPPOSED TO HELP?



BECAUSE TRIP GENERATION DATA INCLUDE STUDIES SINCE THE 1980S, THEY DON'T CONSIDER CHANGES IN HOW WE LIVE, NEW TECHNOLOGIES, OR PEOPLE NOT IN CARS.



ADDING MORE ROOM FOR CARS CAN MAKE IT DIFFICULT TO GET AROUND BY OTHER MODES, CREATING A CYCLE OF AUTO DEPENDENCE.







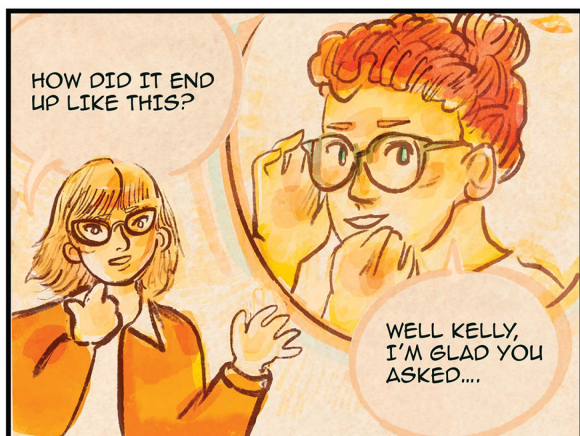
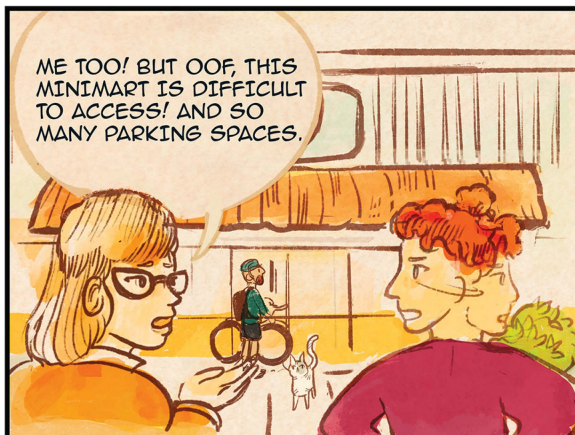
THE TRIP GEN MANUAL HAS IMPROVED ITS DATA AND IS NO LONGER USING THE OLDEST INFORMATION.




THE LATEST EDITION INCLUDES NEW LAND USE CATEGORIES LIKE AFFORDABLE HOUSING AND EVEN MARIJUANA DISPENSARIES. INFORMATION ABOUT THE CONTEXT IS ALSO INCLUDED.



# HOW DID WE END UP WITH THIS CRAPPY BUILT ENVIRONMENT?



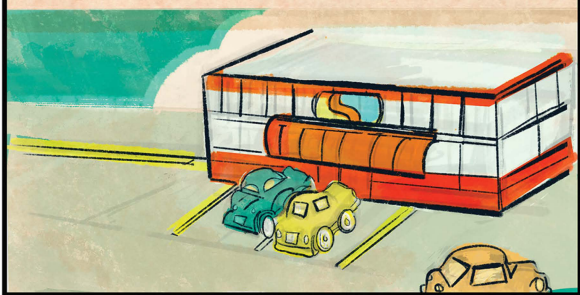
IT ALL STARTED WHEN A PERSON DECIDED TO BUILD THIS CONVENIENCE STORE ON THIS PARCEL OF LAND. SHE WORKED WITH ARCHITECTS AND PLANNERS TO CREATE A SITE PLAN FOR HER VISION.




LOCAL DEVELOPMENT REGULATIONS DETERMINED WHAT COULD BE BUILT HERE, HOW FAR THE BUILDING NEEDS TO BE FROM THE STREET, THE PEDESTRIAN CONNECTIONS, THE NUMBER AND LOCATIONS OF DRIVEWAYS, AND EVEN THE AMOUNT OF CAR PARKING REQUIRED.




MOST CITIES EVEN REQUIRED A MINIMUM NUMBER OF CAR PARKING SPACES BASED ON THE TYPE AND SIZE OF DEVELOPMENT. THE DEVELOPER COULD ALWAYS ADD MORE THAN REQUIRED, EVEN IF IT WAS LIKELY TO GO UNUSED MOST OF THE TIME.



