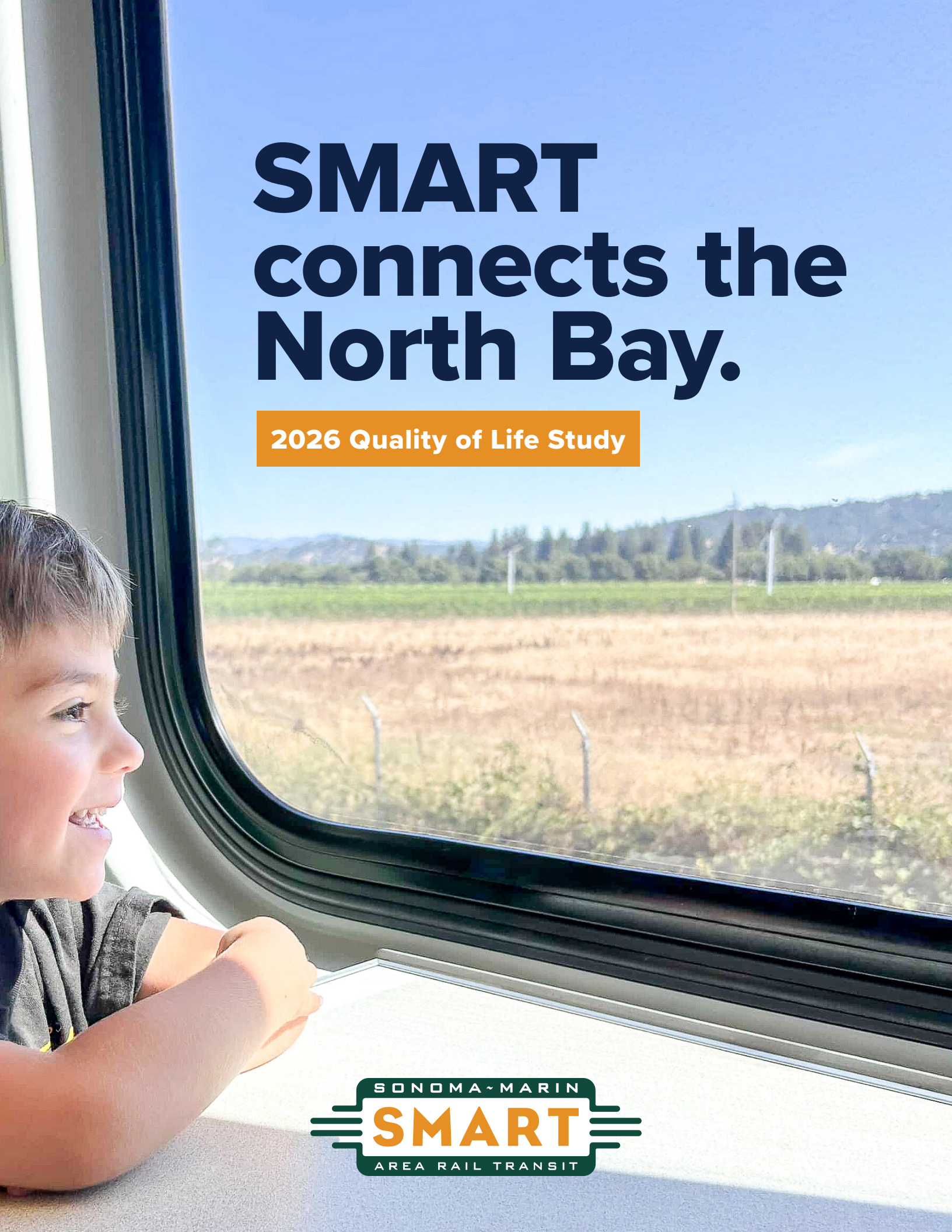


# SMART connects the North Bay.

## 2026 Quality of Life Study

SONOMA-MARIN
SMART
AREA RAIL TRANSIT

QUALITY OF LIFE STUDY

# SMART makes the North Bay an even better place to live, work, play, and thrive.




## Each year, more people are discovering the benefits that SMART brings to Sonoma and Marin counties.

SMART's train and pathway system connects people to jobs, schools, friends, and family—unlocking access to opportunity, bolstering the local economy, and enhancing quality of life. Today, SMART services pull thousands of cars off congested roads, enrich communities with a walking and biking pathway, and help safeguard the North Bay's irreplaceable natural wonders. In doing so, SMART is enhancing the North Bay for all, even those who don't ride the train.

SMART is built for the North Bay and the people who call it home. It's more than a way to get from point A to point B; it's a system designed to serve the daily needs of local residents while strengthening the communities they live in. The areas around SMART stations are not just places to catch a train; they're thriving communities where people live, work, shop, dine, and connect. With the SMART system growing and becoming more integrated in the local communities served, SMART has emerged as a preferred option for travel. More and more people are using SMART to get to their destinations and to explore the many places reachable by SMART. As more people use the system, station areas become more vibrant—attracting new businesses, services, and investments that directly benefit local people. This creates a positive cycle: SMART improves access and mobility, which supports local economic activity, which in turn enhances quality of life in the North Bay.

These are just some of the ways that SMART helps build communities. The following pages describe how SMART is thriving, keeps the region moving, and brings broader benefits than just train and pathway service. Throughout the report, citations in parentheses, like "(Mobility 1.1)," refer to sections of Appendix B, Technical Assessments. There, you can find additional details about the findings in the report.

**This document reads like a book.**

For best results in Adobe Acrobat:

1. Click the **page display icon**
2. Select **Two-page view**
3. Select **Show cover page**



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QUALITY OF LIFE STUDY

# SMART is thriving.



# SMART moves thousands every day.

With more than 280 train trips a week, SMART is running more service than ever before. People are taking advantage and riding the system in record numbers. Each weekday, over 4,600 people board a SMART train. In April 2025, SMART carried over 100,000 riders in one month for the first time.

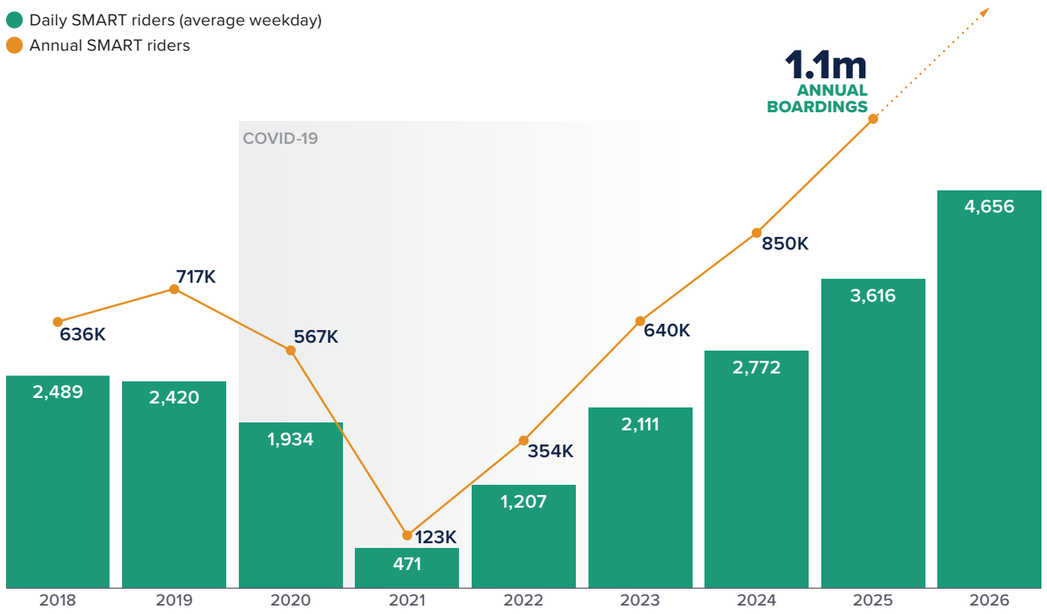
Since then, the system has consistently carried over 100,000 riders a month, with some months spiking to 130,000 riders. In fiscal year (FY) 2025, SMART reached a milestone when over 1.1 million people chose the train to get them to their destination. This was the first time SMART surpassed a million annual riders, and it was the highest year of ridership yet.

SMART trains weren't the only service to reach a million users in FY 2025. In the same year, SMART's pathway hit a record of over 1 million walking, biking, and rolling trips. Today, SMART is on track to meet its FY 2026 goals of serving 1.4 million rail trips and 1.2 million pathway trips. These signs point to the increasing popularity of the service as more and more people make SMART an everyday part of their journey.

**Mickey** · ❤ BY SMART
The train and pathways are an awesome addition to all communities they serve, and I see happy people every time I ride the train.

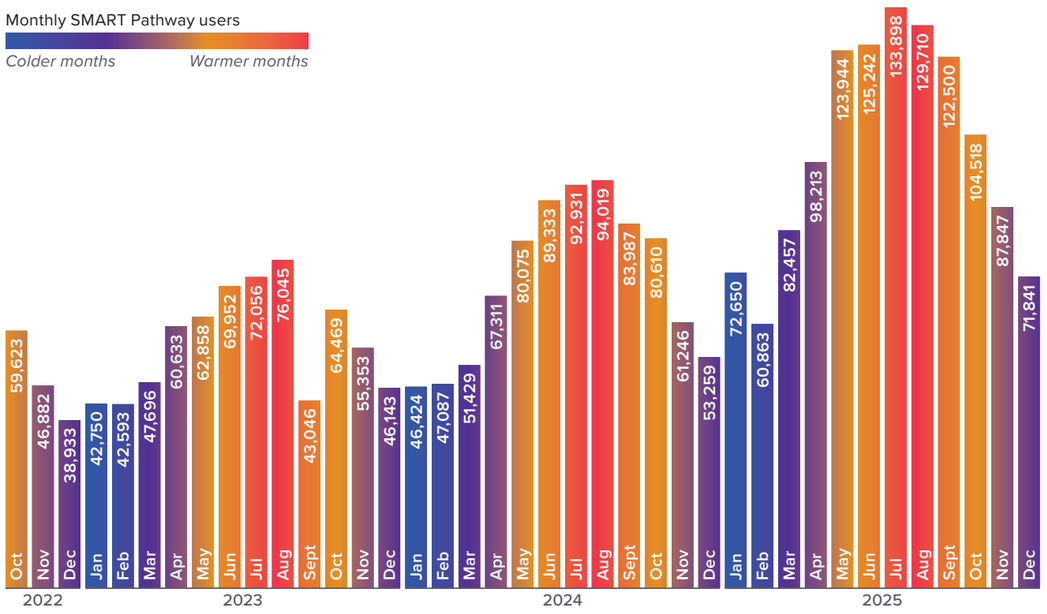


**More people are riding SMART trains every year.**




*Source: National Transit Database.*

**More people are using SMART's walking and biking pathway each year.**




*Source: SMART.*



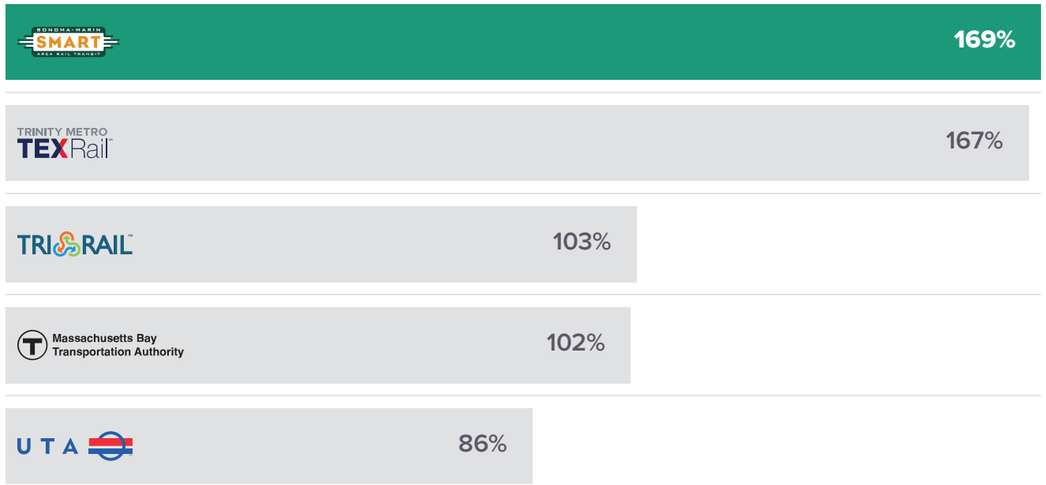
# More people are choosing SMART every year.

The COVID-19 pandemic decimated public transit ridership across the United States. Since then, no two transit systems have had the same path to recovery. SMART has been fortunate to not only regain riders lost during the pandemic, but to grow the community of riders every year since.

SMART has steadily added between 200,000 and 300,000 new passenger trips each year since 2021. Trains now carry a million more people than they did in 2021. This ridership recovery rate is the highest in the Bay Area and the highest for all commuter rail systems in the country (Mobility 1.5).

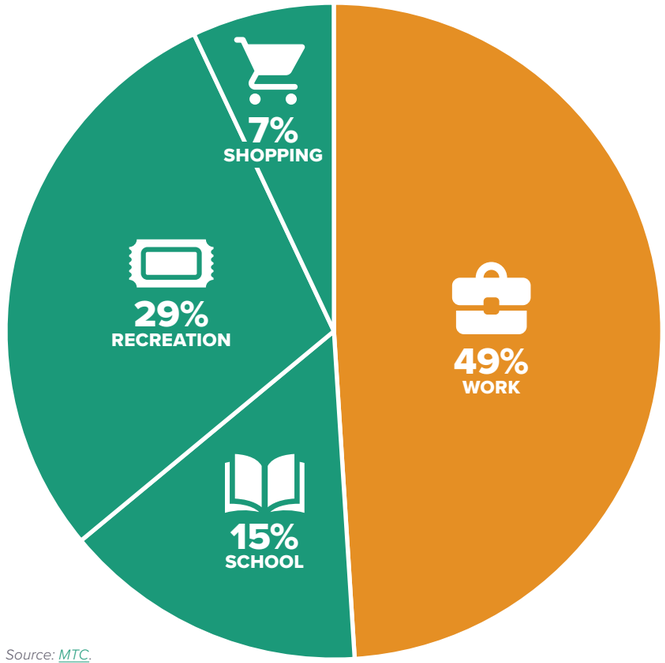
A large part of this story is that people are using SMART for a whole host of trip purposes—shopping, dining out, school, Giants games—not just commuting to work. In fact, school trips account for 15% of trips, and recreational trips account for almost a third of SMART's overall ridership. There's been notable growth in weekend ridership, too, which suggests that people are building the train into their weekend errands and leisure plans (Land Use Economics 2.3). These trips support small businesses, drive tourism, and keep spending local.

**SMART leads US commuter railroads in post-pandemic ridership recovery.**




Source: National Academies of Sciences, Engineering, and Medicine.

**Half of SMART trips are not for work.**




Source: MTC.

**Paige** · ♥ BY SMART
Outside of commuting hours, I take the train on weekends to spend time in different towns, and it's so easy to get to my destinations.

# Customers ♥ SMART.

**When asked about their experiences using SMART, riders shared the thoughts that you see throughout this study.**

People are choosing SMART not only because they can rely on it, but because they can count on a comfortable and pleasant trip—onboard the train and on the pathway. Onboard, people enjoy quiet trains, comfy seats, and world-class views. Paralleling the tracks, SMART's 39-mile walking and biking pathway offers a comfortable, low-stress, and mostly car-free facility that's accessible to all ages and abilities.



**Jessica** · ♥ BY SMART
The conductors on both AM and afternoon make the ride so enjoyable. I truly commend them on their customer service. They start and end my day with a smile!!

**Mira** · ♥ BY SMART
SMART has been a game changer in commuting to work! It has not only saved wasted hours in traffic but allowed a group of us from work to connect on a regular basis and grow together both personally and professionally.

**Marc** · ♥ BY SMART
The SMART Train gives me peace of mind and time back in my day. It connects me to work, nature, and my community—without the stress of traffic. For our region, it's more than just a train; it's a cleaner, healthier, and more connected way of life.

**Keith** · ♥ BY SMART
I am able to drive to work, but I still choose to take the train because of the staff members.

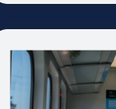


**Mickey** · ♥ BY SMART
I LOVE the SMART Pathway along Highway 101!





**Drew** · ♥ BY SMART
I use the SMART train every day to get to work, and it's made a huge difference for me. It's reliable, saves me from sitting in traffic, and gives me a little breathing room at the start and end of my day.



**Lance** · ♥ BY SMART
My family (with young children) moved to Santa Rosa after being impacted by Los Angeles wildfires in January, which has me working from San Francisco multiple days a week. SMART is my lifeline to balance work and family—couldn't do it without the train!

**Paige** · ♥ BY SMART
Riding SMART has changed my life! I commute from Cotati to Larkspur Monday-Friday, and every time I get on the train, I feel so at peace and safe. It's environmentally friendly, efficient, brings community together, and most importantly to me, allows me to not drive during weekdays.





*Source: Tom Rennie.*

# SMART is expanding.

Immediately after opening a new station in northeast Petaluma in January of 2025, SMART reached another milestone: the first train arrived in the Town of Windsor in May of 2025. The rail and pathway extension to Windsor now seamlessly links northern Sonoma County communities with every destination along the SMART corridor. Conversely, it's now easier than ever to enjoy all that the Town of Windsor has to offer.

SMART isn't done expanding. Rail and pathway service are expected to reach Healdsburg by the end of 2028, and a future station in Geyserville is also under study. At the same time, SMART is pursuing the remaining funding to complete the full extension of the system to Cloverdale.

Looking even further ahead, SMART and regional partners are exploring a potential rail connection to Suisun City—an expansion that would provide a direct link to the Capitol Corridor and the national passenger rail network.

The SMART Pathway is expanding, too. Today, the pathway is over 39 miles. Once complete, it will bring more than 70 miles of continuous, mostly off-street walking and biking paths to communities across Sonoma and Marin counties, connecting to a network of community paths extending north, south, east, and west from the railroad mainline.

# SMART has steadily expanded over nine years of service.

## 2008

**NOVEMBER** Sonoma and Marin county voters approve Measure Q, a ¼-cent sales tax to fund SMART.

## 2017

**AUGUST** SMART revenue service begins on August 25, 2017.

**OCTOBER** Sonoma Complex Fires burn thousands of acres.

## 2019

**OCTOBER** The Kincade Fire forces safety power shutoffs.

## 2020

**JANUARY** Downtown Novato and Larkspur stations open, and weekday service increases, improving frequency.

**MARCH** COVID-19 forces SMART to reduce service.

## 2021

**MAY** SMART increases post-pandemic service.

**JUNE** SMART reduces fares by 40%.

## 2022

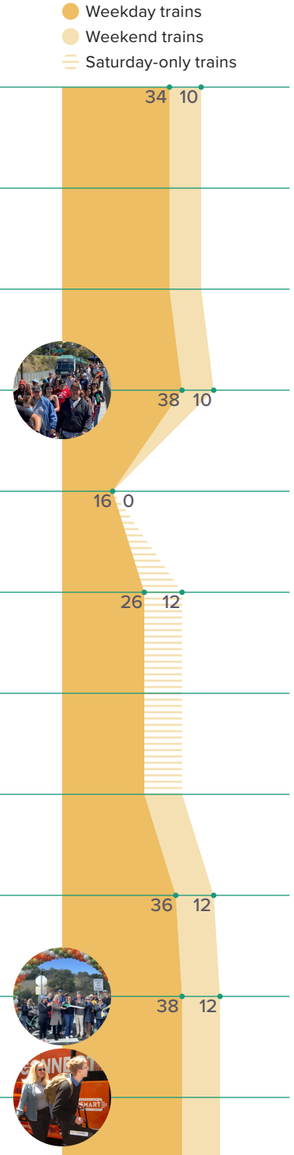
**MAY** SMART restores Sunday train service.