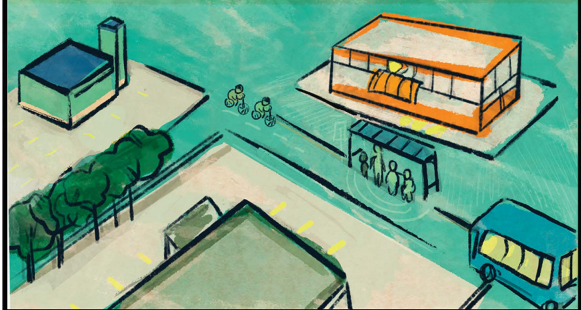
THESE REQUIREMENTS WERE OFTEN BASED UPON BUSIEST TIMES FOR TRAFFIC AND THE ASSUMPTION THAT EVERYONE WILL ARRIVE AT THE SITE BY DRIVING.




THIS PARKING ASSESSMENT WAS DONE INDEPENDENTLY OF HOW MUCH PARKING WAS AVAILABLE IN THE SURROUNDING AREA.



IT DIDN'T CONSIDER WHAT OTHER MODES OF TRANSPORTATION PEOPLE MIGHT WANT TO USE TO GET TO THE CONVENIENCE STORE.



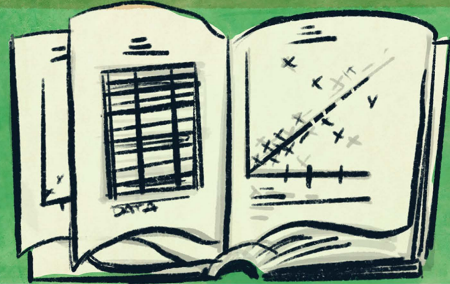
DURING THE DEVELOPMENT REVIEW PROCESS, THE CITY REQUIRED A TRAFFIC IMPACT STUDY TO ASSESS HOW MUCH NEW TRAFFIC THE CONVENIENCE STORE WOULD CREATE, PARTICULARLY DURING THE BUSIEST TIMES.



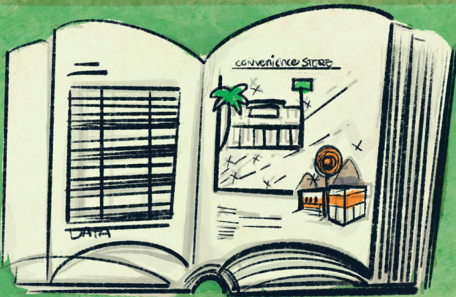
TO DO THIS, A DATA RESOURCE CALLED THE INSTITUTE OF TRANSPORTATION ENGINEERS TRIP GENERATION HANDBOOK AND MANUAL WAS USED.



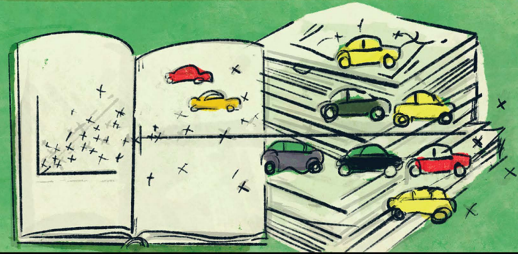
IT IS A COMPILATION OF DATA ON THE NUMBER OF VEHICLE TRIPS GENERATED BY DIFFERENT DEVELOPMENTS. THEY ARE ORGANIZED BY DIFFERENT LAND USES - THERE IS EVEN A CATEGORY FOR CONVENIENCE STORES!



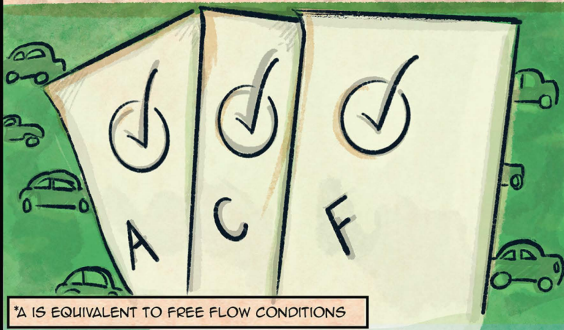
THE DATA IN THE ITE TRIP GENERATION MANUAL COME FROM MANY SITES IN NORTH AMERICA, MOST OF THEM SUBURBAN AUTOMOBILE-ORIENTED LOCATIONS.



USING ESTIMATES BASED ON THESE DATA, EXPERTS EVALUATED HOW MUCH THE FUTURE CONVENIENCE STORE WOULD IMPACT CONGESTION. IN THEIR EVALUATION, THEY USED A PERFORMANCE MEASURE CALLED LEVEL OF SERVICE (LOS), WHICH IS A MEASURE OF CONGESTION OR DELAY.



LIKE GRADES IN SCHOOL, LOS IS SCALED A-F\*. UNLIKE GRADES IN SCHOOL, SOMETIMES AN F CAN COUNT AS PASSING.



\*A IS EQUIVALENT TO FREE FLOW CONDITIONS

BECAUSE OF THE ADDITIONAL TRAFFIC ANTICIPATED FROM THE CONVENIENCE STORE, THE INTERSECTION DIDN'T "MAKE THE GRADE".\*



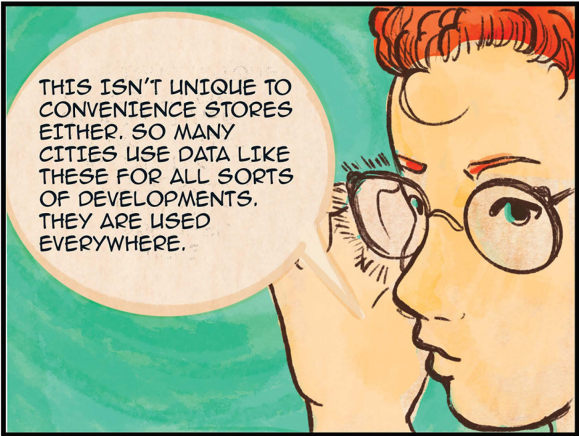
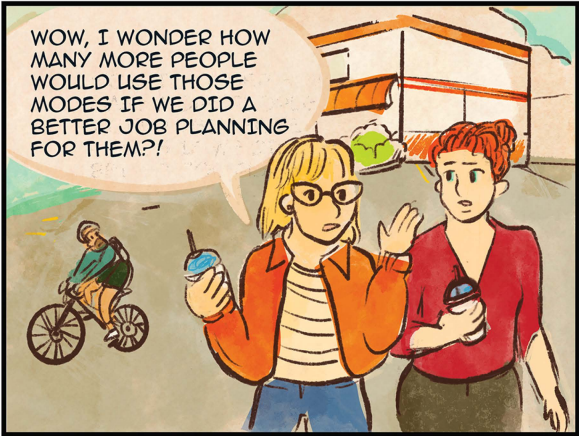
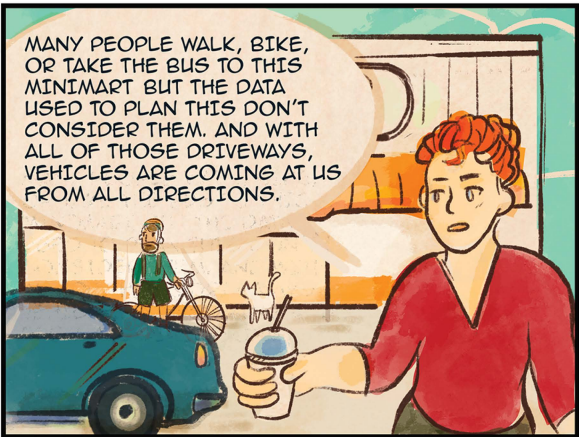
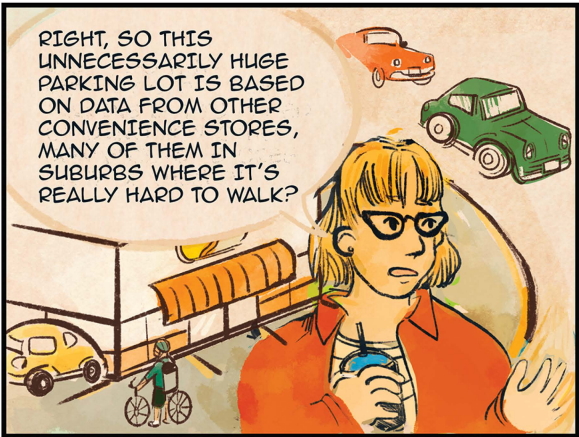
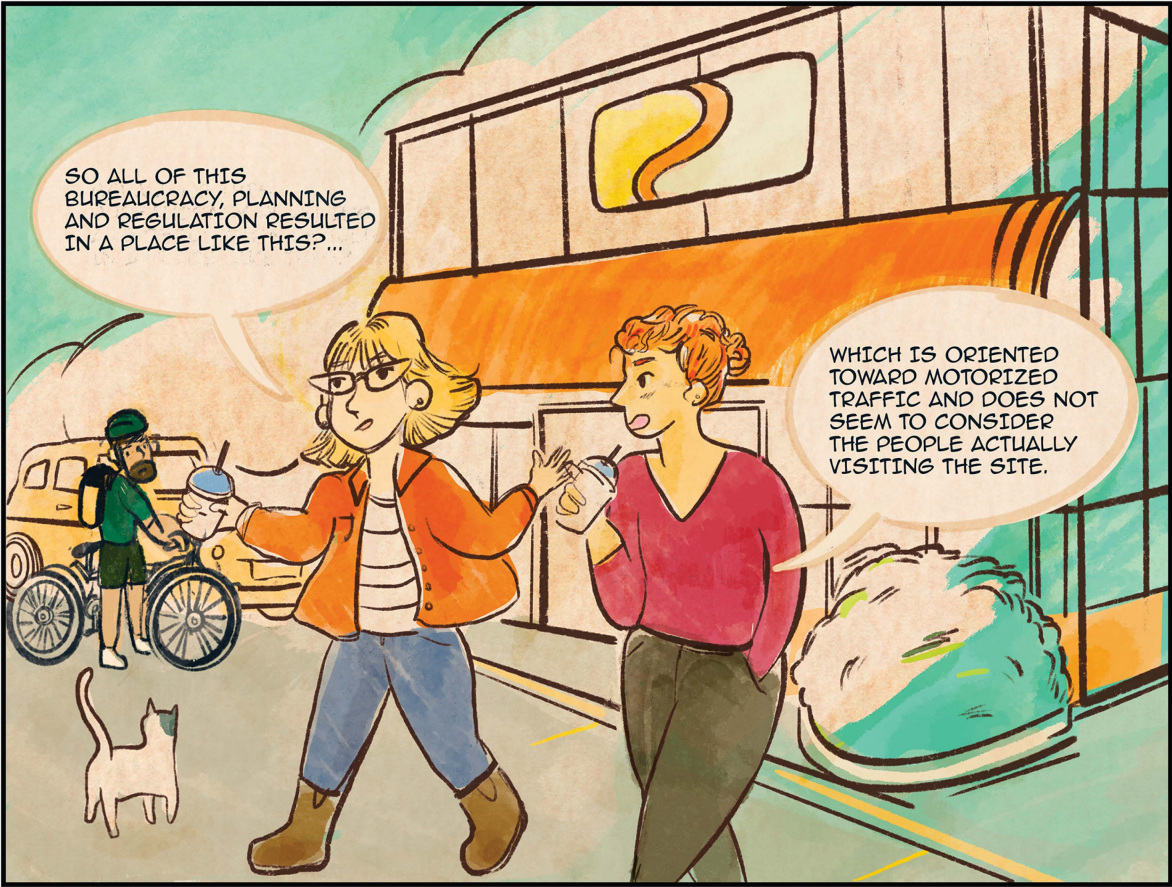
\*MEET THE LOCAL LOS PERFORMANCE STANDARDS