**JUNE** SMART increases weekday service, adding more trips and improving frequency.

**OCTOBER** A new pathway section opens in Petaluma, and weekday service increases.

## 2023

**JUNE** The SMART Connect Shuttle to Sonoma County Airport launches.










## 2023

**JULY** A new pathway section opens in Petaluma.

**OCTOBER** SMART increases weekend service, adding more trips and improving frequency.

## 2024

**APRIL** SMART makes service free for seniors and youth.

**JUNE** The SMART Connect Shuttle to Larkspur Ferry Terminal launches.

**AUGUST** SMART increases weekday service, adding more trips and improving frequency.

## 2025

**JANUARY** The Petaluma North Station and San Rafael pathway section open.

**MAY** Windsor Station opens.

**AUGUST** New pathway sections open in Petaluma, Rohnert Park, and Santa Rosa.

## 2026

**APRIL** SMART increases weekday and weekend service, improving frequency and span of service.

## 2028

Healdsburg Station opening is estimated for late 2028.

## Future

SMART service is planned to extend to Cloverdale, and the pathway will reach its 70-mile buildout.









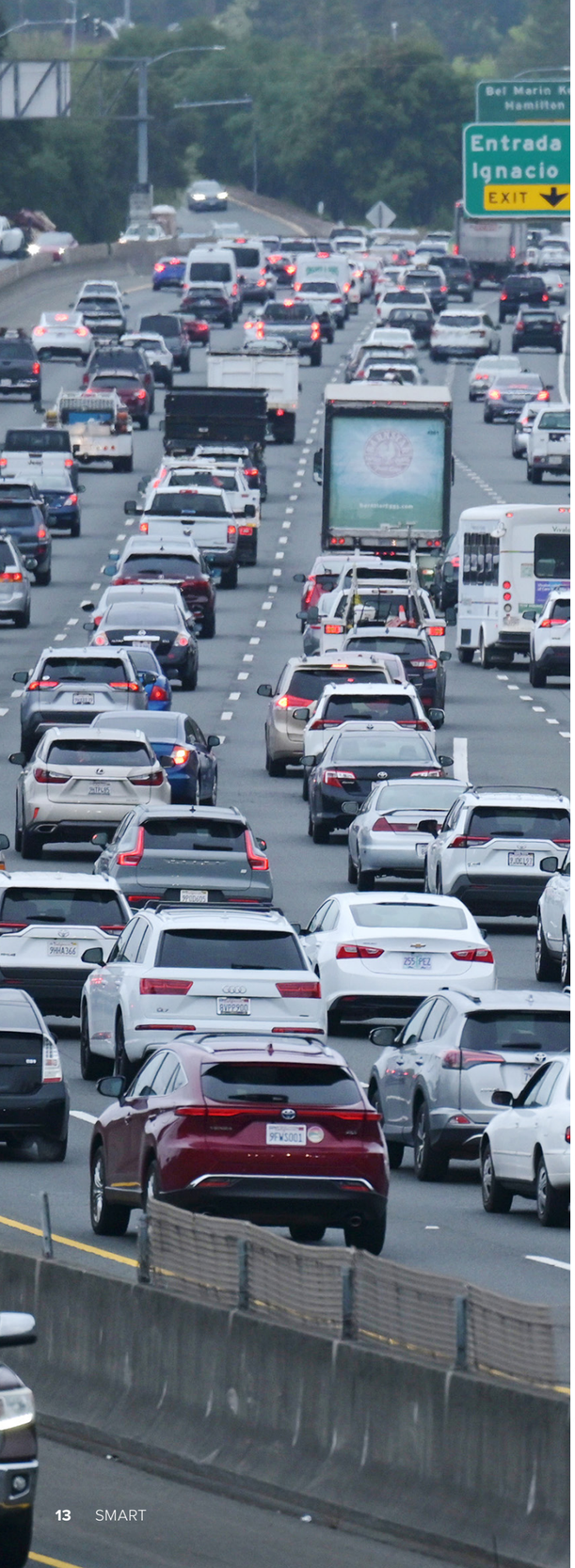




# Even if you don’t ride SMART, you still benefit.




Source: Scott Hess.




Source: Sherry LaVars/MediaNews Group/Bay Area News via Getty Images.

# SMART takes cars off Highway 101.

Every weekday—when traffic is at its worst—SMART takes thousands of cars off Highway 101. How is that possible? About 4,600 people ride SMART on a typical weekday (as of October 2025). Most cars traveling on Highway 101 have an average of 1.26 people in them, so if everyone who rode SMART drove instead, there would be an extra 3,700 cars on the road every weekday (Mobility 1.4).

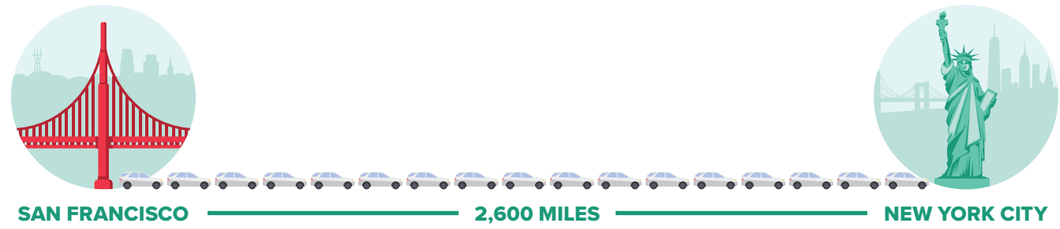
The average car is 15 feet long, so if you lined all those additional cars up end to end, they would stretch over 10 miles from the Golden Gate Bridge to San Rafael. If 10 miles of extra traffic sounds bad, imagine what that's like over the course of a year. Each year, SMART takes almost a million cars off Highway 101 (Mobility 1.4). If you were to line all those cars up, they would stretch 2,600 miles from the Golden Gate Bridge all the way to New York City!

SMART can't get you to New York City, and there are many places in the North Bay the train tracks don't go. But even people who never ride SMART still benefit. That's because when SMART takes cars off the road, traffic congestion on Highway 101 improves. Every morning, SMART shortens the period that Highway 101 is congested by 15 minutes (Mobility 1.3). If your Highway 101 trip happens on the edge of the rush hour, people riding SMART are helping you avoid congestion and reach your destination faster.

**Sam** · ♥ BY SMART
Morning traffic on 101 between Sonoma and Marin counties can be difficult, especially with the road work, and it's nice for the environment and my own wellbeing to be one less car involved in that.

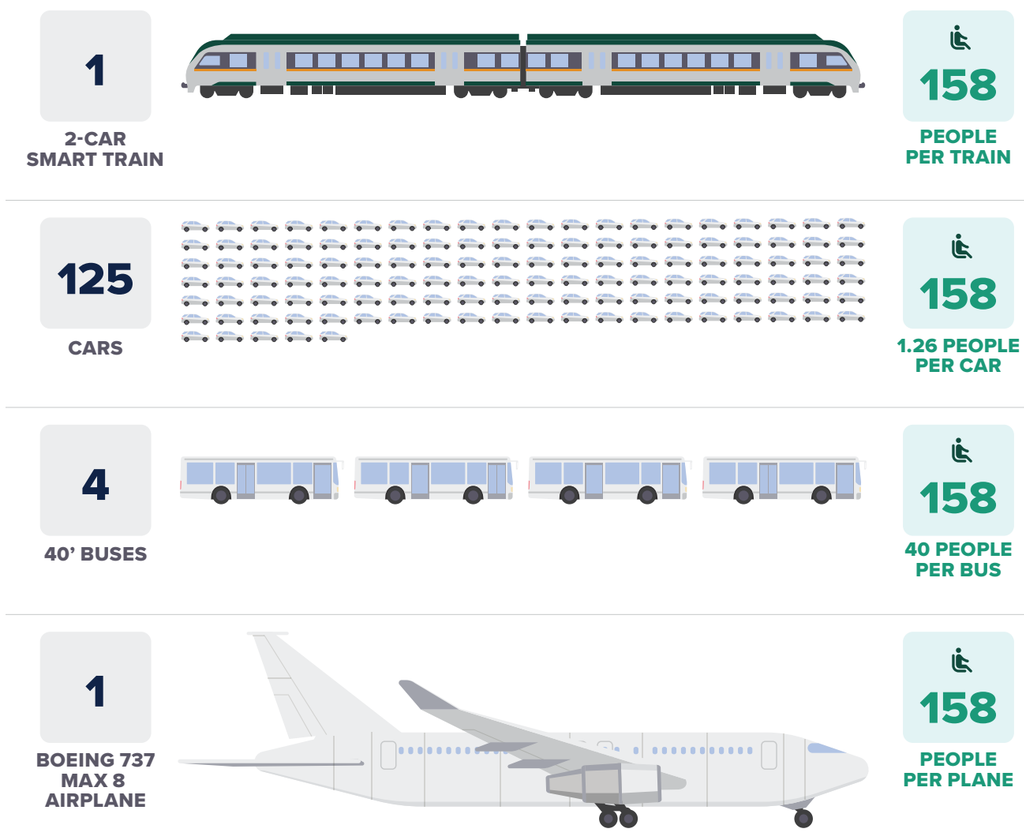
**Chris** · ♥ BY SMART
SMART makes my commute from Sonoma to Marin stress-free! My car is off the roads and especially Highway 101.

**Each year, SMART removes nearly a million cars from Highway 101, enough to form a 2,600-mile line from the Golden Gate Bridge to New York City.**




*Source: SMART (Mobility 1.4).*

**One full SMART train carries as many seated passengers as 125 cars, four buses, or a Boeing 737.**




*Sources: SMART (Mobility 1.4), New Flyer, Boeing.*





**Caroline** · ♥ BY SMART
I use the dedicated bike pathways by the railroad to have a safe passage to work. Cycling has had a great health benefit to me as well.

**Regino** · ♥ BY SMART
I don't drive so I ride my bike along the trails in Santa Rosa, and they provide me a safe space to also freely listen to my music and bike without the dangers of incoming traffic.

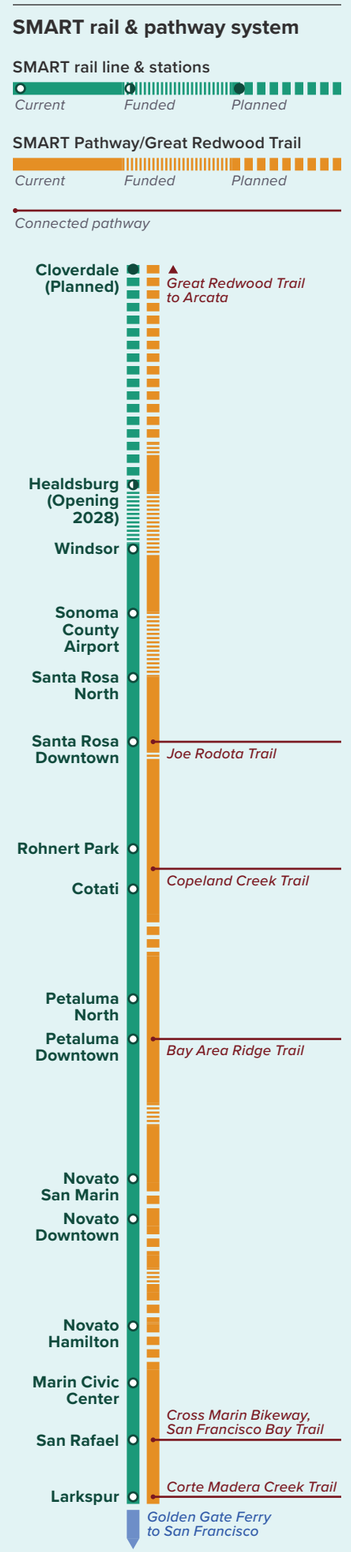
# SMART is making the North Bay more walkable and bikeable.

Ever since the first mountain bikers descended Mt. Tamalpais in the 1970s, the North Bay has been a destination for cycling enthusiasts from around the world. SMART is proud to support that legacy by making it easier for people to walk, bike, and roll throughout the region.

SMART and local communities have completed 39 miles of the planned 70 mile SMART Pathway—a primarily off-street corridor designed for safe and enjoyable walking and biking. Today, this pathway accounts for 16% of all off-street walking and biking routes across the two counties SMART serves (Mobility 3.1). At buildout of SMART and both counties' plans, users will be able to connect to an additional 94 miles of trails from the SMART Pathway, including the Bay Trail, Joe Rodota Trail, and Cross Marin Bikeway (Mobility 3.2).

When fully complete, the SMART Pathway will form the north-south spine for a larger, regional, low-stress walking and biking network connecting communities across Sonoma and Marin counties. You could begin your day on Bike Route 20 in Marin along the Corte Madera Creek, ride the SMART Pathway and Joe Rodota Trail to Sebastopol for lunch, ride back to Santa Rosa, and then take SMART home—with almost zero miles spent pedaling on city streets. The SMART Pathway also helps complete the southern segment of the Great Redwood Trail, a more than 300-mile trail between the Humboldt and San Francisco Bays.

Creating dedicated spaces for people to walk and bike not only makes it easier to travel on foot or by bike, but it also makes these trips safer. Completing the SMART Pathway will enhance safety and convenience for everyone, making it easier to walk and bike to the train and for everyday trips.



# SMART has broader impacts on the economy and environment.

SMART transforms communities, not just commutes. While mobility is a primary benefit SMART provides, there are countless others that come from the investment, construction, and operation of the rail and pathway system.

These benefits cascade broadly across society and positively impact quality of life. Running low-emission trains and taking cars off the road reduces the gases that contribute to climate change and helps safeguard the North Bay's pristine natural environment. And investing in the SMART system attracts jobs, creates sites for affordable housing, and links riders to the people and places that make life fulfilling.

**Gracie** · ♥ BY SMART
SMART brings reliable public transport, which is essential to a functioning community. It decentralizes cars and connects the community. It provides an affordable option for people to access school, work, local businesses and other parts of the community, all while encouraging sustainability.

- **Voters approve ¼-cent sales tax**
- **SMART secures matching grants**
- **SMART invests in system**
- **More communities served by SMART trains and pathway**

### More access to destinations

- More people and opportunities drawn to station areas
- More economic activity
- More thriving communities

### Fewer cars on the road

- Less traffic congestion
- Fewer pollutants and greenhouse gas emissions
- Avoided environmental damage

### Less personal money spent on transportation

- More money available for other needs
- More opportunity to thrive in the North Bay

### Safer facilities for biking and walking

- More trips made by walking and biking
- More exercise
- Improved health

### More SMART jobs

- More local jobs
- More money reinvested in the local economy
- More thriving communities



QUALITY OF LIFE STUDY

# SMART: Better than driving?



# SMART is on time 95% of the time—can you say that about Highway 101?

**Over a 40-year career, the typical Highway 101 commuter will spend more than 9 months delayed in morning and evening rush hour traffic.**




*Source: SMART (Mobility 1.1).*

One thing is almost certain: Highway 101 is congested during rush hour. On average, drivers experience 10 to 20 minutes of delay in each direction when traveling through Sonoma and Marin counties—adding as much as 40 minutes spent in traffic every weekday (Mobility 1.1).

It may not seem like much in a single trip, but the time adds up quickly. Weekday commuters lose as much as 3 hours and 20 minutes sitting in Highway 101 traffic every week. Over roughly 250 workdays a year, that becomes 167 hours—nearly an entire week—spent in congestion.

Stretch that across a 40 year career, and it adds as many as 278 days lost to traffic—over 9 months of your life on Highway 101, time that could be spent with children, family, and friends.

This means drivers must routinely build extra time into their commutes to account for delays and unpredictability.

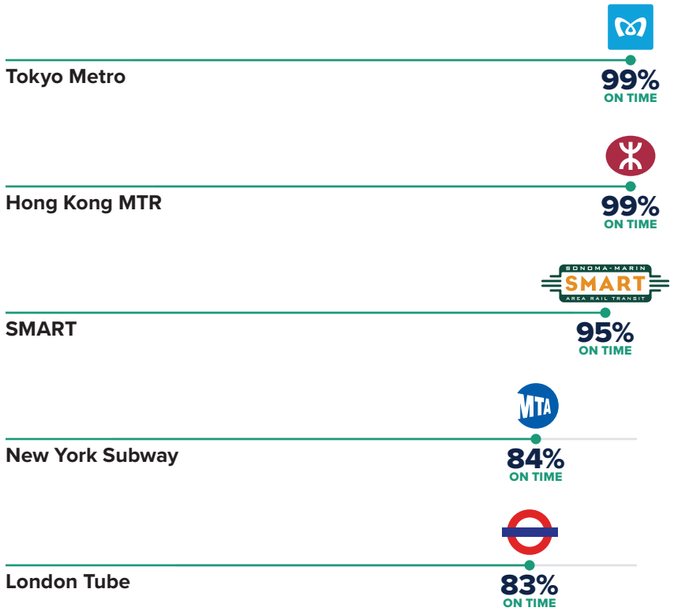
And the outlook suggests that congestion will continue to intensify. By 2050, even with the recent completion of the Marin-Sonoma Narrows widening project, morning drivers on Highway 101 will still need to budget, on average, an additional 12 minutes to account for delays (Mobility 1.2).

You don't have to deal with that on SMART. Trains run on time 95% of the time, placing SMART among the most reliable transit systems anywhere. For comparison, the famously punctual Tokyo Metro operates at about 99% on-time performance—a global gold standard.

SMART's consistency gives riders peace of mind. It matters for everything from childcare pickup to job interviews to first dates. When being late simply isn't an option, SMART offers one thing Highway 101 can't: reliability.

And when Highway 101 is most congested, taking SMART isn't just more predictable; it can be faster. Consider the southbound trip from Petaluma to San Rafael during the morning rush. Driving through stop-and-go traffic can take up to 40 minutes, filled with stressful merges, distracted drivers, and road rage (Mobility 1.1). The same trip on SMART takes 33 minutes—every time (Mobility 1.1). Always reliable, and in this case, faster than driving.

**SMART ranks among the top transit agencies in the world in terms of on-time performance.**




*Sources: Tokyo Metro, Hong Kong MTR, SMART, New York MTA, Tube Alerter.*

**Paige** · ♥ BY SMART
I know my routine will be on time every day and there's little to no fluctuation on the train schedules.

**Keith** · ♥ BY SMART
I don't have to sit in my car on the freeway while being stuck in traffic, it truthfully has helped me and my anxiety.

**Harold** · ♥ BY SMART
Driving to Marin every day is both exhausting and costly.

**Thomas** · ♥ BY SMART
Nothing, absolutely nothing beats passing all those cars on the freeway inching along at morning rush hour!

**Miniver** · ♥ BY SMART
I hate the traffic between Santa Rosa and Petaluma. It stresses me out every day. Taking the train has been a blessing.

# Riding SMART is safer than driving.

On Highway 101 alone, there are almost two crashes every day in Sonoma and Marin counties, or over 600 crashes a year (Safety 1.1). Some of these incidents are minor fender-benders. Others are life-altering.

Between 2018 and 2024, one in five Highway 101 crashes resulted in serious injury or even death, which averages to more than one traumatic event per week (Safety 1.1). The chilling reality is that these are not uncommon occurrences.

The frequency of these crashes makes trips on Highway 101 less safe and less predictable, but the financial toll ripples much farther. Crashes on just this stretch of Highway 101 have cost society an estimated $63 million *each year* between 2018 and 2024, including everything from emergency response and medical care, to insurance and legal fees, to property damage and lost productivity (Safety 2.1).

These costs get passed along to all of us in the form of higher prices for insurance, healthcare, and consumer goods—costs that everyone must pay regardless of how much they drive.

In comparison, riding SMART is much safer. On public transit, you are one-tenth as likely to die in a crash as you are while driving. This safe and dependable environment is something SMART riders value greatly. On a recent survey, 83% of customers felt safe on SMART (Safety 1.2).