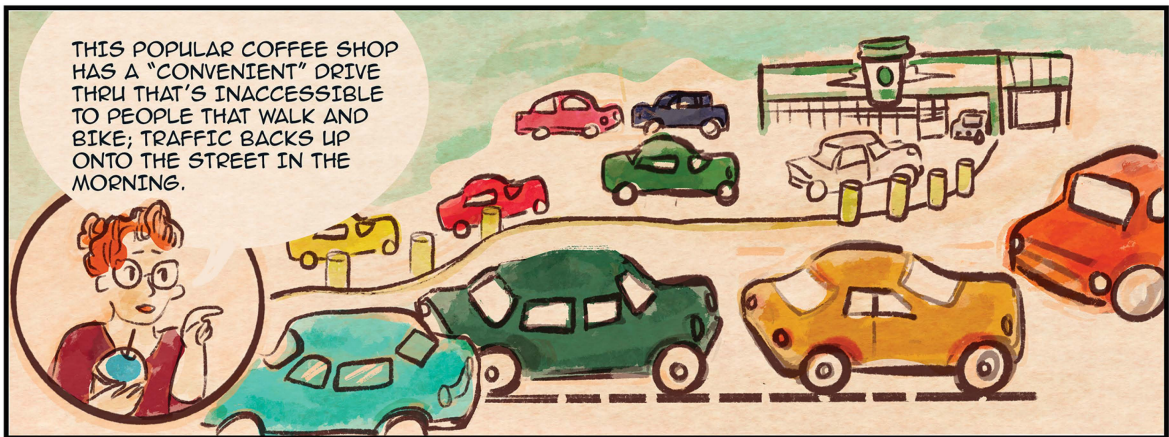
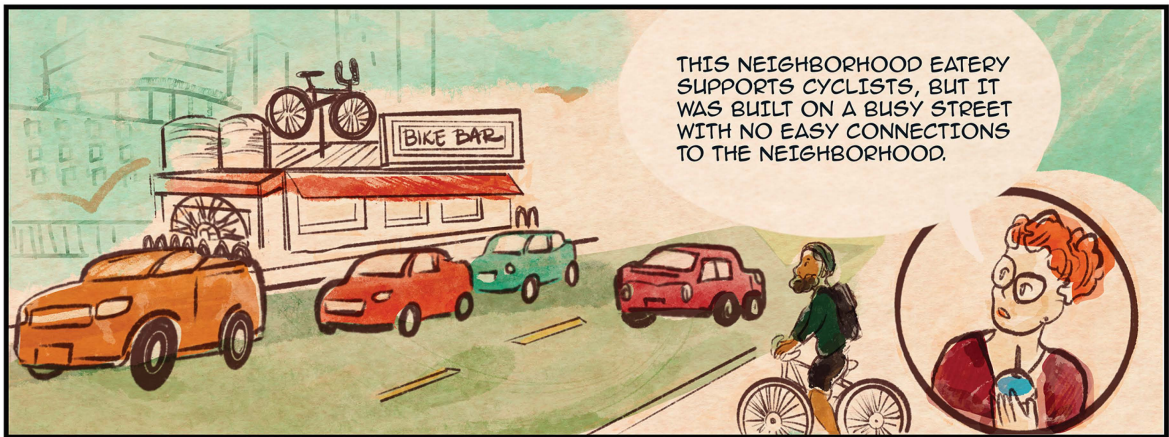
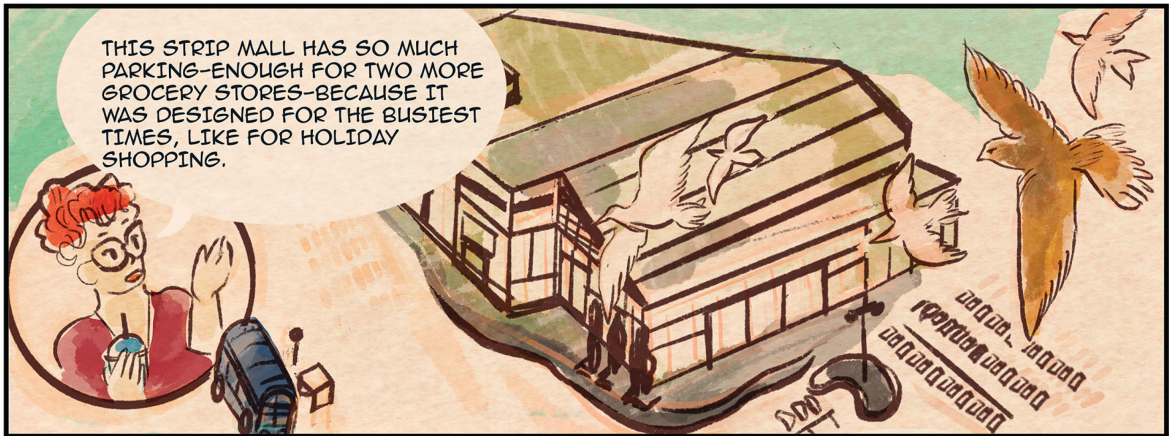
SO THE DEVELOPER HAD TO ADD ANOTHER DRIVEWAY ON THE SITE. SHE ALSO HAD TO CONTRIBUTE MONEY FOR A NEW TRAFFIC LIGHT AND A TURN LANE.