**On average, a serious or fatal crash happens every week on Highway 101 in Sonoma and Marin counties.**




*Source: SMART (Safety 1.1).*

**When it comes to fatal traffic crashes, riding public transit is...**



**10X**

**SAFER THAN DRIVING**

*Source: APTA.*

**On the SMART system...**



**83%**

**OF CUSTOMERS FEEL SAFE**

*Source: MTC.*

**Beatriz** · ♥ BY SMART
It provides me with an excellent benefit, ensuring that every trip I take is a safe one.

**Ronny** · ♥ BY SMART
It's very fast and efficient and above all very safe. That's why I love traveling by train.



# SMART lets you do more while you travel.

Taking freeway driving out of the equation takes stress out of the equation, allowing you to do more with your time in transit. On SMART, you're free to read, catch up on work or studying, watch the scenery roll by, or take a much-needed nap. Customers have mentioned they've even become friends with fellow regular riders.

Since every SMART train has onboard staff, you can take peace of mind knowing that the atmosphere will be peaceful and calm for however you choose to spend your time. Off the train, the SMART Pathway lets you build exercise into your journey, representing another way the system helps you get more out of your travel.



**Drew** · ♥ BY SMART
I choose to take the SMART train because it's reliable, way less stressful than driving, and it gives me time to decompress or get stuff done during the ride. It's also just nice knowing I'm cutting down on my carbon footprint a bit. The pathway is great too—safe, clean, and perfect for biking or walking without worrying about traffic. It's a more peaceful, practical way to get around.

**Regino** · ♥ BY SMART
The SMART train is one of the only places I feel safe to practice my drawing skills. The four-seaters with the tables make it so easy to draw, enjoy the views, and relax.

**Marc** · ♥ BY SMART
I choose to ride the SMART Train because it transforms my commute into something meaningful. It's not just about getting from point A to B—it's about starting and ending my day with calm instead of chaos. I get to watch the landscape roll by, reflect, and feel connected to the place I live. With the added bonus of riding the trails between stations, it keeps me grounded, active, and present.





**Dominic** · ♥ BY SMART
Car free cycling on the path is fantastic. My work commute is a 20 min bike ride from home and then it's a relaxing train ride looking at the view or reading a book from Larkspur to Santa Rosa and back.



**Lance** · ♥ BY SMART
After 17 years of car commuting in Los Angeles, SMART is a game changer for my productivity and health.

**Chris** · ♥ BY SMART
I choose it to reduce my stress, have time to check emails, connect with coworkers, strangers and the great staff at SMART.



**Mickey** · ♥ BY SMART
The SMART train is always clean, the conductors are always friendly (Mike is my favorite), the train is rarely delayed, and I have met some awesome regular riders.

**Harold** · ♥ BY SMART
I've met so many great people here that we have become an extended friends group.



# SMART links opportunity and community.



# SMART brings the region's resources in reach.

The one-mile areas around SMART stations make up just 4% of the land in Sonoma and Marin counties; yet, these compact spaces account for more than 30% of all jobs and population in the two counties (Land Use 1.6). What this means is that SMART is incredibly effective at serving the people- and jobs-dense parts of the region.

If you're searching for a new job or apartment, there's a good chance it'll be within a short walk or bike ride of a SMART station. The SMART Pathway further extends the reach of economic opportunity by connecting people not only by train, but also by foot and bike.

This access only broadens when you consider transfers from SMART to other transit services like Golden Gate Transit, Marin Transit, and Sonoma County Transit. Over 70% of key destinations throughout the North Bay—schools, healthcare, jobs, and essential services—can be accessed in less than an hour when combining SMART and connecting transit services (Access 1.1).

Remote work patterns have stabilized since the pandemic, and travel to employment centers in Sonoma and Marin counties has rebounded to 93% of pre-pandemic levels (Land Use Economics 1.1). In other words, commutes are back. SMART ridership has surpassed pre-pandemic levels, and almost half of riders use SMART to commute to work. SMART is a matchmaker for people and jobs, helping employers tap into a broader workforce and enabling workers to access more job opportunities. This access is particularly vital for riders with limited or zero access to cars.

**The one-mile areas around SMART stations make up just...**

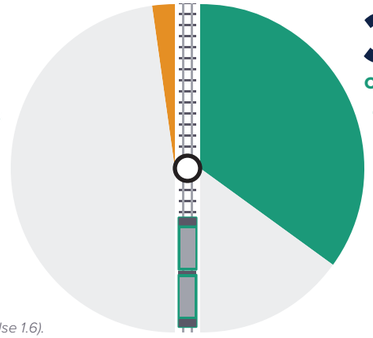
**4%**

**OF THE LAND IN SONOMA AND MARIN COUNTIES**

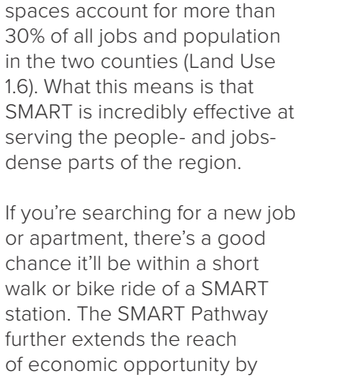
**Yet they account for more than...**

**30%**

**OF ALL JOBS AND PEOPLE IN THE TWO COUNTIES**



*Source: SMART (Land Use 1.6).*



## SMART unlocks advanced study opportunities for high school students.

**High school students are increasingly rounding out their education with advanced placement courses and career technical education offered outside their high schools at junior college campuses. SMART, with its connections to the junior college campuses in Sonoma and Marin counties, helps unlock these opportunities for students who might otherwise not have a way to get there.**




**Sam** · ♥ BY SMART
I was able to explore new employment opportunities further away from my home without relying on my car. I live in Santa Rosa and took a great job in Novato because I knew the SMART train could get me there reliably.

**Mira** · ♥ BY SMART
After getting a job near the Santa Rosa airport, I was looking for an easier transit plan to work to avoid the traffic. My concern was not being able to actually get to my office after arriving at the station. However, the [SMART Connect] shuttle makes the process nearly seamless!

**Steve** · ♥ BY SMART
The connection to the San Rafael and Santa Rosa transit hubs is ideal.

**Harrison** · ♥ BY SMART
I take [SMART] to school every day because my school is too far away for my parents to drive me every day.

# SMART gives independence to those who need it most.

**SMART is proud to serve a diversity of riders, including...**



**5%**
**WITH A DISABILITY**



**26%**
**WHO ARE UNDER 25**



**33%**
**WITHOUT CAR ACCESS**

*Source: SMART (Equity 1.1).*

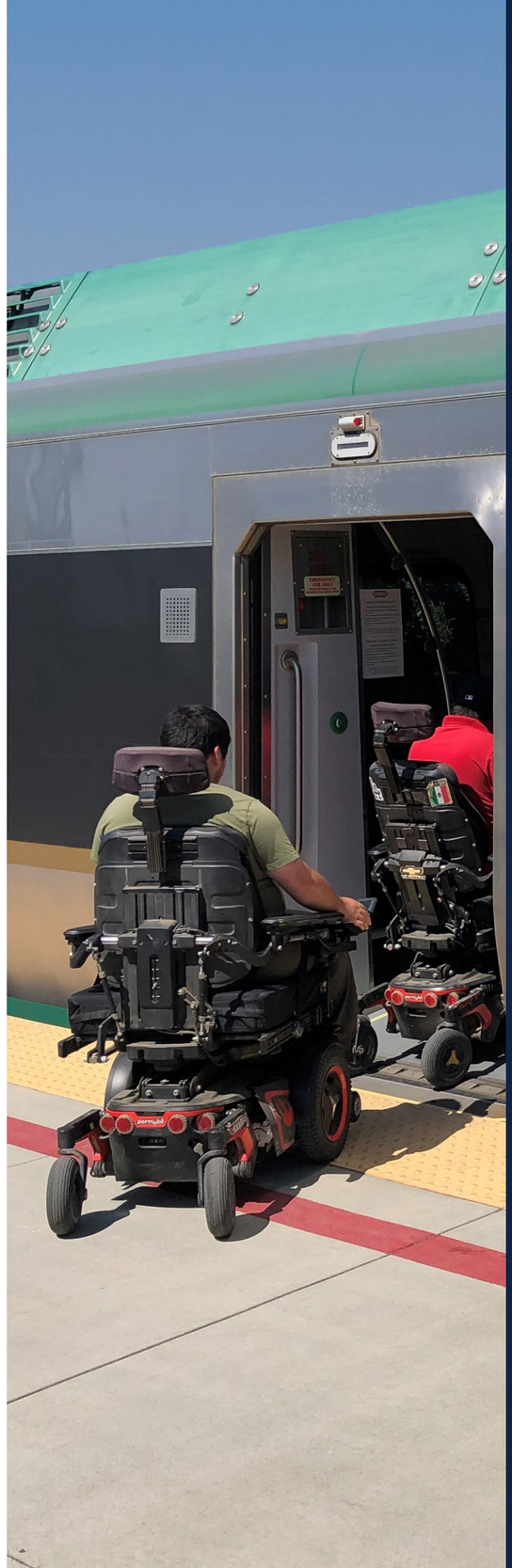
The convenience that driving brings isn't available to everyone. For some, the more than $11,500 cost to own and operate a car each year is simply unaffordable. For aging seniors, those with limited vision or mobility, and people with intellectual disabilities, driving may not be an option. And for others, like the children of working parents, getting to school, friends' houses, and after-school activities often needs to happen without a ride from mom or dad.

SMART helps to fill these mobility gaps. Five percent of SMART riders have a disability that limits their travel, a quarter are under 25, and a third don't have access to a car (Equity 1.1). In neighborhoods near SMART stations, almost 40% of households have limited access to a vehicle, and 6% have none at all (Equity 1.1).

To better serve the riders who need SMART most, fares became free for seniors and youth in 2024. This decision proved immensely popular. In just one year, youth ridership grew by 130%, and senior ridership grew by more than 70% (Mobility 4.1). Today, seniors and youth account for 43% of SMART's ridership, which mirrors their share of the population in the two counties served (Mobility 4.1).

These trends reflect more than just convenience; they reflect independence. For older riders without a car, SMART enables aging in place, where doctor's appointments and grandchildren are an easy train ride away. SMART can't help students get an A on the next test, but the trains and pathway do connect them to classrooms, study sessions, and after-school activities. For people with disabilities, SMART unlocks all the freedom that mobility provides. By offering accessible, dependable service regardless of age or ability, SMART opens up more of the North Bay to people without cars, ensuring that daily life isn't limited by lack of transportation.





**Steve** · ♥ BY SMART
The train provides a safe space for commuter students at the high schools in the area and eliminates time consuming and stressful parent drop offs!

**Alessandra** · ♥ BY SMART
Cheaper and more reliable transportation for getting to school...and I love the tables where I can do homework.

**Mauro** · ♥ BY SMART
We choose to use the SMART rail and pathway because the free ridership for my senior parents makes the trips affordable and easy for them.

**Keith** · ♥ BY SMART
Back on June 22nd of 2024, I randomly had a grand mal seizure. Not being able to drive for 3 months, I found I was able to still take the train to work.

**Andrea Akmenkalns, Executive Director, Credo High School** · ♥ BY SMART
Our students come from towns up and down the SMART corridor. They love the community aspect of travelling together. Families depend on it to get their kids to Credo. It's been great!

**Rocio** · ♥ BY SMART
It is a very useful form of transportation for me since I don't have a car to get to work every day.

**Gracie** · ♥ BY SMART
As someone who will never be able to drive due to a medical condition, I rely on SMART every day. The scenic ride to and from work is a highlight of my week.

**Gabe** · ♥ BY SMART
I get to travel to school more affordably, and I have been taking the train since high school!

**Candace** · ♥ BY SMART
We used to avoid going to the city because of cost and difficult parking, but now SMART makes it a breeze. We are seniors and don't worry about driving/not being able to drive because it takes us where we want to go.

QUALITY OF LIFE STUDY

# SMART brings local benefits for local people.



# In a world of rising costs, SMART remains affordable.

It's no secret that housing is expensive in the North Bay. At just under $1.6 million, Marin County had the highest median home values of *any* county in the United States in 2025. Inflation has also spiked across the Bay Area, as the prices for basic goods and services ratchet up. But a lesser-known driver of rising costs is just that—driving.

The price of an average new car hit an all-time high of $50,000 in 2025. Auto insurance costs have skyrocketed 60% since 2019, or twice the rate of inflation. And California has the highest gas prices of any state in the country. The result is that families across the North Bay spend nearly half their income on housing and transportation.

One cost that hasn't gone up is SMART fares. In fact, SMART fares went down in 2021, and they were eliminated altogether for seniors and youth in 2024. SMART also participates in the Clipper Start program, which offers eligible earners half-off on transit rides.

Low fares are important to SMART riders since about one in three lives in a household that earns $50,000 or less a year (Equity 1.1). That's just over $4,000 a month to cover rent, groceries, travel, and all of life's other expenses. For comparison, the average three-person family in California earns more than double this amount.

When every dollar counts, SMART helps riders control costs. And the savings are real. If you look at just the gas and maintenance costs, driving one way from San Rafael to Santa Rosa costs about three times more than the same trip would on SMART (Equity 2.3). That trip costs $6 for a full-price SMART fare, or about $18 to drive. So, a round trip would be $12 on SMART and $36 to drive. If you made that round trip commute 5 days a week for a month, a 31-day pass would cost you $117.

The comparable cost for gas and car maintenance? Around $720 (Equity 2.3). By taking SMART instead of driving, you'd have $600 more every month for groceries, clothing, or saving for a rainy day.

These comparisons only include gas and maintenance. If you look at all the costs that go into owning a car, driving from San Rafael to Santa Rosa becomes nearly *eight times* more expensive than riding SMART (Equity 2.3).

So, over a month of typical commuting, SMART still only costs $117, while the full costs of driving are closer to $2,000 (Equity 2.3). Riders get access to destinations up and down the SMART corridor at a fraction of what it costs to own a car.

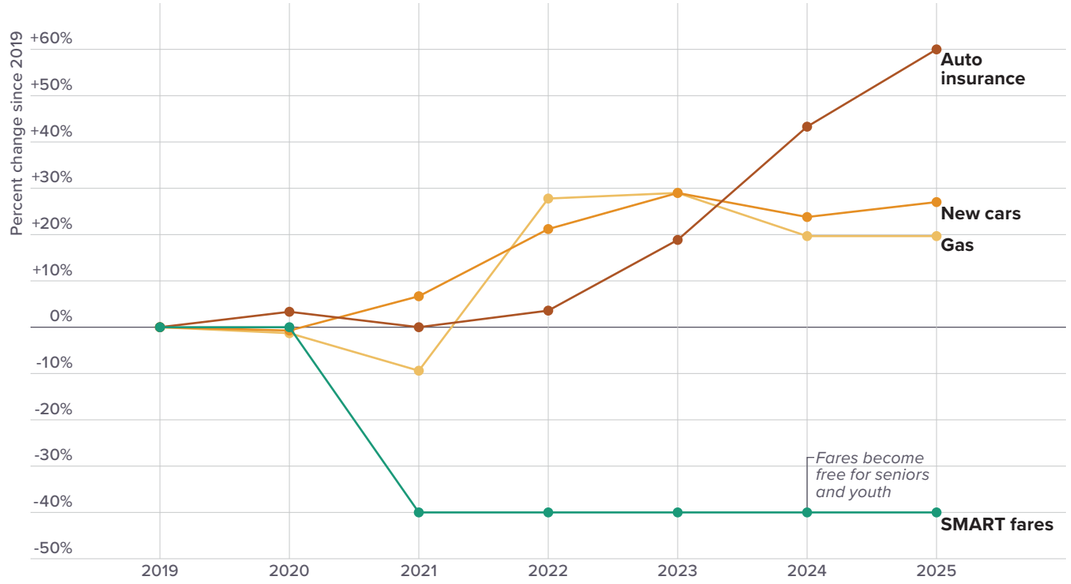
**Julie** · ♥ BY SMART
My car broke down last year around September and I work in Larkspur. I wouldn't be able to afford an Uber/Lyft every day. I would've been forced to quit my job, which could've been bad since I love where I work.

**Marc** · ♥ BY SMART
To drive this everyday cost me $100 every other day. But with the monthly pass, I only pay $117 for unlimited. It's a choice that's good for me, and good for my community.

**Steve** · ♥ BY SMART
It's a very comfortable and cost-effective option for me and my bike to get to work...The monthly pass is cheaper than the gas I would have to buy.

**Karen** · ♥ BY SMART
I would not be able to afford rent and other necessities were it not for the train.

**While most transportation costs have been rising, SMART has become more affordable.**




*Sources: SMART, US Bureau of Labor Statistics, Kelley Blue Book, US Energy Information Administration.*

**A month of commuting from Santa Rosa to San Rafael costs...**





*Source: Adobe Stock.*

## $117 BY SMART

- **Monthly pass**

SMART is free for seniors and youth and discounted for Clipper START, people with disabilities, and Medicare recipients.

*Source: SMART (Equity 2.3).*

## $2,000 BY CAR

- **Gas**
- **Car payments**
- **Insurance payments**
- **Maintenance**
- **Car registration**

# SMART supports housing so people don't have to leave the places they call home.

A North Bay with sufficient housing—at all income levels—is a place where parents don't have to worry about their children being priced out, seniors on fixed incomes can pay their rent, and working families can afford to buy homes. To achieve this vision, new housing needs to be produced in the North Bay. But *where* that happens matters immensely.

Today, there are about 5,500 income-restricted homes within a mile of a SMART station, or close to 45% of the affordable homes in Sonoma and Marin counties (Land Use Economics 3.1). SMART helps city and county partners guide growth in equitable ways and achieve affordable housing goals. Since 2017, SMART has helped communities win over $97 million in Affordable Housing and Sustainable Communities Grants, enabling construction of income-restricted housing and infrastructure projects linking homes to transit (Land Use Economics 3.1).

SMART forms a backbone not just for affordable housing, but for sustainable development. That's because new housing built in established cities near SMART stations harnesses what's known as transit-oriented development. In this model, transit, walking, and biking become better options for more trips. This reduces the amount of driving associated with new development, which curbs traffic impacts, limits greenhouse gas emissions, and maintains progress toward climate goals. Building new housing near transit also alleviates the pressure for cities to sprawl further into open spaces.

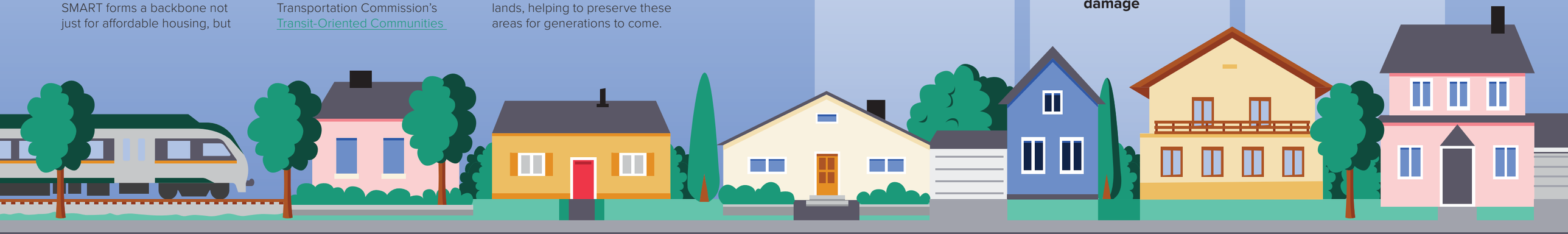
Each community along the rail line created a plan for new development around SMART stations or incorporated SMART stations into existing development plans. In total, over 8,000 potential new housing units were identified in SMART station areas, or about 40-45% of all potential new housing units across Sonoma and Marin counties, respectively (Land Use 2.1). In alignment with regional priorities like the Metropolitan Transportation Commission's Transit-Oriented Communities Policy, these local plans call for walkability, closely-knit mixtures of houses and businesses, and residential densities that enable transit-oriented development to work. As communities strive to meet housing targets and accommodate population growth, SMART offers a way to reduce the new driving, greenhouse gas emissions, and land consumption typically associated with development. By channeling growth along the rail line, SMART helps limit pressure on rural and agricultural lands, helping to preserve these areas for generations to come.