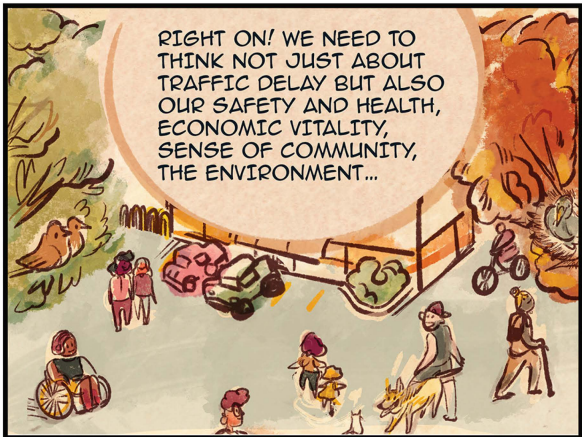
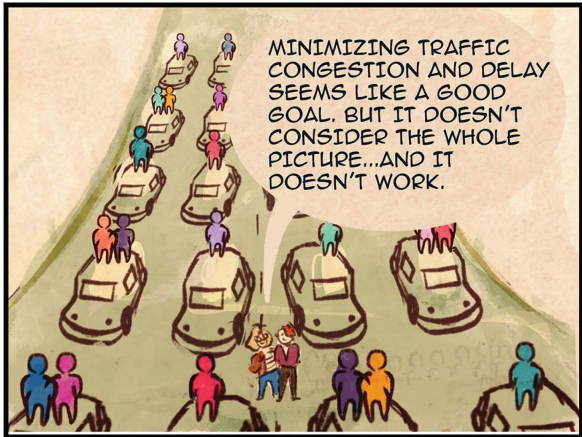
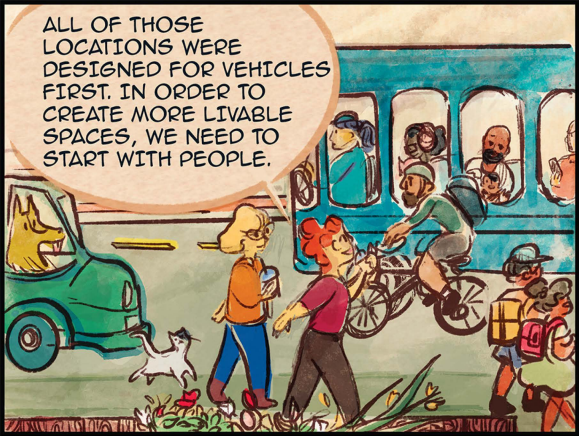