**Gracie** · ♥ BY SMART
I am so grateful [SMART] exists. It has definitely had a positive impact on my life and allowed me to stay in Sonoma County.

**Kendall** · ♥ BY SMART
My family and I lost everything in the recent wildfire, and SMART made it possible to start over.

**Transit-oriented development gets built near SMART stations**

- **More new development concentrated near SMART**
  - **More economic activity clustered near SMART stations/pathway, and communities thrive**
  - **Less sprawl into rural areas**
- **Fewer cars on the road**
  - **Less traffic congestion**
  - **Fewer pollutants and greenhouse gas emissions**
  - **Avoided environmental damage**
- **More trips made by walking and biking**
  - **More exercise**
  - **Improved health**



# SMART fuels the North Bay economy.



# People and businesses want to be near SMART.

People and jobs concentrate in areas with the best access. This helps explain why 30% of all the people and jobs in Sonoma and Marin counties are clustered in the one-mile areas surrounding SMART stations (Land Use 1.6). Nowhere else in the region has access from roads *and* trains. These areas act like magnets that draw people from all over Sonoma County, Marin County, and the broader Bay Area.

In fact, the North Bay's strongest trip attractors are community hubs with a high concentration of diverse destinations like Downtown San Rafael, Downtown Petaluma, and Santa Rosa's Railroad Square—places where SMART provides direct access to jobs, schools, shopping, dining, recreation, and civic services (Mobility 2.1).

These areas aren't just transportation hubs; they're economic centers. Local businesses in station areas flourish when people can get to work easily and when customers can reach destinations without relying solely on a car.

SMART's economic impact can be felt in real estate and retail trends. In the last five years, average commercial property sales prices near SMART stations were 700% higher than comparable properties farther away from stations (Land Use Economics 4.2). In 2023, retail space in SMART station areas generated over $5.3 billion in taxable sales, representing 40% of taxable sales in the two counties (Land Use Economics 4.1).

As demand for walkable, connected communities grows, both public and private investments are increasingly flowing to SMART station areas and nearby neighborhoods, including those just outside the station area that are reachable by a short transit, bike, or car ride.

SMART accelerates economic momentum not just today, but for future generations. As the region grows, housing and employment centers are increasingly being built near SMART stations (Land Use 1.2 & 1.3). This enables local communities to accommodate growing travel needs without contributing to rising vehicle traffic or congestion. This transit-oriented growth supports vibrant, walkable communities and boosts local investment.




*Source: City of Rohnert Park*

**Rohnert Park**

**Gerard Guidice, Mayor, City of Rohnert Park** · ♥ BY SMART
Downtown is a city's connecting thread—the heart of commerce, community, and gathering. In Rohnert Park, we have a rare opportunity to create this communal place from scratch. By locating it at our SMART station, we'll better connect to Sonoma County's pedestrian and cycling networks and expand access to our city for people across the region.

**Eames Institute**

**Brittany Ceres, Chief Operating Officer, Eames Institute of Infinite Curiosity** · ♥ BY SMART
The Eames Institute of Infinite Curiosity views proximity to the SMART station at San Marin as essential to the future success of our planned museum at the former Birkenstock campus. Accessible public transit is central to our values of sustainability, equity, and community connection—ensuring that visitors, staff, and collaborators can reach the site without relying solely on cars. The SMART train not only supports our environmental commitments but also strengthens regional connectivity, helping us welcome visitors from across the Bay Area to experience world-class art and design.

**Marin Country Mart**

**Jim Rosenfield, Owner, Marin Country Mart** · ♥ BY SMART
We are happy to have the connectivity to Sonoma County. Knowing those communities have access to the Mart and that our visitors could extend their trips to the North Bay gives opportunities that didn't previously exist.

**Steve** · ♥ BY SMART
I don't have a car and commute from Novato to Cotati. The proximity to the various Trader Joe's, Whole Foods, and Safeways allows me to still exist comfortably without a car.



**Mickey** · ♥ BY SMART
SMART brings people to Petaluma—people who come to eat and drink and explore and utilize the river and add to our great community. The SMART train adds an extra form of transportation which is available to everyone.

**Chris** · ♥ BY SMART
The SMART train station is right near our house so it makes it fun for our whole family to walk or ride bikes to the train station and not have to drive.

# When we invest in SMART, local economies prosper.

SMART doesn't just support North Bay commerce; it directly contributes to it. SMART keeps the local economy running by transporting workers and customers across Sonoma and Marin counties. SMART also directly employs over 150 workers, and nearly 75% of them live in the two counties.

This means that, while some of SMART's spending goes outside of the region, most employee wages, plus substantial portions of the wages SMART supports by purchasing goods and services, stay local. In other words, the money SMART spends on wages and services gets recycled back through the local economy.

SMART's annual operations, maintenance, and capital spending results in a local economic impact that is nearly double SMART's annual expenditure. In 2024, that economic impact totaled more than $116 million (Expenditures 3.1). For every dollar SMART spends to operate and invest in the system, $1.70 gets generated in local economic impact (Expenditures 3.1). By comparison, every dollar a typical person invests in the stock market is only likely to return $1.16 annually.

Transporting people keeps the North Bay economy on the move. About half of SMART users are commuting to jobs, and roughly one third are using the system for recreational outings.

Whether grabbing lunch at local hotspots, shopping, or visiting museums and cultural destinations, these recreational users are supporting establishments along the corridor. Non-work SMART train and pathway users spend an estimated $13 million annually at local businesses (Expenditures 1.3 & 2.1). That number grows when you factor in what SMART commuters spend.

GROSSMAN'S Noshery & Bar

**Matt Stern, General Manager, Grossman's Noshery and Bar**

· ♥ BY SMART

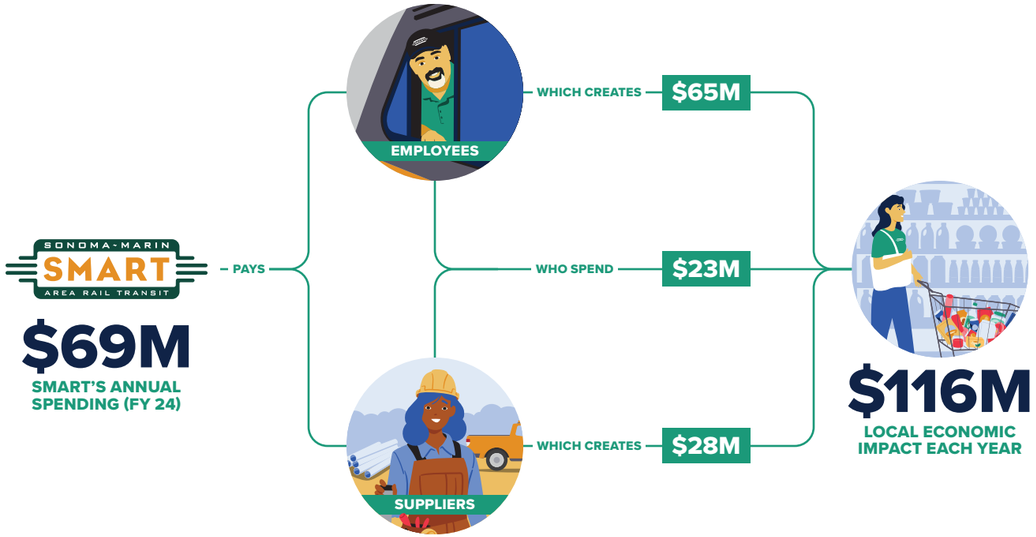
Grossman's is thrilled to be located so close to the SMART train. We have noticed a significant increase in business that can be directly attributed to the opening of the SMART train in the Santa Rosa downtown location. We have guests tell us daily that they took the train up from Marin just to get lunch at Grossman's. The one complaint we often hear is that guests wish that the train ran later in the day so they could stay in Santa Rosa longer before having to return home.




**SMART supports workforce development.**

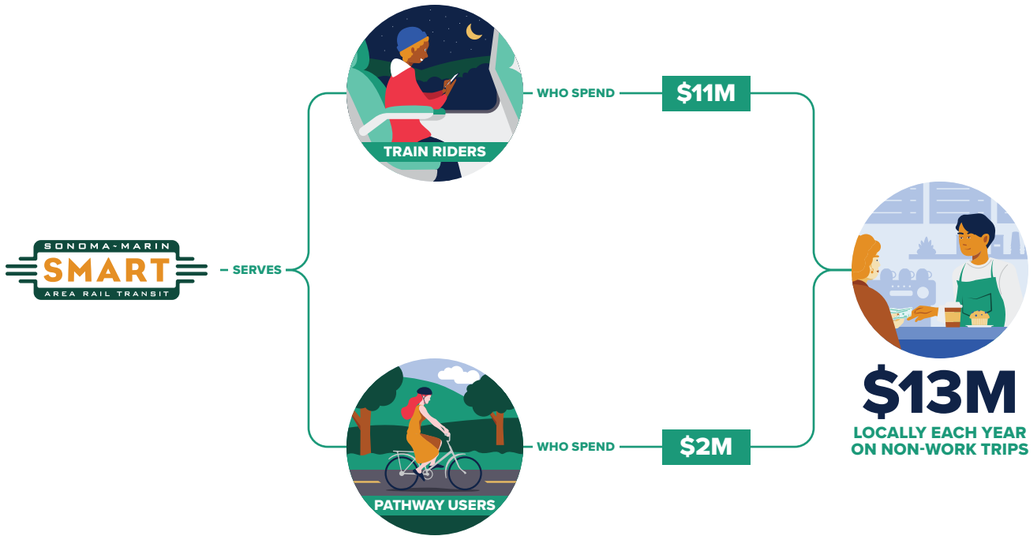
SMART has created, both internally and in partnership with Santa Rosa Junior College, technical training programs to support local workforce development, develop technical expertise, and create career pathways for SMART employees, of whom 75% live in Sonoma or Marin counties.

**SMART's annual operating, maintenance, and capital spending generates roughly $116 million in local economic impact.**




*Source: SMART (Expenditures 3.1).*

**SMART train riders and pathway users spend an additional estimated $13 million each year on non-work trips alone.**




*Source: SMART (Expenditures 1.3 & 2.1).*

# SMART attracts investment to the North Bay.




Measure Q, SMART's ¼-cent sales tax, has been helping to keep SMART running for the last 16 years. To make the investment from the community go farther, SMART has competed for and successfully won federal, state, regional, and local grants to help operate and expand the rail and pathway system. These two funding streams—a local sales tax and competitive grants—go hand-in-hand. Having a dedicated sales tax enables SMART to compete for many government funding programs, which in most cases require SMART to contribute local funding.

To date, SMART has more than doubled the community's investment. Since 2009, SMART has collected $611 million in sales tax funding and secured $735 million in outside grants to expand and improve the system. In other words, SMART has secured $1.20 in outside investment for every dollar of sales tax received. Without SMART, many of these federal, state, and even regional funds may not have been invested in Sonoma and Marin counties.

This funding helps operate and expand the SMART system, and when the system grows, the North Bay grows too. Adding more SMART stations, running more trains, and opening more miles of pathway means the areas near stations can accommodate more travel, more people, and more jobs. This gives the economy more resources to work with—more people to fill jobs, and more dollars to spend at local businesses. As more people thrive in the North Bay, the need to invest in SMART grows, and the virtuous cycle continues.

**For every dollar of sales tax received...**



**...SMART has drawn in $1.20 from other sources.**




*Source: SMART.*

QUALITY OF LIFE STUDY

# SMART keeps the North Bay moving in healthy, sustainable ways.



# SMART helps protect the North Bay's irreplaceable natural wonders.

**By 2050, SMART will avoid 131,000 metric tons of greenhouse gases, the same as the carbon stored in...**

## 146 ACRES OF OLD GROWTH REDWOOD TREES.

*Source: SMART (Environment 3.2); Adobe Stock.*

Sonoma and Marin counties are home to some of the planet's most spectacular natural environments: fertile agricultural lands, fog-capped rolling hills, old growth redwood forests, and jagged cliffs descending into clean coastal waters. It's everyone's shared responsibility to protect these resources against the mounting threats of urban sprawl and climate change.

Concentrating growth near SMART stations helps curb sprawl and reduce greenhouse gas emissions by shifting trips from driving to more environmentally friendly trains. To date, SMART has already prevented nearly 4,300 metric tons of greenhouse gas emissions from entering into the environment (Environment 3.2). When train service extends to Healdsburg and Cloverdale, this number will grow to 131,000 metric tons by 2050—the equivalent of the carbon stored in 146 acres of old growth coastal redwoods (Environment 3.2).

Excessive greenhouse gases cost society money, including costs associated with health, climate adaptation, and recovery from climate-related events like fires and droughts. By keeping all those metric tons of greenhouse gases from entering the environment, SMART has already saved society approximately $300 million in avoided climate damage (Environment 3.2). These savings will continue to accrue with each train trip that SMART provides. Additionally, SMART's freight business delivers over 600 railcars per year, offsetting the emissions equivalent to 1,800 trucks transporting goods and materials.

**Caroline** · ♥ BY SMART
Less cars & traffic on roads = less pollution.

**Gail** · ♥ BY SMART
My husband and I use [SMART] instead of driving, and can take our bikes on it. Less traffic, less carbon, more exercise.

**Keith** · ♥ BY SMART
The ability to take the train to a Giants baseball game or just to another town for breakfast, lunch, or dinner. All while helping the environment.



# Riding SMART is a way you can help make an impact.

**By choosing SMART instead of driving, daily SMART riders save...**



**218**
**GALLONS OF GAS EACH YEAR**

*Source: SMART (Environment 2).*

**And they produce...**



**36%**
**LESS POLLUTION PER TRIP THAN DRIVING**

*Source: SMART (Environment 2).*

Vehicle emissions are the largest single driver of greenhouse gases in the United States. In the North Bay, only about 6% of registered vehicles are electric or plug-in hybrids—nearly 80% still run on gas (Equity 2.2). It's true that SMART trains also run on fossil fuels, but the low-emission diesel engine that powers one fully loaded SMART train produces fewer greenhouse gases than it would take to move those same passengers in cars (Environment 1).

These emissions reductions add up. Over the course of a year, SMART riders can save 218 gallons of gas by taking the train instead of driving (Environment 2). With the average price of regular gas in California at over $5.80, this saves riders over $1,200 annually.

SMART's greatest environmental value is in shifting everyday travel away from cars. On average, SMART riders reduce their personal greenhouse gas emissions by approximately 36% compared to driving (Environment 2). At the same time, the SMART Pathway encourages walking and biking for shorter trips, creating a balanced, efficient approach to reducing overall vehicle travel while improving mobility.

Trips between Sonoma and Marin counties make up only 10% of trips in the region, but they account for 45% of all miles driven. Intuitively, this makes sense, as these lengthier journeys generate larger amounts of greenhouse gases. Each time you replace one of these long driving trips with a SMART ride, you're doing your part to cut down on greenhouse gas emissions, not to mention traffic congestion. The typical rider travels about 20 miles on SMART, which shows that people are already tapping into SMART's potential to replace longer driving trips (Mobility 2.1).

**Paige** · ♥ BY SMART
I love knowing that I am helping the environment by taking public transportation.

**Eleni** · ♥ BY SMART
The SMART train allows me to travel 50 minutes from Santa Rosa to San Rafael and back without spending gas and adding to traffic.

**Gracie** · ♥ BY SMART
[SMART] provides an affordable option for people to access school, work, local businesses and other parts of the community, all while encouraging sustainability.

# SMART supports active, healthy lifestyles.

The SMART Pathway now serves over a million people a year. Every day, pathway users generate approximately 118,500 minutes of physical activity, averaging 48 active minutes per person (Public Health 1.1).

Altogether, pathway users travel an estimated 6,200 miles *each day*. Usage is rising, too. From October 2024 to October 2025, monthly SMART Pathway users grew by 30%, increasing from approximately 80,000 to 104,500 users (Public Health 1.2).

Using the SMART Pathway is not just a fun way to travel; it's also good for your health. Walking and biking are associated with a 10% reduction in all-cause mortality, a 10% lower risk of cardiovascular disease, a 30% reduction in type 2 diabetes risk, and 30% lower cancer-related mortality among bike commuters (Public Health 1.3). These benefits are valuable in a region where about 24-28% of adults in Marin and Sonoma counties, respectively, are obese—rates that mirror a broader national public health concern.

**Jessica** · ♥ BY SMART
Walking to the train and to my office and back adds 6,000 steps to my daily routine.

**Chris** · ♥ BY SMART
The walk [to SMART] gives me a little extra exercise and I get a discount from work on my green commute!

**David** · ♥ BY SMART
I take the train every day from Petaluma to Santa Rosa and now I can bring my bike and bike home on the new bike path from Santa Rosa to Petaluma.



# SMART helps local jurisdictions meet their climate action goals.

SMART helps local government partners meet their environmental and climate action goals (Land Use 1.4). This is because local plans prioritize new development around stations, and SMART's rail and pathway systems give local communities a sustainable transportation framework to build around.

SMART's rail service and pathway help lower greenhouse gas emissions, reduce driving, and promote walking, biking, and transit use—core strategies identified in local climate action plans. Cities and counties across the North Bay have set goals to create safer, more connected networks for walking, biking, and riding transit, and to shift travel away from single-occupancy vehicles. SMART is helping them turn these goals into reality.

**Tyler** · ♥ BY SMART
For me, it's a stress-free commute that's cheaper and less dangerous than driving. For my community, it's an investment in cleaner transportation and an opportunity to combat climate change.

SONOMA-MARIN

# SMART

AREA RAIL TRANSIT



*Source: Tom Rennie.*

## Appendix A.

# Methodology

# Methodology

## Introduction

**SMART's Quality of Life and Economic Impact Assessment** ("SMART's Quality of Life Study") aims to evaluate the influence of SMART's rail and pathway construction and operations on critical quality of life indicators including mobility, the economy, land use, environment, public health, safety, accessibility, and equity. By analyzing the impacts and changes that have occurred since SMART's construction and the inception of service, as well as the potential impacts to come with the completion of the SMART rail and pathway system and its continued operations, the Study examines SMART's impact to date and future projected impact throughout North Bay.

The first phase of the Study involved conducting robust analyses to identify SMART's impact across SMART's two-county district. For each quality-of-life indicator, the Project team developed specific metrics to guide the evaluation. While many of the individual metrics are interrelated, with certain metrics informing multiple quality of life indicator areas, the Project team organized metrics under the most relevant primary indicator for the purposes of this methodology memorandum. When performing analyses, the Project team applied a mixed-methods approach that combined both quantitative and qualitative methods, including direct data analysis, interpolation where appropriate, spatial analysis, economic metrics, SMART user surveys, stakeholder engagement, and review of relevant plans and reports. This approach enabled a comprehensive understanding of both measurable outcomes and lived experiences, helping to contextualize SMART's contributions to broader regional goals.

The following memorandum is organized by quality-of-life indicator area. Each section begins with a matrix summarizing the methodology, including the analysis objectives, primary methods, data inputs, and outputs, followed by a discussion of data limitations encountered during the analysis process. The methodology for each analysis objective is then described in detail, including key considerations such as the time periods evaluated and the analytical approaches employed. Each analysis objective is assigned a reference key (e.g., Mobility 1.1) to support cross-referencing with the analysis results and broader themes in the final report as well as the study's indicator assessments. Last, each indicator area concludes with a list of analysis objectives that were considered but ultimately set aside for future analysis due to data or schedule limitations. As the Project team developed and synthesized feedback from outreach meetings and analysis approaches and methodology, it became clear that many analyses span multiple indicator areas and are interrelated and interdependent. As a result, the final report is organized around a broader set of themes that incorporate data from several of the quality-of-life indicator areas. Included in this methodology memorandum is a theme map that serves as a reference for how each analysis objective, identified by its key, aligns with the seven main themes that shape the final study.

# Mobility

The Mobility Impacts Assessment aims to understand how SMART's presence has influenced travel behavior in Sonoma and Marin counties by measuring and comparing the mobility impacts from SMART's existing and future rail and pathway networks. Key objectives include assessing travel time reliability, travel market share and origin-destination patterns, contribution to regional active transportation networks, and the impact of SMART's fare policies on youth and senior ridership.

## Methodology Summary Matrix

Below is a matrix that summarizes the high-level methods and data inputs and outputs for each analysis objective within the Mobility Impact Assessment.

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| **Mobility 1.1** Quantify the differences between traveling along US 101 and the SMART train during the peak travel period to determine possible travel time savings when riding SMART | **Data Analysis:** Using travel time data to measure drive time between San Rafael and Petaluma on US 101 parallel to the SMART corridor for comparison | Travel delay data for US 101 general purpose lane users based on US 101 High-Occupancy Vehicle (HOV) Lane Hours of Operation Study, derived from INRIX, 2024 (projecting travel times after Marin-Sonoma Narrows Project completion); SMART schedule; Volume data from Performance Measurement System (PeMS), 2024 | Drive time estimates at the peak period with average congestion delay for routes that are parallel to the SMART corridor |
| **Mobility 1.2** Measure the estimated travel time reliability on US 101 from 2022 to horizon year | **Data Analysis:** Using US 101 existing travel time data between Santa Rosa and San Rafael and modeled volume data to estimate the increase in travel time over the study period | Travel delay data for US 101 general purpose lane users derived from INRIX, 2024<br><br>Transportation Authority of Marin Demand Model (TAMDM) base and horizon year | Travel buffer index and travel buffer time on US 101 from 2022 to horizon year |
| **Mobility 1.3 & Mobility 1.4** Calculate peak spreading on US 101 for a scenario where SMART train riders are converted to vehicle equivalents | **Multiplier:** Use average vehicle occupancy for Sonoma and Marin Counties to estimate the rider to vehicle equivalent and calculate how those additional vehicles would impact the period of peak congestion on US 101 | Congestion data for US 101 general purpose lane users based on US 101 HOV Lane Hours of Operation Study (projecting congestion after Marin-Sonoma Narrows Project completion)<br>• SMART occupancy based on train occupancy leaving the Marin Civic Center station<br>• Average observed vehicle occupancy rates from US 101 corridor | Period of peak congestion on US 101 in the absence of SMART service and the vehicle equivalent of weekday passengers as vehicles based on average vehicle occupancy |
| **Mobility 1.5** Compare SMART's ridership recovery rate with other commuter rail systems nationally | Data Analysis: Using ridership data for commuter rail systems from the National Academies of Sciences, Engineering, and Medicine. 2025. The Future | 2019 and 2024 annual ridership data to measure the percentage of the change between the pre-Covid 19 year of ridership and a post-Covid 19 year of ridership | Percentage of the post pandemic ridership recovery of commuter rail systems nationally. |

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| | of Commuter Rail in North America. Washington, DC | | |
| **Mobility 2.1** Quantify travel markets at the station area level | **Spatial Analysis:** Using location-based data and outputs from the regional travel demand model, identify the person-trip travel market share for areas around existing and future SMART stations using origin-destination patterns<br><br>Where available, compare travel market assessment to origin-destination pairs from on-board survey to measure the existing transit share of the overall market | Replica Fall 2023 data set | Origin and destination matrix for person trips by station area and county-to-county travel |
| **Mobility 3.1** Quantify SMART's pathway contribution to the overall active transportation networks in the region in miles | **Spatial Analysis:** Using available local and regional datasets, measure the length of existing and future facility miles by city. | Local spatial data for existing bikeways networks | Percent and absolute miles of existing by jurisdiction |
| **Mobility 3.2** Quantify the number of total regional pathways and trail miles a path user can access from a destination on the SMART pathway at build-out. | **Spatial Analysis:** Using available local and regional datasets measure the length of existing and future facility miles that connect or will connect to SMART's existing and future pathway. | Local spatial data for existing and planned bikeways assuming 2050 build out for SMART, Bay Trail, Marin County's Initial primary active transportation network, and the Sonoma County Active Transportation Plan. | Miles of existing and planned networks and geographic area that SMART pathway connects with |
| **Mobility 4.1** Quantify number of youth and seniors currently being served by SMART and how free fare has supported populations with limited mobility options | **Data Analysis:** Using sampled rider data to compare to the market share from county level population projections<br><br>Compare youth and senior ridership from before and after the implementation of the Free-Fare Program for youth and seniors to assess utilization and increased ridership due to the program | Metropolitan Transportation Commission (MTC) travel survey data<br><br>SMART sample rider data | Outputs of analysis support SMART's efforts to support populations with limited mobility due to age<br><br>Increase in youth and senior ridership due to free fare program |

## Data Limitations

The following data limitations affected the Mobility Impact Assessments:

- The US 101 travel time projections used in Mobility 1.1 and Mobility 1.3 cannot be validated against real-world conditions until the completion of the Marin-Sonoma Narrows Project.
- The Mobility 1.1 and Mobility 1.2 analyses do not account for travel time to and from US 101 or SMART stations—only the equivalent travel time along US 101 for rail segments is considered.
- The future year forecast in Mobility 1.2 incorporates elevated work-from-home assumptions, which may suppress projected vehicle volumes.

- The Mobility 1.2 analysis does not reflect near-term changes to travel time reliability that may result from the completion of the Marin-Sonoma Narrows Project.
- The Mobility 2.1 analysis does not account for future travel markets due to limitations in the granularity of local and regional models, which prevent accurate aggregation of county-to-county travel.
- Data sourced from partner agencies may not reflect the most current conditions or updates, which could affect the accuracy of spatial and network-based analyses.

## Mobility 1.1

Midweek travel time estimates for driving between Petaluma and San Rafael on US 101 were compared to the equivalent SMART travel times. This segment of the corridor represents a typical SMART commute. Petaluma and San Rafael are SMART's highest ridership origin-destination (OD) pair, and the average trip on SMART is approximately 20 miles long, which is equivalent to the distance between the two stations. For all 15-minute time periods between 5 AM through 8 PM, US 101 travel times were calculated by adding estimated delay along relevant bottlenecks to the free flow travel time in the corridor. Delay estimates taken from US 101 HOV Hours of Operation Study, assuming completion of Marin-Sonoma Narrows project and bidirectional, proposed 5 AM to 10 AM and 3 PM to 7 PM HOV hours of operation. The SMART travel times were taken from the service's weekday schedule.

## Mobility 1.2

For this analysis, a multiplier was used to project future travel time reliability for driving between San Rafael and Santa Rosa on US 101. This OD pair includes all the major population centers within the SMART corridor and therefore inclusive of the travel conditions experienced by most US 101 commuters in Sonoma and Marin Counties. Midweek travel time data for US 101 were pulled from INRIX. This data included different percentiles of travel times for the month of May 2024. Travel buffer time, or the time a traveler needs to account for unexpected delays, was calculated as the difference between the 95$^{th}$ percentile and average travel times. To account for projected increases in congestion on US 101, the multiplier was generated by calculating the growth rate between volume-to-capacity (V/C) ratios along US 101 in the Transportation Authority of Marin (TAM) demand model for 2022 and 2050. The V/C ratios were pulled at the southbound bottleneck north of San Pedro Road, which was assumed to be the most congested portion of the travel corridor. This multiplier was then applied to average travel times and travel buffer times to estimate how much additional time drivers will need to account for unexpected delays in the future.

## Mobility 1.3 and Mobility 1.4

These two analyses both dealt with the impacts of vehicle trips on US 101 that are avoided due to SMART service. For Mobility 1.3, a peak spreading analysis was conducted to determine the degree to which SMART alleviates congestion on US 101 north of San Rafael during midweek peak periods. The US 101 vehicle volumes and queue characteristics were taken from an analysis of the expected impacts of the completion of the Marin Sonoma Narrows project and the related expansion of high occupancy vehicle (HOV) lane hours of operation. Existing HOV and general-purpose (GP) lane demand figures were taken from the US 101 HOV Hours of Operation Study, assuming the planned HOV hours of 5 AM to 10 AM and 3 PM to 7 PM. Assuming no queuing in the HOV lane, a proportional share of SMART

equivalent vehicles were assigned to GP lanes to get the anticipated demand per GP lane. This figure was compared to the GP lane capacity to find time periods when queues would form.

The average midweek occupancy for each train was assigned to the appropriate time period based on the SMART weekday schedule, and a vehicle occupancy of 1.26 was applied to average SMART ridership between Marin Civic Center and San Rafael to determine the number of vehicles that SMART service keeps off US 101. This vehicle occupancy figure was based on observations on US 101 along the SMART corridor.[1] Those vehicles were added to the previous analysis to determine how keeping these vehicles off the road impacts the duration of congestion on US 101.

For Mobility 1.4, a similar approach was taken to determine the total number of vehicle trips avoided due to SMART service on a typical weekday. This involved dividing the average weekday SMART ridership by the observed corridor vehicle occupancy.

## Mobility 1.5

Using the annual ridership for commuter rail systems nationally to assess the change in ridership from before the pandemic to after the pandemic to compare ridership recovery rates among commuter rail systems. 2019 data served as the pre pandemic year and 2024 data provided the post-pandemic year for comparison. The analysis focused on the systems with the highest recovery rate to determine how SMART is performing compared to other commuter rail systems.

## Mobility 2.1

To assess travel patterns relevant to SMART station areas, Replica data was used to estimate total person trips. Replica is a nationwide travel demand model that combines mobile location data, census information, and other observed datasets to provide detailed insights into activity and travel behavior at the census block group level. The analysis focused on trips that either originated or terminated within defined SMART station catchment areas, delineated by radii of 0.5, 1, 1.5, and 2 miles, for an average weekday in Spring 2024.

Because most person trips are short in distance, the dataset was filtered to include only trips exceeding 15 miles—representing travel more likely to be converted to a SMART rail trip, which have an average trip length of 21 miles (based on SMART's FY25 NTD annual report). These filtered trips were summarized into an origin-destination (O-D) matrix, identifying the share of countywide trips that begin or end within existing or proposed SMART station areas. Additionally, the analysis quantified trips crossing the Marin-Sonoma County line to estimate inter-county travel demand that could potentially be served by SMART.

## Mobility 3.1

To understand the contribution of the SMART pathway to safe, off-street bicycle and pedestrian infrastructure to the local jurisdictions of Marin and Sonoma Counties, a spatial analysis was conducted. This analysis measured and summarized the portion of Class I bicycle facilities attributed to the SMART pathway system that are within jurisdictional boundaries of Marin and Sonoma counties. For comparison,

[1] For other metrics that deal with vehicle trips beyond just US 101, the regional vehicle occupancy statistic was taken from the latest available American Community Survey (ACS) from the US Census Bureau.

the analysis also summarized Class I bicycle and pedestrian facilities from local jurisdiction networks to evaluate the relative contribution of the SMART pathway to the broader active transportation system.

### Mobility 3.2

To evaluate SMART's role in enhancing regional active transportation connectivity, a spatial analysis was conducted to quantify the total miles of bikeways and trails accessible from destinations along the SMART pathway at full build-out. The analysis included all types of bicycle and pedestrian facilities—both existing and planned—using geospatial layers from local and regional agencies, including the Bay Trail, Marin County's Initial Primary Active Transportation Network, the Sonoma County Active Transportation Plan, and jurisdictional bikeway plans. Assuming a 2050 build-out scenario, the analysis measured the length of facilities that intersect or connect with SMART's current and future pathway network along the entire corridor. The resulting mileage highlights SMART's contribution to a more integrated and accessible regional trail system across Marin and Sonoma Counties.

### Mobility 4.1

Utilizing SMART ridership data from the first year of the free-fare program for youth and seniors, the average percent change of youth and senior riders between March 2024 and March 2025 was calculated. SMART staff conducted manual counts on both weekday and weekend trips for several time-of-day categories, including early AM, peak AM, midday, peak PM, and late PM. These categories were used to create a weighted average of boardings. The counts collected in March 2025 were compared to data from March 2024, which was the last month of paid youth and senior boarding data to yield the percent increase in youth and senior ridership after one year of the free-fare program.

### Objectives Considered

The following objectives were considered but dismissed for further analysis due to readily available data limitations including local travel demand models not aligned and validated to the full SMART service area.

- Change in Vehicle Miles Traveled (VMT) to date
- Future VMT impacts forecasted out to future year 2050
- Fuel usage impacts, as it corresponds to trips shifted on to rail, to date
- Fuel usage impacts that will result from a full build out of SMART rail and pathway in future year 2050
- Projected future ridership in 2050 as it affects mobility impacts.
- Truckload equivalents forecasted through 2050

## Access to Opportunity

The Access to Opportunity assessment aims to better understand SMART's access to points of interest. The Project Team estimated current access to jobs, housing, educational, and other opportunities from the existing pathway and rail network to date and the potential future impacts and outcomes expected with a completed SMART rail and pathway system. By quantifying access to destinations throughout the

North Bay, the analysis helps illustrate how SMART expands mobility options and connects communities to the resources they need.

## Methodology Summary Matrix

Below is a matrix that summarizes the high-level methods and data inputs and outputs for each analysis objective within the Access to Opportunity Impact Assessment. Additional metrics related to access were evaluated as part of the land use assessment.

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| **Access 1.1** Quantify how SMART rail and pathway increases access to key destinations in the counties | **Spatial Analysis:** Using point of interest (POI) data from open street map, job data from Longitudinal Employer-Household Dynamics (LEHD), General Transit Feed Specification (GTFS) data to develop travel isochrones to measure the number of destinations that can be reached within a 30min, 45 min and 1 hour travel time budgets. | Open Street Map (OSM)<br><br>General Transit Feed Specification (GTFS) for regional and local transit providers<br><br>Longitudinal Employer-Household Dynamics (LEHD) | The number of grocery stores, medical services, regional parks/green space, shopping centers, farmers markets, tourism destinations (such as wineries), schools, jobs, community services, key affordable housing projects that are and will be reachable by SMART and the number of people that have access |

## Data Limitations

The following data limitations affected the Access to Opportunity Impact Assessment:

- OpenStreetMap (OSM) data is crowdsourced and may be incomplete, outdated, or inconsistent across geographic areas.
- LEHD work location data is derived from administrative records and may not accurately reflect distributed or remote workforce patterns.
- The analysis may not account for planned transit schedule improvements or new SMART station openings that occurred after the data was processed.
- Data obtained from partner agencies may not reflect the most current updates or planned infrastructure changes, which could affect the accuracy of connectivity and access estimates.

## Access 1.1

To evaluate how SMART rail and pathway infrastructure improves access to key destinations across Marin and Sonoma Counties, a spatial analysis was conducted using network-based travel time calculations. Isochrones were generated for all SMART stations which incorporates scheduled transit service (via GTFS), walking connections, and transfer times to reflect realistic multimodal travel conditions. Travel time budgets of 30, 45, and 60 minutes were used to assess access across a range of trip types.

The analysis integrated OpenStreetMap (OSM) data to identify points of interest and Longitudinal Employer-Household Dynamics (LEHD) data to locate employment centers. Destinations included grocery stores, medical services, regional parks and green spaces, shopping centers, farmers markets, tourism destinations (such as wineries), schools, jobs, community services, and key affordable housing projects. The analysis also estimated the number of people who currently have, or will have, access to

these destinations via SMART. The results demonstrate SMART's substantial contribution to expanding mobility options in North Bay by improving access to essential services, employment, and recreational opportunities.

### Objectives Considered

The following objectives were considered but dismissed for further analysis due to the lack of readily available data and the granularity needed for validated analyses.

- Locational influence for businesses and residents assessed through survey(s) of employees/home buyers to find out if the availability of rail service was a factor in taking a job or buying a house in Sonoma or Marin County, compared to the availability of bus service. For example, surveying recent home buyers in Marin County to ask, "whether the availability of SMART rail service have a positive, negative, or neutral impact on your decision to buy a home," and asking the same for bus service to see the difference in perception. Instead, a broader survey was employed to gather input from SMART users on their reasons for using SMART's rail and pathway, and what benefits they believe they and their communities derive from the rail service and pathway facility.
- Broadband access increased through SMART to date and into the future with the full build-out of SMART

## Equity

Transportation equity is achieved through the proactive and community-centered removal of travel barriers and transportation-related disparities for historically and systemically marginalized and excluded populations. The term equity is most often associated with low-income, disability, and racial minority populations, as many individuals in these populations encounter travel barriers and burdens more often than many individuals in higher income, non-disabled, and white populations. Yet, these are not the only populations that have been systemically deprioritized by transportation planning. As is true across the United States, Marin and Sonoma County's transportation planning process has prioritized mobility for cars over mobility for people, with an emphasis on moving commuters. The resulting transportation system puts non-drivers at a disadvantage, creates a safety and comfort disparity between fast-moving vehicles and people walking and biking, and is particularly impactful on the oldest, youngest, and other vulnerable road users. This study aims to evaluate impacts for Historically Underserved Communities, Non-Drivers, and Vulnerable Road Users throughout all topic areas by weaving in demographic analyses, where appropriate, to identify travel barriers and disparities within the SMART travel shed.

### Methodology Summary Matrix

Below is a matrix that summarizes the high-level methods and data inputs and outputs for each analysis objective within the Equity Impact Assessment. Additional metrics related to equity were derived from the MTC Snapshot Survey Results.

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| **Equity 1.1** Spatially quantify SMART's benefits distribution, looking both at SMART's | **Spatial and Data Analysis:** Using census data and various buffer areas around SMART stations, | US Census American Community Survey (ACS)<br><br>MTC travel survey | Demographics of SMART riders, pathway users and countywide baseline for the following variables:<br>• Income |

| | | | |
|---|---|---|---|
| riders and communities served. Compare survey data to the census data for ½ mile around the station | summarize the populations served by SMART. Use the MTC travel survey data to understand the current demographics of SMART riders for comparison of the overall service population. | | • Race/ethnicity<br>• Age<br>• Access to vehicle<br>• Disability status |
| **Equity 2.1 - Equity 2.3**<br>Quantify the commute costs and trade-offs of a SMART rider and path user and how those compare to a single-occupancy vehicle driver | **Multiplier:** Using data published by the U. S. Department of Housing and Urban Development, AAA, and the California Department of Motor Vehicles (DMV), quantify the combined burden of housing and transportation costs, average auto ownership cost (depreciation, finance, insurance, license, registration, and tax costs per auto), auto use costs (gas, maintenance, and repair costs per mile) for a resident in the North Bay on a monthly and yearly basis | U.S. Department of Housing and Urban Development (HUD) Location Affordability Index Tool | Combined burden of housing and transportation costs<br><br>Total commute cost for single-occupancy vehicle |

## Data Limitations

The following data limitations impacted the Equity Impact Assessments:

- Demographics from SMART pathway users may not be available from a surveyed source, limiting demographic comparison analysis to county populations.

## Equity 1.1

Spatial data analysis in ArcGIS was used to estimate the demographics of the population living within various distances from SMART stations, including half mile and one-mile buffers. Spatial analysis tools are used to calculate the proportion of populations and their demographic characteristics living within the buffers. Demographics are estimated using data from the American Community Survey (ACS) 5 Year Summaries covering the years 2019 through 2023, including tables B01001 (Sex by Age), B03002 (Hispanic or Latino Origin by Race), B18101 (Sex by Age by Disability Status), B25044 (Tenure by Vehicles Available), and S1901 (Income in the Past 12 Months). The ACS demographic data was then compared to the MTC (Metropolitan Transportation Commission) On-Board Survey findings from 2023-2024 to assess how the overall service population SMART serves compares to SMART rider demographics.

### Equity 2.1

The Center for Neighborhood Technology publishes the Housing and Transportation (H+T) Affordability Index, which provides affordability information at various geographic scales. The H+T Affordability Index uses 2022 American Community Survey (ACS) 5-Year Estimate and 2021 Longitudinal Employer-Household Dynamics (LEHD) data as inputs. Data collection and analysis of the H+T affordability index was used to estimate the average housing and transportation costs as a percentage of average household income and total transportation costs for Sonoma and Marin county households and the MTC region, which covers the nine Bay Area counties (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma). More information about the H+T Affordability Index can be found here.