SHE CONSIDERED BUILDING A SMALLER STORE TO AVOID SOME OF THESE COSTS. BUT A SMALLER STORE WOULDN'T BE PROFITABLE IN THE LONG RUN.



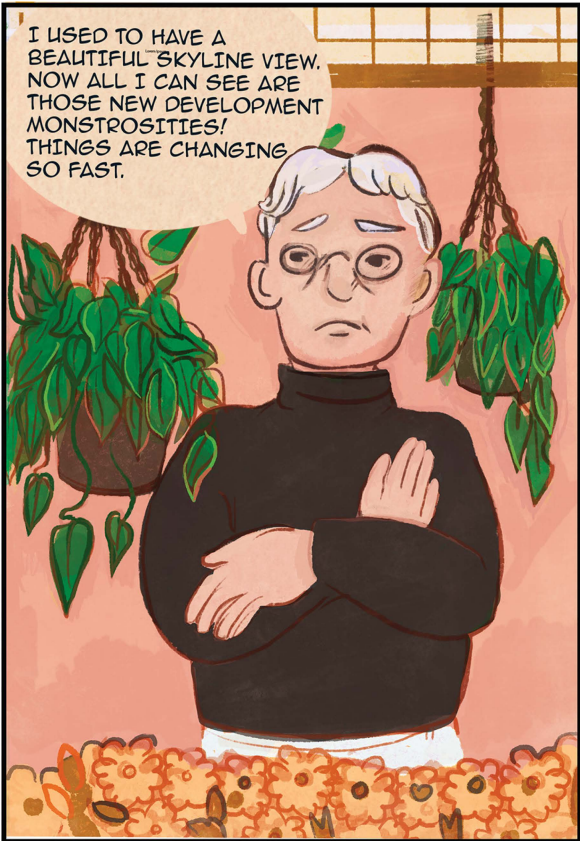


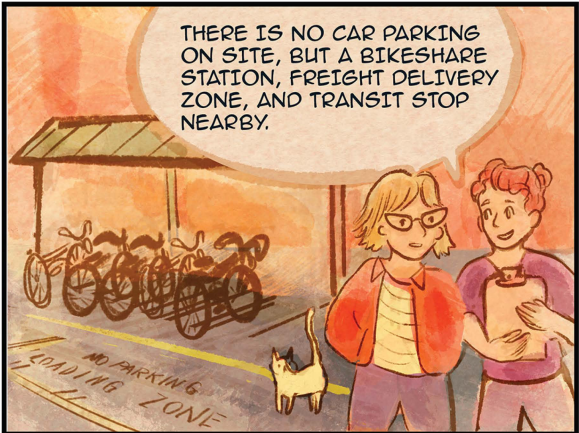
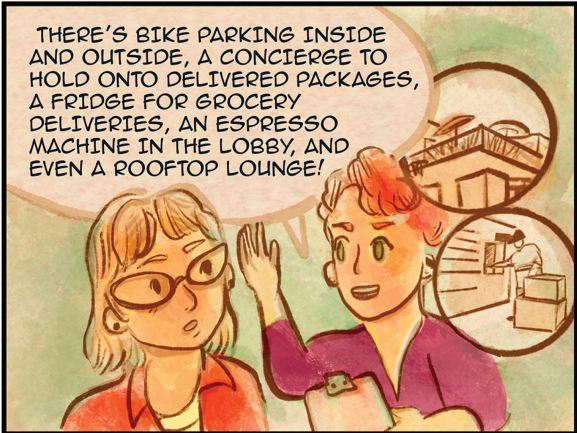
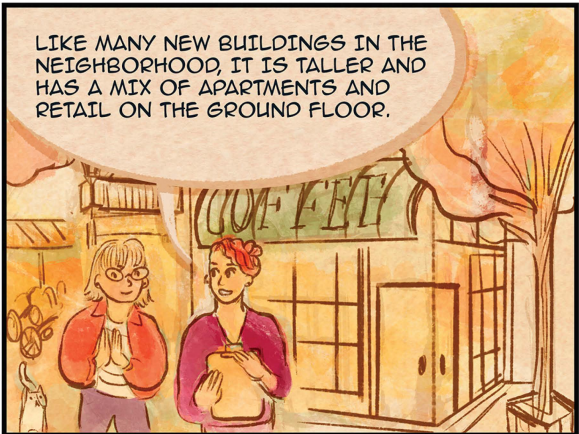
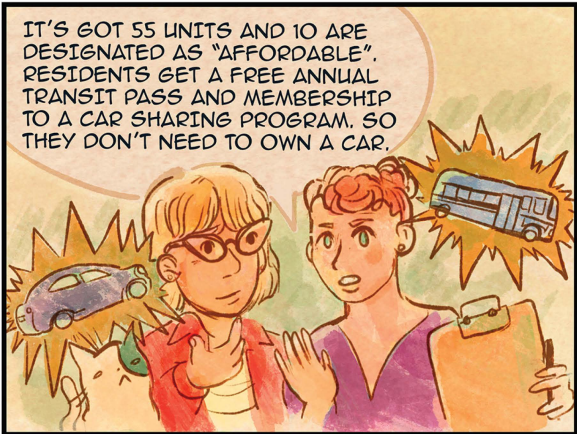






**PEOPLE, PLACES, & PERSPECTIVES**





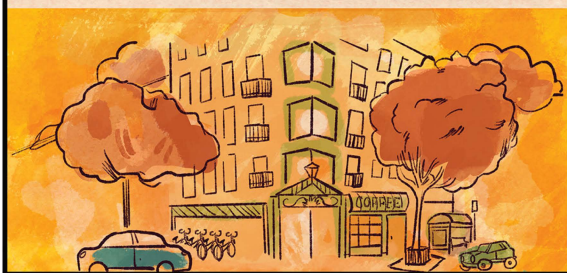


BUT THESE CHANGES TAKE TIME. IN THE MEANTIME, THERE IS A DISCONNECT BETWEEN OUR PLANNED VISION...AND THE PRESENT STATE OF THINGS.

BUT THESE CHANGES TAKE TIME. IN THE MEANTIME, THERE IS A DISCONNECT BETWEEN OUR PLANNED VISION...AND THE PRESENT STATE OF THINGS.



THIS BUILDING OFFERS NO ON-SITE PARKING IN ORDER TO ENCOURAGE RESIDENTS TO CARPOOL OR USE OTHER FORMS OF TRANSPORTATION.



BUT MANY STILL USE CARS BECAUSE THE CITY, AND MOST OF THE NEIGHBORHOOD, ARE STILL DESIGNED PRIMARILY FOR AUTOMOBILES.



RESIDENTS GET FREE TRANSIT PASSES!



BUT TRANSIT DOESN'T COME OFTEN ENOUGH AND MAY NOT TAKE PEOPLE WHERE THEY NEED TO GO.



THERE'S BIKE PARKING AND A BIKE SHARE SYSTEM!



BUT WITH THE CURRENT STATE OF BIKE INFRASTRUCTURE, MANY DON'T FEEL SAFE RIDING ON STREETS IN TRAFFIC.



DELIVERIES ARE ON THE RISE AND THE PACKAGE CONCERGE AND LOADING AREA CAN MAKE THE PROCESS EASIER.



BUT THE DELIVERY TRUCKS CREATE CONGESTION TOO!