### Equity 2.2

The California Department of Motor Vehicles (DMV) publishes data that outlines vehicle fuel type by zip code, with the most up to date data from the 2024 calendar year. Tabular data analysis was used to estimate the number of vehicles of each fuel type (battery electric, diesel and diesel hybrid, flex-fuel, gasoline, hybrid gasoline, hydrogen fuel cell, natural gas, other, and plug-in hybrid) in both Marin and Sonoma counties to assess electric vehicle adoption rates used to inform the cost of driving analysis (*Equity 2.3*), as the cost of driving takes into account the cost of fueling different types of vehicles. Because the data from the California DMV is provided by zip code, zip codes for Marin and Sonoma counties, respectively, are isolated. More information about the California DMV datasets can be found here.

### Equity 2.3

Using inputs from *Equity 2.2* and AAA, the commute costs broken out by vehicle type and then further by variable and fixed costs of driving are estimated by mile driven. Variable costs of vehicle ownership include fuel and maintenance costs, whereas fixed costs of vehicle ownership include license, registration, taxes, depreciation, and other financing. A sample of vehicle types are selected for analysis, including hybrid (compact SUV), electric vehicle (medium sedan), midsize pickup, small sedan, and compact SUV (front wheel drive) to estimate the cost of vehicle ownership and driving for a variety of vehicle and fuel types based on top-selling 2024 models. Tabular data analysis was used to estimate the total variable and fixed costs per mile and costs for a sample trip from San Rafael to Santa Rosa are estimated to compare to the average and full SMART fare costs for that same trip. More information about the AAA cost of vehicle ownership can be found here.

## Environment, Public Health & Safety

The environment, public health and safety assessments evaluate the benefits of SMART's rail and pathway system in terms of air quality, greenhouse gas (GHG) emissions, health, and safety across both existing and full build-out scenarios. A transportation system that prioritizes safe, active, and accessible modes of travel can support healthier communities by reducing the risk of injury, encouraging physical activity, improving air quality, and enhancing overall well-being. Key objectives include quantifying public health benefits generated from the SMART Pathway and travel to rail stations, safety costs and impacts

associated with collisions, and environmental outcomes related to greenhouse gas emissions and air pollution.

## Methodology Summary Matrix

Below is a matrix that summarizes the high-level methods and data inputs and outputs for each analysis objective within the Environment, Public Health and Safety Impact Assessments.

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| **Public Health 1.1 – 1.3**<br>Measure the public health benefits generated through active travel on SMART's Pathway and to SMART Rail stations | **Data Analysis:** Utilizing published research and data collected along the SMART pathway to quantify the public health benefits generated due to SMART services | Literature Review<br><br>Pathway Intercept Survey (2023), SMART<br><br>Bicycle Pedestrian Counter Data, SMART | Identified reduction of cardiovascular health risk, heart disease and health costs at regional scale<br><br>Average active minutes and miles traveled on the SMART Pathway per day and per year |
| **Safety 1.1 & 1.2, Safety 2.1**<br>Quantify the costs and safety impacts associated with driving collisions | **Data Analysis:** Utilizing published research and recent collision statistics to quantify the costs and impacts due to vehicle collisions | Literature Review<br><br>Local collision data (Transportation Injury Mapping System, 2018 – 2024)<br><br>MTC On-Board Survey | Average collisions per day/month on US 101<br><br>Identified cost impacts (insurance, healthcare, lost wages, repair, etc.) on a regional scale of collisions by severity<br><br>Perceptions of safety from Marin and Sonoma County residents |
| **Environment 1**<br>Quantify the greenhouse gas savings per typical trip | **Data Analysis:**<br>Utilizing trip length, fuel consumption, and emissions data, quantify GHG emissions per round trips by train and compare them to emissions from corresponding trips by personal vehicle.<br><br>Utilizing social cost of greenhouse gases data from US Environmental Protection Agency (EPA), estimate avoided climate damage. | Average train trip length based on operational data (SMART)<br><br>Personal vehicle round trip length based on commute surveys.<br><br>Vehicle occupancy from American Community Survey (2023)<br><br>Average vehicle emissions per mile in Sonoma/Marin from emission factor (EMFAC) model<br><br>Train diesel fuel consumption from SMART<br><br>GHG emissions factor for diesel fuel from US EPA<br><br>US EPA (2023) estimate of social cost of GHG emissions. | Pounds of $CO_2$ equivalent GHG emissions reduced per trip.<br><br>Dollars of climate damage avoided per trip.<br><br>Equivalencies in terms of avoided gas powered passenger vehicles, gallons of gasoline, pounds of coal burned, home energy use, tons of waste recycled instead of landfilled, and tree seedlings grown. |

| | | | |
|---|---|---|---|
| | | US EPA equivalencies calculator | |
| **Environment 2**<br>Quantify the change in annual personal carbon footprint | **Data Analysis and Multiplier:**<br>Utilizing trip length, fuel consumption, and emissions data, quantify GHG emissions for annual personal trips by train and compare them to emissions from trips by personal vehicle, identify annual GHG reductions, and estimate the change in personal annual carbon footprints. | Average train trip length based on operational data (SMART FY25 NTD)<br><br>Personal vehicle round trip length based on commute surveys.<br><br>Vehicle occupancy from American Community Survey (2023)<br><br>Average vehicle emissions per mile in Sonoma/Marin from EMFAC model<br><br>Annual train diesel fuel consumption from SMART (FY25 NTD)<br><br>GHG emissions factor for diesel fuel from US EPA<br><br>Average Annual Carbon Footprint from Berkeley Cool Climate Calculator<br><br>US EPA (2023) estimate of social cost of GHG emissions.<br><br>US EPA equivalencies calculator | Pounds of $CO_2$ equivalent GHG emissions reduced per trip.<br><br>Percent reduction of average household carbon footprint.<br><br>Dollars of climate damage avoided.<br><br>Equivalencies in terms of avoided gas powered passenger vehicles, gallons of gasoline, pounds of coal burned, home energy use, tons of waste recycled instead of landfilled, and tree seedlings grown. |
| **Environment 3.1 & 3.2**<br>Quantify the greenhouse gas annual reductions, reductions to date, and projected future reductions | **Multiplier:**<br>Utilizing ridership, fuel consumption, and emissions data, quantify GHG emissions for annual train trips, trips to date, and projected future trips and compare to GHG emissions for personal vehicle trips.<br><br>Utilizing social cost of greenhouse gases data from US EPA, estimate avoided climate damage. | Annual ridership (and ridership to date), personal miles travelled, and train diesel consumption from SMART.<br><br>Projected future ridership for Healdsburg & Cloverdale extension; service plan by year from Environmental Impact Review (EIR) for SMART system.<br><br>Vehicle occupancy from American Community Survey (2023)<br><br>Average vehicle emissions per mile in Sonoma/Marin from EMFAC model | Metric tons of $CO_2$ equivalent GHG emissions reduced per year, to date, and projected to 2050<br><br>Dollars of climate damage avoided<br><br>Equivalencies in terms of avoided gas powered passenger vehicles, gallons of gasoline, pounds of coal burned, home energy use, tons of waste recycled instead of landfilled, and tree seedlings grown. |

| | | | |
|---|---|---|---|
| | | GHG emissions factor for diesel fuel from US EPA;<br><br>US EPA (2023) estimate of social cost of GHG emissions.<br><br>US EPA equivalencies calculator | |

## Data Limitations

The following data limitations impacted the Public Health and Safety Impact Assessments:

- SMART Intercept Survey data was completed by a small subset of the population, requiring data extrapolation to draw conclusions.
- SMART counter data is only available September 2022 through June 2024, limiting the ability to assess year-over-year changes prior to 2022 and to present day.
- Police-reported data may underreport less severe collisions.
- Focusing solely on primary-road classifications may exclude collisions occurring on ramps and nearby parallel facilities.
- Literature research that is readily available is mostly limited to young drivers.

The following data limitations impacted the Environmental Impact Assessments:

- SMART train riders have different origins and destinations, so an average train roundtrip is used.
- Vehicles may vary from the average, so an average vehicle emissions per mile is used.
- SMART train rider carbon footprints likely vary substantially, so an average annual carbon footprint is used to calculate the percent reduction in carbon footprint.
- Household carbon footprints vary, so an average was used.
- Annualizing travel is subject to some uncertainty as riders will vary in their frequency of use of SMART service
- The assessment of health impacts due to pollutant emissions does not consider population variability in exposure, photochemistry, or dispersion.
- The full freight train trip or equivalent freight truck length not available.
- Freight car tonnage varies substantially by car and annually.
- The freight GHG and pollutant emissions analysis does not consider partial shipments or circuit routing.

## Public Health 1.1 and Public Health 1.2

SMART provided Pathway utilization data in two formats: a Pathway Intercept Survey conducted in May and June 2023, and bicycle and pedestrian counter data collected between September 2022 and June 2024. This analysis focuses on the average hourly and monthly counter data to examine usage patterns. The hourly data was used to identify temporal trends in Pathway use throughout the day and to estimate total daily trips by mode. To approximate the total minutes of active transportation generated by the SMART Pathway each day, average daily bicycle and pedestrian trip counts were calculated. Assumptions for average trip length and speed – two miles at 25 minutes per mile for pedestrians, and three miles at 5 minutes per mile for cyclists – were applied to estimate total daily active transportation minutes. The average daily active minutes per person was then calculated by dividing the total active minutes by the total number of bicycle and pedestrian trips per day. To understand trends in usage over

time, year-over-year Pathway utilization data was compared to quantify the percentage change in use. This comparison highlights how the number of people walking or biking on the SMART Pathway has increased or decreased from one year to the next.

## Public Health 1.3

The project team conducted a thorough literature review to aid in discussing public health impacts of transit, which informed the analysis of results of objective **Public Health 1.3**. The literature review materials included:

- Active Transportation in Urban Areas: Exploring Health Benefits and Risks (National Collaborating Centre for Environmental Health, 2010)
- Physical Activity Associated with Public Transport Use: A Review and Modelling of Potential Benefits (International Journal of Environmental Research and Public Health, Besser & Dannenberg, 2012)
- Cycling and Walking Can Help Reduce Physical Inactivity and Air Pollution, Save Lives and Mitigate Climate Change (World Health Organization, n.d.)
- Transit Use and Health Care Costs: A Cross-Sectional Analysis (Journal of Transport & Health, Saelens et al., 2023)
- The Business Case for Active Transportation (Better Environmentally Sound Transportation, Campbell & Wittgens, 2004)

This analysis utilizes findings gleaned from the literature review to assess the health and economic benefits of active commuting.

The analysis also leverages the Intercept Survey to assess how aging populations can benefit from the SMART Pathway and increase longevity through active transportation and recreation opportunities by looking at the age demographic distribution of survey participants.

## Safety 1.1

For this analysis, police-reported collisions were extracted from the Transportation Injury Mapping System (TIMS) for the period between January 1, 2018, and December 31, 2024 to mirror SMART's dates of services at the time of analysis. Only collisions where the primary road was identified as US 101 were included. Collisions statistics were quantified for total collisions as well as the total of more severe collisions that resulted in fatalities or serious injuries (KSI collisions). The data were analyzed to understand temporal trends by calculating average total and KSI collisions per month and per day over the seven-year period.

The project team conducted a thorough literature review to aid in discussing safety impacts of transit, which informed the analysis of results of objective **Safety 1.1**. The literature review materials included:

1. Young Drivers (National Highway Traffic Safety Administration, 2024)
2. Safer Than You Think! Revising the Transit Safety Narrative (Victoria Transport Policy Institute, 2025)
3. These Charts Explain Why Public Transit Is Safer Than Driving (Scientific American, 2025)

Statistics regarding the overall safety of public transit versus driving a personal vehicle were gleaned from the literature review.

## Safety 1.2

SMART staff administered a survey to North Bay residents to assess their impressions and feelings about SMART. The results of this survey were utilized to assess perceived safety of the SMART system among North Bay residents. The survey provided North Bay residents with a series of words and phrases that someone might use to describe SMART and asked them to assess if the words or phrases provided describe the organization very well, well, somewhat well, not too well, or not at all. Scores assigned to “Very Well” and “Very/Somewhat Well” for the descriptor “Safe” were included to assess perceived safety of the system.

## Safety 2.1

This analysis aims to quantify the costs associated with driving collisions utilizing two main data sources:

1. Police-reported collisions from the Transportation Injury Mapping System (TIMS) for the period between January 1, 2018, and December 31, 2024
2. The Economic and Societal Impact of Motor Vehicle Crashes (US Department of Transportation National Highway Traffic Safety Administration, 2023)

The "Victim Degree of Injury" reported by TIMS was equated with one of the Maximum Abbreviated Injury Scale (MAIS) values provided by the National Highway Traffic Safety Administration (NHTSA) source. The number of collisions attributed to each degree of injury (TIMS) was assigned an equivalent value of severity (NHTSA) to approximate associated costs. The "Victim Degree of Injury" reported by TIMS and the MAIS scores were equated in the following ways:

| | |
|---|---|
| 0 – No Injury | MAIS0 – Uninjured |
| 1 – Killed | Fatal |
| 2 – Severe Injury | MAIS5 – Critical Injury<br>MAIS4 – Severe Injury<br>MAIS3 – Serious Injury |
| 3 – Other Visible Injury | MAIS2 – Moderate Injury |
| 4 – Complaint of Pain | MAIS1 – Minor Injuries |
| 5 – Suspected Serious Injury | MAIS5 – Critical Injury<br>MAIS4 – Severe Injury<br>MAIS3 – Serious Injury |
| 6 – Suspected Minor Injury | MAIS1 – Minor Injuries |
| 7 – Possible Injury | MAIS1 – Minor Injuries |

Where one collision type was assigned multiple MAIS scores, the collisions were split equally across the three scores. In the NHTSA resource, costs are split by economic costs (medical, emergency services, market productivity, household productivity, insurance administration, workplace costs, legal costs, congestion, property damage) and comprehensive costs (quality-adjusted life years). Quality-adjusted life years (QALYs) are determined by the duration and severity of the impacts of a collision, with a full year of QALY loss being equivalent to the loss of a full year of life. Both the economic costs (without QALY) and comprehensive costs (with QALY) for each collision severity type for police-reported collisions are

included. The total number of collisions for each collision severity and MAIS score was then multiplied by the cost per incident both without QALY's to yield an economic cost of collisions and with QALY's to include a more comprehensive cost, considering quality of life outcomes because of a collision.

## Environment 1

The analysis uses several equations to calculate avoided greenhouse gas emissions, avoided monetary climate damages on a per trip basis, and equivalencies to the greenhouse gas emissions.

The average round trip train trip was provided by SMART for the calendar year of 2024, and to achieve a one-to-one comparison, the distance for a personal vehicle round trip was assumed to be the same as the train trip. The vehicle emissions per passenger trip was calculated by multiplying the personal vehicle round trip distance by the average vehicle emissions per mile (EMFAC 2025 for Marin and Sonoma Counties) and dividing the product by the average vehicle occupancy (2023 ACS 1-Year Estimates Subject Table S0801).

$$\frac{Personal\ Vehicle\ Round\ Trip\ Distance * Average\ Vehicle\ Emissions\ per\ Mile}{Average\ Vehicle\ Occupancy}$$

The train emissions per trip was calculated by multiplying the average train round trip distance by the diesel gallons used per passenger mile traveled (PMT) by the greenhouse gas (GHG) emissions per gallon of diesel (US Environmental Protection Agency GHG Emissions Factor Hub, 2025). The diesel gallons used per PMT was calculated using the train diesel fuel consumption and train passenger miles per year, both of which were provided by SMART.

$$Average\ Train\ Trip\ Round\ Trip\ Distance * Diesel\ Gallons\ Used\ per\ PMT * GHG\ Emissions\ per\ Gallon\ of\ Diesel$$

The avoided greenhouse gas emissions (in terms of the carbon dioxide equivalent of GHG emissions ($CO_{2e}$)) due to substituting a trip in a personal vehicle for a train trip of an equivalent distance, is calculated by subtracting the train trip $CO_{2e}$ emissions from the vehicle trip $CO_{2e}$ emissions.

The avoided monetary climate damages are calculated by multiplying the GHG emissions avoided by the social cost of greenhouse gas emissions (US Environmental Protection Agency Social Cost of GHG Emissions, 2023) divided by the conversion factor of pounds of $CO_{2e}$ to metric tons of $CO_{2e}$.

$$\frac{Avoided\ GHG\ Emissions * Social\ Cost\ of\ Greenhouse\ Gas\ Emissions}{Conversion\ Factor\ (Pounds\ to\ Metric\ Tons)}$$

The greenhouse gas equivalencies were calculated by multiplying the GHG emissions avoided by factors in the USEPA Greenhouse Gas Equivalencies Calculator.

The analysis was updated with 2025 passenger miles traveled on board SMART and SMART's 2025 diesel fuel consumption to estimate the percent difference in the average GHG impact per trip in FY25 for trips occurring on SMART rail instead of by car.

## Environment 2

The analysis uses several equations to calculate **avoided greenhouse gas emissions and avoided monetary climate damages per household on an annual basis** and **equivalencies to the greenhouse gas emissions**. A multiplier was applied to the average round trip train distance (provided by SMART) to assume that two people in the household use SMART. To achieve a one-to-one comparison, the round-trip distance of a personal vehicle trip was assumed to be the same distance as the distance of a round-trip train ride.

The first step of the analysis is to calculate the vehicle emissions and the train emissions per round trip. The vehicle emissions per round trip was calculated by multiplying the personal vehicle round trip distance with the average vehicle emissions per mile (EMFAC 2025 for Marin and Sonoma Counties).

$$Personal\ Vehicle\ Round\ Trip\ Distance * Average\ Vehicle\ Emissions\ per\ Mile$$

The emissions for an equivalent distance train trip are calculated by multiplying the average train round trip distance by the vehicle occupancy (2023 ACS 1-Year Estimates Subject Table S0801) and then multiplying by the train diesel usage per PMT and then multiplying by the GHG emissions per gallon of diesel used (US Environmental Protection Agency GHG Emissions Factor Hub, 2025). The diesel gallons used per PMT was calculated using the train diesel fuel consumption and train passenger miles per year, both of which were provided by SMART.

$$Average\ Train\ Round\ Trip\ Distance * Vehicle\ Occupancy * Diesel\ Usage\ per\ PMT * GHG\ Emissions\ per\ Gallon\ of\ Diesel$$

The avoided greenhouse gas emissions is calculated by subtracting the train trip $CO_{2e}$ emissions from the vehicle trip $CO_{2e}$ emissions.

The avoided greenhouse gas emissions per year is divided by the average annual carbon footprint for a Petaluma home of 2.5 persons of average income based on the Berkeley Cool Climate Calculator.

The avoided monetary climate damages are calculated by multiplying the GHG emissions by the social cost of greenhouse gas emissions (US Environmental Protection Agency Social Cost of GHG Emissions, 2023) divided by the conversion factor of pounds of $CO_{2e}$ to metric tons of $CO_{2e}$.

$$\frac{Avoided\ GHG\ Emissions * Social\ Cost\ of\ Greenhouse\ Gas\ Emissiosn}{Conversion\ Factor\ (Pounds\ to\ Metric\ Tons)}$$

To annualize the avoided GHG emissions and monetary climate damages, the values are multiplied by an estimate of the annual trips per person, which excludes weekends and federal holidays.

The greenhouse gas equivalencies were calculated by multiplying the GHG emissions avoided by factors in the US EPA Greenhouse Gas Equivalencies Calculator.

## Environment 3.1

The analysis uses several equations to calculate the **total avoided greenhouse gas emissions, avoided monetary climate damages on an annual basis** and **equivalencies to the greenhouse gas emissions**. The vehicle emissions are calculated by multiplying the average vehicle emissions per mile (EMFAC 2025 for Marin and Sonoma Counties) by the annual train PMT (SMART) and then dividing by the vehicle occupancy (2023 ACS 1-Year Estimates Subject Table S0801).

$$\frac{Average\ Vehicle\ Emissions\ per\ Mile * Annual\ Train\ PMT}{Vehicle\ Occupancy}$$

The train emissions on an annual basis are calculated by multiplying the annual diesel consumption (SMART, 2024) by the GHG emissions per gallon of diesel (US Environmental Protection Agency GHG Emissions Factor Hub, 2025).

$$Annual\ Diesel\ Consumption * GHG\ Emissions\ per\ Gallon\ of\ Diesel$$

The total avoided GHG emissions by using the SMART train on an annual basis are calculated by subtracting the train emissions from the vehicle emissions.

The monetary avoided climate damages are calculated by dividing the product of the total avoided GHG emissions and the social cost of greenhouse gas emissions (US Environmental Protection Agency Social Cost of GHG Emissions, 2023) by the conversion factor of pounds of $CO_{2e}$ to metric tons of $CO_{2e}$.

$$\frac{Avoided\ GHG\ Emissions * Social\ Cost\ of\ Greenhouse\ Gas\ Emissions}{Conversion\ Factor\ (Pounds\ to\ Metric\ Tons)}$$

The greenhouse gas equivalencies were calculated by multiplying the GHG emissions avoided by factors in the US EPA Greenhouse Gas Equivalencies Calculator.

## Environment 3.2

The analysis uses several equations to calculate the **total avoided greenhouse gas emissions and avoided monetary climate damages to date (e.g. from 2017 to now) and projected out to 2050,** and **equivalencies to the greenhouse gas emissions**.

Train PMT per year from August 2017 to January 2025 was estimated based on actual ridership and multiplying the average trip length. Train PMT per year from 2025 to 2050 was estimated based on projections of ridership in 2033 with the Healdsburg and Cloverdale extension. PMT for the years 2025 to 2033 were scaled based on the presumed ramp up of service up to 2033; after 2033 ridership/PMT was assumed to be static.

Vehicle and train $CO_{2e}$ emissions were calculated on a per year basis. Vehicle $CO_{2e}$ emissions are calculated by multiplying the train PMT (SMART) for each year times the average vehicle emissions per mile for that year (Using EMFAC 2025 for Marin and Sonoma Counties) and then dividing by vehicle occupancy (2023 ACS 1-Year Estimates Subject Table S0801).

$$\frac{Train\ PMT * Average\ Vehicle\ Emissions\ per\ Mile}{Vehicle\ Occupancy}$$

Train emissions are calculated by multiplying the train diesel consumption (SMART) by the GHG emissions per gallon of diesel (US Environmental Protection Agency GHG Emissions Factor Hub, 2025). Train diesel consumption was estimated by scaling up (or down) from 2024 diesel consumption based on differences in the service plan by year.

$$Diesel\ Consumption * GHG\ Emissions\ per\ Gallon\ of\ Diesel$$

The total avoided GHG emissions by using the SMART train per year are calculated by subtracting the train emissions from the vehicle emissions for that year.

The monetary avoided climate damages are calculated by dividing the product of the total avoided GHG emissions and the social cost of greenhouse gas emissions (US Environmental Protection Agency Social Cost of GHG Emissions, 2023) by the conversion factor of pounds of $CO_{2e}$ to metric tons of $CO_{2e}$.

$$\frac{Avoided\ GHG\ Emissions * Social\ Cost\ of\ Greenhouse\ Gas\ Emissions}{Conversion\ Factor\ (Pounds\ to\ Metric\ Tons)}$$

The greenhouse gas equivalencies were calculated by multiplying the GHG emissions avoided by factors in the US EPA Greenhouse Gas Equivalencies Calculator.

## Objectives Considered

An assessment of emergency response capabilities was considered but not undertaken given the data limitations.

# Land Use and Economics

The economics assessments evaluate the benefits of SMART's rail and pathway system in terms of land use, economics, retail expenditures, and socioeconomic benefits. The intent is to describe the role that SMART plays in attracting development, density, and a mix of uses near its stations while also helping to secure funding for affordable housing. In addition, the economics assessments estimate the retail expenditures and regional economic benefits generated by the SMART transit system construction and operations, the SMART pathway, and by SMART transit and pathway users.

## Methodology Summary Matrix

Below is a matrix that summarizes the high-level methods and data inputs and outputs for each analysis objective within the economic assessments.

| Objective | Method | Inputs | Outputs |
|---|---|---|---|
| **Land Use 1.1 – 1.6**<br>Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals. | **Data Analysis:**<br>1.1: Utilizing population and employment data to arrive at the share of county population and jobs within each SMART station area.<br>1.2 and 1.3: Utilizing real estate market data to quantify the amount of total inventory, or rentable building area (RBA), developed in the last two decades in Marin and Sonoma County.<br>1.4-1.6: Utilizing local planning and policy documents to describe jurisdictional goals and policies that directly relate to, and benefit from, SMART. | Population and employment (U.S. Census Bureau American Community Survey, 2010-2023)<br>Marin and Sonoma County real estate inventory by land use type (CoStar, 2024)<br>Local and regional planning and policy document literature review | Role of SMART stations as catalysts for infill, mixed use, and higher-density development.<br>SMART station area's role in generating and serving clusters of employment.<br>SMART transit and the SMART pathway and their relationship to local and regional area and specific planning processes. |
| **Land Use 2.1**<br>Identify how SMART creates opportunity sites for affordable and market rate housing. | **Data Analysis:** Utilizing an inventory of Marin and Sonoma County housing element sites to evaluate the share of countywide unit capacity in SMART station areas. | Housing element sites (CA Department of Housing and Community Development [HCD], 2024)<br>Population, income, and employment (U.S. Census Bureau American Community Survey, 2010-2023) | Share of Marin and Sonoma County housing element opportunity sites within SMART station areas. |

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| | | Employment data by industry group (LEHD, 2013-2022) | |
| **Land Use 3.1 & 3.2**<br>Identify how SMART ridership patterns relate to land use and economic activity in station areas. | **Data Analysis:** Utilizing SMART total monthly boardings in conjunction with population, income, and employment data to arrive at a typology that describes each station area and its role in the regional economy. | SMART monthly boarding count (SMART, 2017-2025) | SMART average monthly ridership relationship to land use mix and population and employment density.<br><br>The share of countywide office-based employment located in SMART station areas.<br><br>SMART station general and detailed typology. |
| **Land Use Economics 1.1 – 1.2**<br>Evaluate SMART's ongoing contribution to economic integration between Marin and Sonoma County. | **Data Analysis:** Utilizing SMART total monthly boardings since 2017 in conjunction with the typology defined in Land Use 3.1 and 3.2 to evaluate ridership trends in conjunction to general and detailed station types. | SMART monthly boarding count (SMART, 2017-2025)<br><br>SMART station general and detailed typology (Strategic Economics, 2025) | Typology of SMART stations experiencing ridership growth and high monthly ridership. |
| **Land Use Economics 2.1 -2.3**<br>Identify ridership trends and patterns that differentiate SMART from other Bay Area transit. | **Data Analysis:** Utilizing weekend and weekday ridership data from both SMART and Bay Area Rapid Transit (BART) to evaluate where SMART differs from BART in terms of weekend ridership, ridership growth in stations in conjunction with employment growth, and overall ridership growth. | SMART monthly boarding count (SMART, 2017-2025)<br><br>Employment data by industry group (LEHD, 2013-2022)<br><br>BART monthly station exit count (BART, 2017-2024) | Comparison of SMART ridership trends to BART ridership trends.<br><br>SMART ridership growth in comparison to employment growth in station areas.<br><br>SMART ridership diversity in terms of weekend and weekday ridership. |

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|---|---|---|---|
| **Land Use Economics 3.1**<br>Measure how SMART is leveraged to secure funding for new affordable housing. | **Data Analysis:** Utilizing affordable housing units funded by California Tax Credit Allocation Committee (TCAC) in Marin and Sonoma County, analyze the role of SMART station areas in providing opportunities for developing affordable housing. | Total California Tax Credit Allocation Committee (TCAC) project count (TCAC, 2025) | Share of TCAC housing units funded in Marin and Sonoma County that are located in SMART station areas. |
| **Land Use Economics 4.1 & 4.2**<br>Identify how SMART has affected local tax revenues and business performance. | **Data Analysis:** Utilizing Marin and Sonoma County taxable sales data, retail inventory data, and property transaction data, evaluate the role of SMART station areas in generating tax revenue and establishing a premium for property in station areas. | Marin and Sonoma County real estate inventory by land use type (CoStar, 2024)<br><br>Marin and Sonoma County taxable sales (California Department of Tax and Fee Administration [CDTFA], 2023)<br><br>Marin and Sonoma County property transactions (CoStar, 2025) | Taxable sales trends by business type across Marin and Sonoma County and how they relate to SMART's ridership patterns and trends.<br><br>Existence of property tax premium for property near SMART stations. |
| **Land Use Economics 5.1**<br>Identify how proximity to SMART supports employment density and growth. | **Data Analysis:** Utilizing employment data, assess SMART's role in promoting employment density and job growth by analyzing employment change within SMART station areas in comparison to employment change elsewhere in Marin and Sonoma County. | Employment data by industry group (LEHD, 2013-2022) | Employment growth between 2016 and 2022 in SMART station areas in Marin and Sonoma County in comparison to countywide job growth. |
| **Expenditures 1.1 – 1.3**<br>Analyze SMART's impact on retail expenditures on non- work/school transit trips. | **Data Analysis:** Utilizing SMART user frequency survey data by trip purpose, total monthly boardings, and a literature review of average per trip expenditures at recreational establishments by transit riders, calculate the estimated annual expenditures generated | SMART monthly boarding count (SMART, 2017-2025)<br><br>Metropolitan Transportation Committee ridership survey (MTC, 2024) | Estimated annual expenditures generated by non- work/school SMART transit riders. |

| | | | |
|---|---|---|---|
| | by non-work/school transit trips at retail establishments. | Three sources on transit expenditures:<br>1. *Clifton et al., Examining Consumer Behavior and Travel Choices, 2013.*<br>2. *Bent and Singa, Modal Choices and Spending Patterns of Travelers to Downtown San Francisco, California: Impacts of Congestion Pricing on Retail Trade, 2009.*<br>3. *San Francisco Transportation Authority, Columbus Avenue Neighborhood Transportation Study, 2010* | |
| **Expenditures 2.1 – 2.3** Analyze SMART's impact on retail expenditures on non-work/school pathway trips. | **Data Analysis:** Utilizing SMART pathway frequency data by trip purpose, total monthly pathway counts by pedestrians and cyclists, and, and a literature review of average per trip expenditures at recreational establishments by path/trail users, calculate the estimated annual expenditures generated by non-work/school SMART pathway trips at retail establishments. | SMART pathway intercept survey (SMART, 2023)<br><br>SMART monthly pedestrian and cyclist pathway counts (SMART, 2022 - 2024)<br><br>Three sources on path/trail expenditures:<br>1. *Oregon State University, Oregon Non-Motorized Trail Participation and Priorities, 2015.*<br>2. *Earth Economics, Economic Analysis of Outdoor Recreation in Washington State, 2020.*<br>3. *Rails to Trails Conversancy, Heritage Rail Trail User Survey, 2022.* | Estimated annual expenditures generated by non- work/school SMART pathway users. |

| | | | |
|---|---|---|---|
| **Expenditures 3.1**<br>Measures the estimated annual economic output resulting from SMART's annual expenditures | **Data Analysis:**<br>SMART's FY24, annual local economic output from SMART's expenditures measured using the American Public Transit Association's (APTA) Economic Impact Tool. | SMART's FY24 Nation Transit Database (NTD) data related to operating, capital and maintenance expenditures.<br>Total number of employees and the percent of employees that live in the District. | The direct, indirect and induced local economic output resulting from SMART's annual expenditures. |
| **Socioeconomic Benefits 1.1 & 1.2**<br>Express societal benefits that SMART rail service creates in monetary terms. | **Data Analysis and Multiplier:**<br>Utilizing 2024 SMART passenger miles and MTC Onboard Survey data about share of trips with a vehicle alternative, calculate driving miles avoided.<br><br>2.1: Utilizing a cost estimate for operating costs per vehicle mile, estimate total costs avoided by households.<br><br>2.2: Utilizing an estimate of collisions and severity on Highway 101, miles driven on Highway 101, and multipliers for value per injury or fatality avoided to estimate dollars save per mile of highway driving avoided. | Passenger Miles on SMART (SMART, FY2024)<br><br>Share of trips for which vehicle was available (MTC Onboard Survey, 2023-2024)<br><br>Vehicle operating cost per mile driven (US Department of Transportation (DOT), 2024)<br><br>Collisions, by severity, that took place between Hwy 101 on/off ramps at Miller Creek Rd. and Nave Drive in fiscal year (FY) 24 (Fehr & Peers, 2025).<br><br>Total vehicles driving the segment (1.03 miles) on a representative day in FY 24 (PeMS, 2025).<br><br>Value per injury, severe injury, and fatality (U.S. DOT, 2024). | Dollar value of household savings from driving miles avoided.<br><br>Dollar value of collisions avoided from avoided highway driving miles. |
| **Socioeconomic Benefits 2.1 & 2.2**<br>Express societal benefits that SMART pathway creates in monetary terms. | **Data Analysis & Multiplier:**<br>1.1: Utilizing SMART Pathway counts by location and the distance between them, model the total cycling miles | SMART Pathway trip counts, by location (SMART, 2024)<br><br>SMART Pathway Survey (SMART, 2024) | Intrinsic value of cycling path, based on miles ridden. |

| | | | |
|---|---|---|---|
| | traveled on the SMART Pathway.<br><br>Using US DOT estimates of value per cycling mile, estimate total societal benefit.<br><br>2.2: Using trip counts from SMART Pathway and trip descriptions from Pathway survey, estimate the share of walking and cycling trips that wouldn't occur otherwise. Calculate health benefits based on US DOT estimates of benefit per trip. | US DOT (2024) | Health benefits, in dollars, from walking and cycling trips. |

## Data Limitations

The following data limitations affected the economic impact assessment:

- Land Use Economics 4.1: The estimated taxable sales per square foot number for Marin and Sonoma County differs from the actual taxable sales generated at retail establishments in SMART station areas. For this reason, a countywide estimated taxable sales number should be taken as a broad estimate.
- Expenditures 1.1 – 1.3 and 2.1 – 2.3: These calculations rely on case studies to estimate average per trip transit expenditures due to the lack of local data on SMART transit expenditures. Retail expenditures per trip in the North Bay may differ from the case study average used in the analysis.
- Socioeconomic Benefits 2.1 and 2.2: These calculations rely on survey data to estimate the share of SMART passenger miles that would have been driven if SMART service was unavailable. The models also assume that driving miles for each trip would be the same as the distance traveled on SMART, but actual driving distance for each trip could be shorter or longer than the SMART travel distance.

## Land Use 1.1 – 1.6

The analysis uses U.S. Census Bureau American Community Survey population and employment data, CoStar real estate inventory, and local and regional planning documents to identify the land use, housing, and economic development goals for jurisdictions served by SMART and to demonstrate SMART's role in achieving these goals. This analysis, and all Land Use and Land Use Economic analyses, utilized a "SMART station area" of a one-mile radius around SMART stations and included both existing and proposed stations. Each step of the land use analysis evaluated the role of SMART through a specific lens, as described below:

Land Use 1.1 – To evaluate SMART station area's role as catalysts for development, calculate the share of Marin and Sonoma County land (by acre) in SMART station areas and compare this to the share of

county population and jobs in the station area. In addition, the share of total flex, healthcare, hospitality, industrial, multifamily, office, and retail square footage sold between 2019 and 2024 in SMART station areas in each county were assessed to evaluate the market conditions in SMART station areas.

Land Use 1.2 and 1.3 - Further analyzes and illustrates recent real estate development in SMART station areas by focusing on development by land use type in Marin and Sonoma County since 2000.

Land Use 1.4 and 1.6 – Qualitatively assess SMART's role as a catalyst by evaluating local planning and policy documents and collecting all policies relevant to SMART operations, future transit development, and the SMART Pathway in each jurisdiction.

## Land Use 2.1

The analysis uses HCD housing element site data, as of 2024, and mapped the sites over a base map that includes all SMART station areas. Then, the total site count, average parcel size, average density allowed, and total unit capacity in each station area was compared for SMART station areas and non-SMART station areas in both Marin and Sonoma county. The intent is to show how Marin and Sonoma County leverage SMART station areas for housing opportunity sites.

## Land Use 3.1 and 3.2

This analysis assesses census population, race and ethnicity, income, and job density data and LEHD employment data by industry for each SMART station area to describe how ridership patterns relate to land use and economic activity. For each station area, total jobs and population in 2025 were evaluated in conjunction with each station area's average monthly boardings. Population growth between 2015 and 2023, 2023 median household income, and 2023 population distribution by race and ethnicity were analyzed for each station area in comparison to Marin and Sonoma Counties.

Employment was grouped into five major industry groups and assessed for each station area compared to the two counties. The five major industry groups are: Agriculture, Utilities and Natural Resources, Production and Distribution, Shopping, Hospitality and Entertainment, Office and Professional, and Government, Health and Education. Job share and job growth by major industry groups in Marin and Sonoma County station areas were analyzed.

## Land Use Economics 1.1 – 1.2 and 5.1

To demonstrate SMART's role in facilitating the evolving economic integration between Marin and Sonoma County, this analysis used population and employment data by industry sector to group station areas into different types.

The "General Station Type" typology describes each station area's role as either a residential, employment, or mixed employment area. Residential station areas are those with a jobs to housing ratio of less than .5. Employment station areas have a jobs to housing ratio of greater than 1. Mixed employment station areas are those with a jobs to housing ratio between .5 and 1.

The "Detail Station Type" typology describes whether a station area plays a specific role in the regional economy by providing a significant number of jobs in specific industry sectors. Each station area was

given a detailed station type if jobs in a specific industry make up more than 40 percent of total jobs. If no industry reached this percentage threshold, the detailed station type remains the general station type.

Land Use Economics 1.1 to 1.2 analyzed 2017 to 2024 SMART station ridership trends by general and detailed station types.

Land Use Economics 5.1 calculated job growth trends between 2016 and 2022 in SMART station areas compared to Marin and Sonoma countywide trends.

## Land Use Economics 2.1 – 2.3

This analysis uses SMART and BART ridership data to compare trends and patterns that differentiate SMART from BART. The base percentage change of ridership for SMART and BART since 2017 was calculated by comparing total change in ridership for each year compared to 2017 as a base year. In addition, this analysis illustrated the change in average SMART and BART ridership since 2019 by weekday and weekend trips.

## Land Use Economics 3.1

2025 TCAC project data was used to measure how SMART could be leveraged to secure funding for affordable housing. TCAC projects were geolocated over SMART station areas to arrive at the total affordable project count, unit county, and share of total county projects and units in each station area.

## Land Use Economics 4.1 and 4.2

This analysis used California Department of Tax and Fee Administration (CDTFA) taxable sales and CoStar property sales data to identify how SMART has affected revenue streams and business performance near its stations. 2023 taxable sales data was used to assess Marin and Sonoma County's taxable sales by industry between 2015 and 2023. In addition, a taxable sales per square foot estimate was calculated for each county and applied this number to the total retail space square footage in each SMART station area to arrive at an estimated annual taxable sales amount generated in SMART station areas in 2023. For property transactions, sales prices per square foot of properties within SMART station areas that have been sold between 2020 and 2025 were compared to the rest of Marin and Sonoma Counties.