WHAT ABOUT THE RESIDENTS?  
HOW'S IT WORKING FOR THEM?

LET'S ASK!

MY APARTMENT IS AFFORDABLE AND NEAR THE CITY CENTER...

BUT WHAT GOOD IS A TRANSIT PASS OR BIKESHARE FOR ME? I NEED MY CAR FOR WORK, ERRANDS, AND GETTING MY KIDS AROUND. NOW I SPEND A GOOD 30 MINUTES EVERY DAY LOOKING FOR PARKING.

THE NEW BUILDING BROUGHT SOME NEW CUSTOMERS TO MY SHOP...

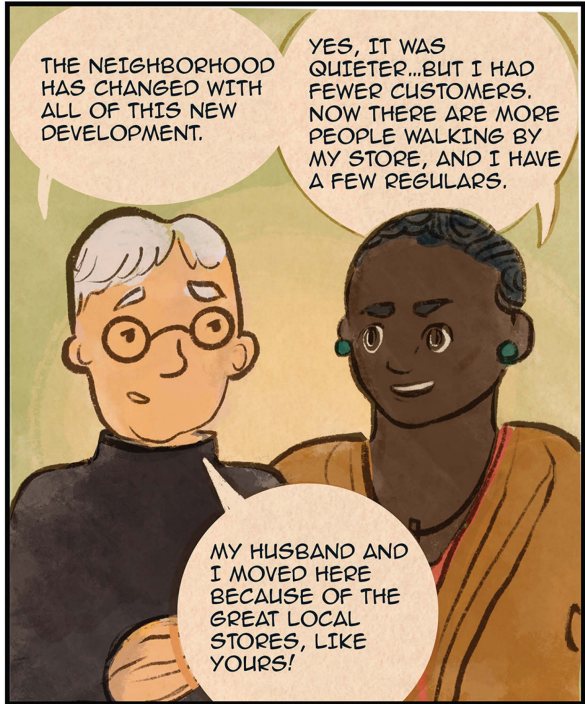
BUT I NEED TO ATTRACT MORE PEOPLE, AND I'M WORRIED I CAN'T COMPETE.

I'M LIVING MY BEST LIFE! I BIKE TO WORK, WALK TO SHOPS, SHOP ONLINE, AND HARDLY EVER TAKE TRANSIT.

BUT MY APARTMENT'S KINDA SMALL. I MIGHT HAVE TO UPGRADE TO A BIGGER PLACE SOON. MAYBE BUY A HOUSE.

IT'S NICE TO HAVE GOOD RESTAURANTS AND SHOPS OPENING UP...

BUT ALL THESE NEW RENTERS USE MY STREET LIKE THEIR OWN PERSONAL PARKING LOT! THE NERVE! I WORKED HARD! I PAY MY TAXES! AND FOR WHAT?





AND WHILE THERE AREN'T PERFECT OR EASY SOLUTIONS....



WE CAN CONNECT YOUR NEIGHBORHOOD TO THE DOWNTOWN WITH A BIKE BOULEVARD AND A PRIORITY BUS LANE.

BUT I NEED TO GO TO THE SUBURBS.

I HEAR YOUR CONCERNS, MAYBE WE CAN IMPROVE THE TRANSIT.

IF WE WORK TOGETHER...



I'M NOT SURE IT WILL SOLVE EVERYONE'S NEEDS.

OKAY, HERE'S AN IDEA!

WHAT IF WE TRIED THIS FIRST?

AND PLAN FOR PEOPLE....



I DON'T THINK IT WILL WORK BUT GO AHEAD AND GIVE IT A TRY.

YOU RAISE A GOOD POINT.

I DIDN'T REALIZE IT'S THAT HARD FOR YOU TO GET AROUND.

...WE CAN FIND A WAY FORWARD TOGETHER.



CITIES ARE CONSTANTLY TRANSFORMING. NEW MOBILITY OPTIONS ARE BEING INTRODUCED. LAND IS DEVELOPED AND REDEVELOPED. PEOPLE MOVE IN AND OUT.

WE WANT MORE FROM OUR TRANSPORTATION SYSTEM THAN MOBILITY. WE ALSO EMPHASIZE ACCESS, SAFETY, SUSTAINABILITY, VITALITY, AND FUN!

TRANSPORTATION PLANNING METHODS HAVE TO ADAPT TO MEET OUR CURRENT AND FUTURE VISIONS.

WE'VE MADE A LOT OF PROGRESS, BUT WE HAVE TO MAKE SURE THAT PLANNING IS...

ALL ABOUT PEOPLE!!

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