## Expenditures 1.1 – 1.3

The estimated annual retail expenditures of SMART non-work/school transit trips were calculated using a three step process of 1) estimating the share of weekly transit trips that are non-work/school, 2) applying this share of non-work/school trips to total monthly SMART boardings, and 3) multiplying the average monthly non-work/school boardings by an average per trip recreational expenditure number to arrive at estimated annual expenditures. The final expenditure estimate was prepared using the following three steps:

1. Estimate the share of SMART transit trips that are for non-work/school purposes using MTC's 2024 SMART ridership survey.

   a. Included in the survey is SMART user frequency by trip purpose. Total weekly trips were estimated by multiplying each respondent by their noted trip frequency. Then, the share of weekly trips that were for Social/recreation, personal errand/medical, shopping, multiple response, and blank were added together to arrive at a total share of non-work/school trips. The total share was adjusted down slightly to account for the share of "multiple responses" and "blank" trip purposes, that may not be non-work/school.
2. Multiply the estimated share of non-work/school SMART transit trips by the average monthly SMART boardings between September 2024 and 2025 per SMART boarding data to arrive at the average monthly non-work/school SMART boardings. The average monthly boarding count was multiplied by twelve to get to an annual count.
3. Estimate average per trip recreational expenditures made by transit riders using case studies. Three case study per trip expenditures were averaged to arrive at an estimated transit user expenditure. Average per trip expenditures were multiplied by the average annual non-work/school SMART transit trips to estimate the annual expenditures of SMART transit riders on non-work/school trips.

## Expenditures 2.1 – 2.3

The estimated annual retail expenditures of SMART non-work/school pathway trips were calculated by a three step process including 1) estimating the share of weekly pathway trips that are non-work/school, 2) applying this share of non-work/school trips to total monthly SMART pathway trips, and 3) multiplying the average monthly non-work/school trips by an average per trip recreational expenditure number to produce the estimated annual expenditures. The final expenditure estimate through the following three steps:

1. Estimate the share of SMART pathway trips that are for non-work/school purposes using SMART's 2023 pathway intercept survey.
   a. Included in the survey is SMART pathway user frequency by trip purpose. Total weekly trips were estimated by multiplying each respondent by their noted trip frequency. Then, the share of weekly trips that were for recreational destinations, recreational trips, running errands, and other were added together to arrive at a total share of non-work/school trips.
   b. The survey also includes three percent of pathway users who note that they utilize the SMART pathway once a month or less, which is discounted in step three.
4. Multiply the estimated share of non-work/school SMART transit trips by the average monthly pedestrian and cyclist pathway counts from September 2022 to 2023 per SMART pathway counter data to arrive at the average monthly non-work/school SMART pathway trips by pedestrians and cyclists. The average monthly boarding count was multiplied by the share of non-work/school pathway strips to estimate the average monthly non-work/school trips.
   a. Double counting at bike and pedestrian counter locations is not a significant concern, as the average distance between counters is greater than typical trip lengths for bicycle and pedestrian trips. However, to further reduce the likelihood of double counting, additional adjustments were made to the monthly cyclist trip count to ensure no trips were overcounted. The adjusted cyclist trip count assumes that 25 percent of cyclist trips are double counted.

5. Estimate average per trip recreational expenditures made by pathway and trail users using case studies. Three case study per trip expenditures were averaged to arrive at an estimated pathway user expenditure.
6. To ensure that pathway estimates do not double count, total monthly trips were discounted to only account for pathway-only users using SMART's 2023 pathway intercept survey share of respondents that report only using the SMART pathway and not the transit system.
7. Average monthly non-work/school pathway trips were discounted to account for pathway-only users and irregular users per Step 1b. Average per trip expenditures were multiplied by the average annual non-work/school SMART pathway trips to estimate the annual expenditures of SMART pathway users on non-work/school trips. Pedestrian and cyclist, both non-adjusted and adjusted, expenditures were added together to arrive at a total annual expenditure generated by pathway users.

## Expenditures 3.1

Using the America Public Transportation Association's (APTA) Economic Impact Tool, the direct, indirect and induced economic output results from SMART's annual expenditures related to SMART's capital expenses and the operating and maintaining costs associated running the system. The APTA Economic Impact Tool relies on input data from the National Transit Database (NTD), for which SMART is a full reporter. The analysis utilized SMART's FY24 NTD data to determine the local economic output SMART generates.

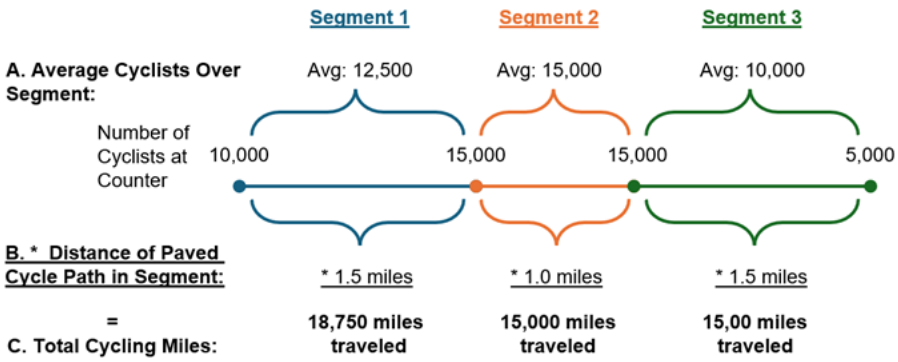
## Socioeconomic Benefits 1.1 and 1.2

These indicators relied on multiple sources of data to estimate total driving miles avoided because of SMART. The first part of this calculation used a combination of SMART passenger miles data and an MTC Onboard Survey question which asked riders if they had access to a household vehicle for their current trip. The share of riders who had access to a vehicle for their trip was applied to the total SMART passenger miles for 2024 to estimate the total distance traveled that could have been taken by vehicle instead. To calculate the household savings per mile avoided, the assumed miles avoided by the U.S. Department of Transportation's (US DOT) recommended dollar value was multiplied per driving mile avoided.

Injury and fatality risk reduction was calculated using crash data from a representative segment of Highway 101. As part of the safety analysis, crash, injury, and fatality data was gathered from January 2018 through December 2024 for the US-101 segment between Miller Creek Road and Nave Drive in Marin County. These injury and fatality counts were compared to the total vehicle counts for the same section for a representative day (May 8$^{th}$, 2024), sourced from PeMS, to calculate the number of crashes of each type (possible injury; non-incapacitating; incapacitating; and fatal) per million miles driven. Multiplying the rate per mile for each type times the total driving miles avoided because of SMART produced an estimate for the total annual crashes avoided through SMART use. These estimates were multiplied by the U.S. DOT's recommended monetized cost of each type of crash to calculate the total societal benefit of reduced crashes.

## Socioeconomic Benefits 2.1

Socioeconomic benefits from SMART Pathway use were calculated using a combination of SMART Pathway counter data, the 2024 Pathway Intercept Survey, and U.S. DOT recommended dollar values for health and intrinsic value benefits. The intrinsic value estimate used cyclist counts from each SMART Pathway counter location to estimate total distance traveled by cyclists along the pathway. The figure below provides an example of the methodology used to calculate total cyclist mileage across the SMART Pathway. First, the number of cyclists traveling a segment (the section between two Pathway Counters) was calculated based on the average number of cyclists at the start and end point of that segment. This average was multiplied by the total paved path segment distance to approximate the total cycling miles traveled annually along path portions of each segment. The resulting total was multiplied by the U.S. DOT's recommended value per mile ($1.70) for the benefit provided by a cycling path with at-grade crossings to calculate the total intrinsic benefit of the pathway to cyclists.




## Socioeconomic Benefits 2.2

Total health benefits from walkers and cyclists on the SMART Pathway were calculated using individual pedestrian/cyclist counts and U.S. DOT guidance about the health benefits of those types of trips. The U.S. DOT advises valuing each walking trip by people in the 20-74 age range as $8.06, and each cycling trip by people in the 20-64 age range as $7.18. The number of applicable unique trips for each type was calculated in three steps:

1. Gather data on the total pedestrians and cyclists at each SMART counter location
2. Estimate the number of unique trips represented by the total pedestrian and cyclist counts, by calculating the share of counts that likely represent unique trips.
    a. If the distance between counters was less than a typical walking trip distance (0.85 miles) or cycling distance (3 miles), the total pedestrian/cyclist counts were discounted to account for the possibility of duplicate counts.
3. Multiply the total unique trip counts by the share of Pathway users falling in relevant age ranges, and the share of trips that likely wouldn't have occurred otherwise.
    a. User ages were calculated using values from the SMART Pathway Intercept Survey.
    b. The share of trips that wouldn't occur otherwise was calculated using default values provided by the U.S. DOT: 89% for walking trips and 67% for cycling trips.

# Theme Map

Feedback from outreach activities and the process of synthesizing analysis objectives highlighted that the interplay between many of the stand-alone quality of life indicator areas analyzed. Therefore, instead of examining and considering these indicator areas in isolation, it made sense to organize the structure of the final study around themes that incorporate analysis from different quality of life metrics. The Theme Map below identifies the specific analysis objectives that contribute to each of the Study's themes.

| **Theme** | **Analysis** |
|---|---|
| **SMART is thriving** | |
| SMART Moves 1,000s every day | |
| More people are choosing SMART every year | *Land Use Economics 2.3*<br>*Mobility 1.5* |
| Customer Love SMART | |
| SMART is expanding | |
| **Even if you don't ride SMART, you still benefit** | |
| SMART takes cars off Highway 101 | *Mobility 1.4*<br>*Mobility 1.3* |
| SMART is making the North Bay more walkable and bikeable | *Mobility 3.1*<br>*Mobility 3.2* |
| SMART has broader impacts on the economy and environment | |
| **SMART: Better than driving?** | |
| SMART is on time 95% of the time—can you say that about Highway 101? | *Mobility 1.1*<br>*Mobility 1.2* |
| Riding SMART is safer than driving. | *Safety 1.1*<br>*Safety 1.2*<br>*Safety 2.1* |
| SMART lets you do more while you travel. | |
| **SMART links opportunity and community.** | |
| SMART brings the region's resources in reach. | *Land Use 1.6*<br>*Accessibility 1.1*<br>*Land Use Economics 1.1* |
| SMART gives independence to those who need it most. | *Equity 1.1*<br>*Mobility 4.1* |
| **SMART brings local benefits for local people.** | |
| In a world of rising costs, SMART remains affordable. | *Equity 1.1*<br>*Equity 1.2*<br>*Equity 1.3* |
| SMART supports housing so people don't have to leave the places they call home. | *Land Use Economics 3.1*<br>*Land Use 2.1* |
| **SMART fuels the North Bay economy.** | |
| People and businesses want to be near SMART. | *Land Use 1.2*<br>*Land Use 1.3*<br>*Land Use 1.6*<br>*Land Use Economics 4.2*<br>*Mobility 2.1* |

| | |
|---|---|
| When we invest in SMART, local economies prosper. | *Expenditures 1.3*<br>*Expenditures 2.1*<br>*Expenditures 3.1* |
| SMART attracts investment to the North Bay. | |
| **SMART keeps the North Bay moving in healthy, sustainable ways.** | |
| SMART helps protect the North Bay's irreplaceable natural wonders. | *Environment 3.2* |
| Riding SMART is a way you can help make an impact. | *Environment 1*<br>*Environment 2*<br>*Equity 2.2*<br>*Mobility 2.1* |
| SMART supports active, healthy lifestyles. | *Public Health 1.1*<br>*Public Health 1.2*<br>*Public Health 1.3* |
| SMART helps local jurisdictions meet their climate action goals | *Land Use 1.4* |

## Appendix B.

# Technical Assessments

# Mobility Impacts

## Purpose

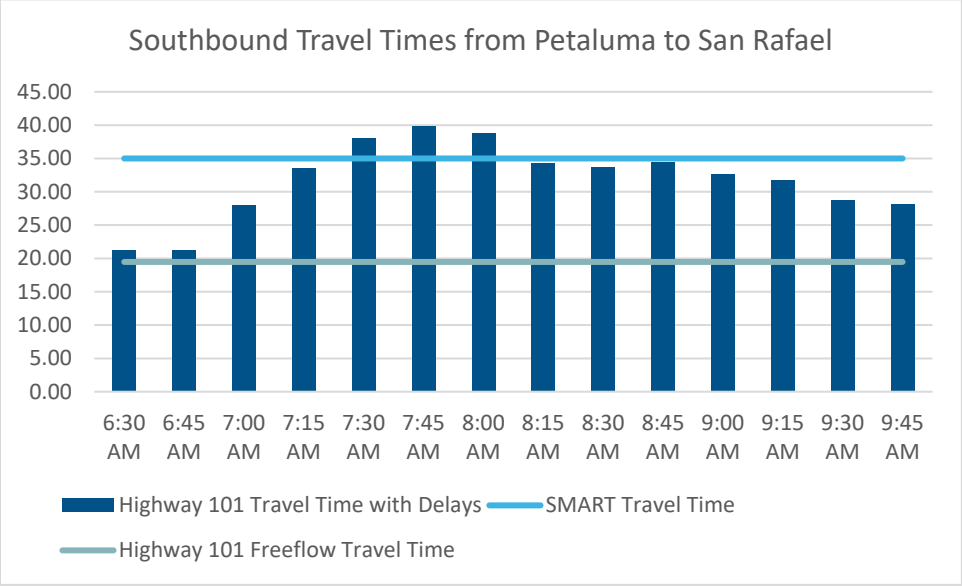
The Mobility Impacts Assessment aims to understand how SMART's presence has influenced travel behavior in Sonoma and Marin counties by measuring and comparing the mobility impacts from SMART's existing and future pathway and rail networks. Key objectives include assessing travel time reliability, travel market share and origin-destination patterns, contribution to regional active transportation networks, and the impact of SMART's fare policies on youth and senior ridership.

## Mobility 1.1

**Analysis Objective:** Quantify the differences between traveling along US 101 and the SMART train during the peak travel period to determine possible travel time savings when riding SMART.

**Findings:** Taking SMART during peak congestion is faster than driving on US 101. Even with major highway investments, such as the Marin-Sonoma Narrows widening and the coordination of HOV lane hours across counties, freeway traffic remains congested. Southbound travelers face delays of more than 20 minutes during the morning peak.

**Figure 1.1 Highway 101 Travel Time and Delay between Petaluma and San Rafael (Southbound)**




Source: US 101 HOV Lane Hours of Operation Study, Fehr & Peers, 2025.

## Mobility 1.2

**Analysis Objective**: Measure the estimated travel time reliability on US 101 from 2022 to horizon year.

**Findings**: As traffic increases over time, SMART removes eleven minutes of travel uncertainty. By 2050, even with the completion of the Marin-Sonoma Narrows highway widening project that will increase the capacity of the US 101, morning commuters will still need to factor in an extra eleven minutes on average to account for typical delays.

**Table 1.2 Highway 101 Reliability between San Rafael and Santa Rosa**

| | | 2022 AM Peak | 2050 AM Peak | 2022 PM Peak | 2050 PM Peak |
|---|---|---|---|---|---|
| **Northbound** | | | | | |
| Average Travel Time | Minutes | 42.22 | 35.34 | 53.15 | 71.85 |
| Average Delay | Minutes | 8.34 | 1.46 | 19.27 | 37.97 |
| 95th Percentile Travel Time | Minutes | 45.32 | 37.93 | 60.58 | 81.90 |
| Travel Buffer Time | Minutes | 3.10 | 2.59 | 7.43 | 10.05 |
| 5th-95th Travel Time Gap | Minutes | 7.40 | 4.05 | 14.00 | 18.93 |
| **Southbound** | | | | | |
| Average Travel Time | Minutes | 51.72 | 77.27 | 37.48 | 41.11 |
| Average Delay | Minutes | 17.84 | 43.39 | 3.60 | 7.23 |
| 95th Percentile Travel Time | Minutes | 59.35 | 88.68 | 39.13 | 42.92 |
| Travel Buffer Time | Minutes | **7.63** | **11.41** | 1.65 | 1.81 |
| 5th-95th Travel Time Gap | Minutes | 12.27 | 18.33 | 3.25 | 3.56 |

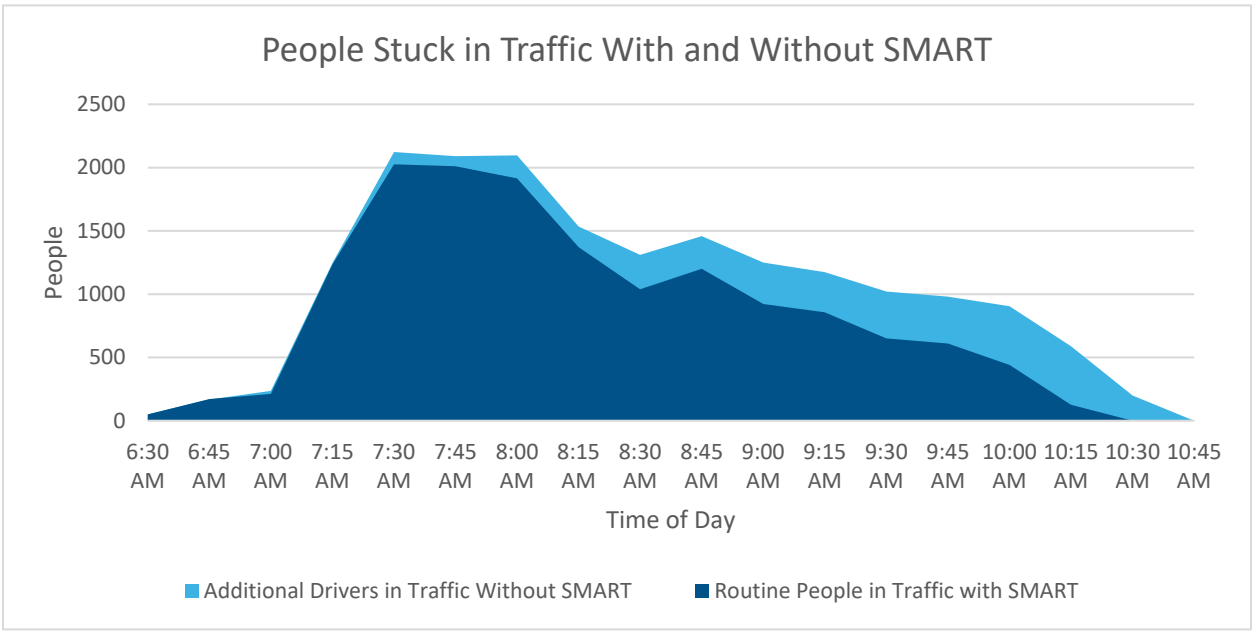
Source: US 101 HOV Lane Hours of Operation Study, Fehr & Peers, 2025; Transportation Authority of Marin Travel Demand Model.

## Mobility 1.3

**Analysis Objective**: Calculate peak spreading on US 101 for a scenario where SMART train riders are converted to vehicle equivalents.

**Findings**: SMART reduces the period of congestion on US 101. By shifting trips off Highway 101, SMART helps shorten the duration of daily congestion for drivers who remain on the road, reducing the period in which US 101 is congested in the morning by 15 minutes or 6%.

**Figure 1.3.1 Drivers and Passengers in Traffic on Highway 101 with and without SMART**




Source: US 101 HOV Lane Hours of Operation Study, Fehr & Peers, 2025; SMART.

## Mobility 1.4

**Analysis Objective**: Identify train riders to vehicle equivalent adjusted for local travel behavior and conditions.

**Findings**: If SMART did not exist, approximately 950,000 vehicle trips would be added to the US-101 corridor per year. In FY26SMART's average weekday ridership of 4,656 translates to a vehicle equivalence of approximately 3,695 vehicle trips per weekday.

**Table 1.4 Train Riders to Vehicle Equivalent**

| | National Household Travel Survey Regional Average | Based on Manual Occupancy Counts on US 101 in May 2024 |
|---|---|---|
| Average Vehicle Occupancy | 1.52 | 1.26 |
| Average Weekday Vehicle Equivalents | 3,060 | 3,695[1] |
| Daily Hours of SMART Service | 16 | |
| Hourly Vehicles Added to US-101 | 191 | 231 |
| Annual Weekday Equivalent | **945,981** | |
| Daily Weekday Equivalent | **3,695** | |

Source: US 101 HOV Lane Hours of Operation Study, Fehr & Peers, 2025; National Household Travel Survey; SMART.

Notes:

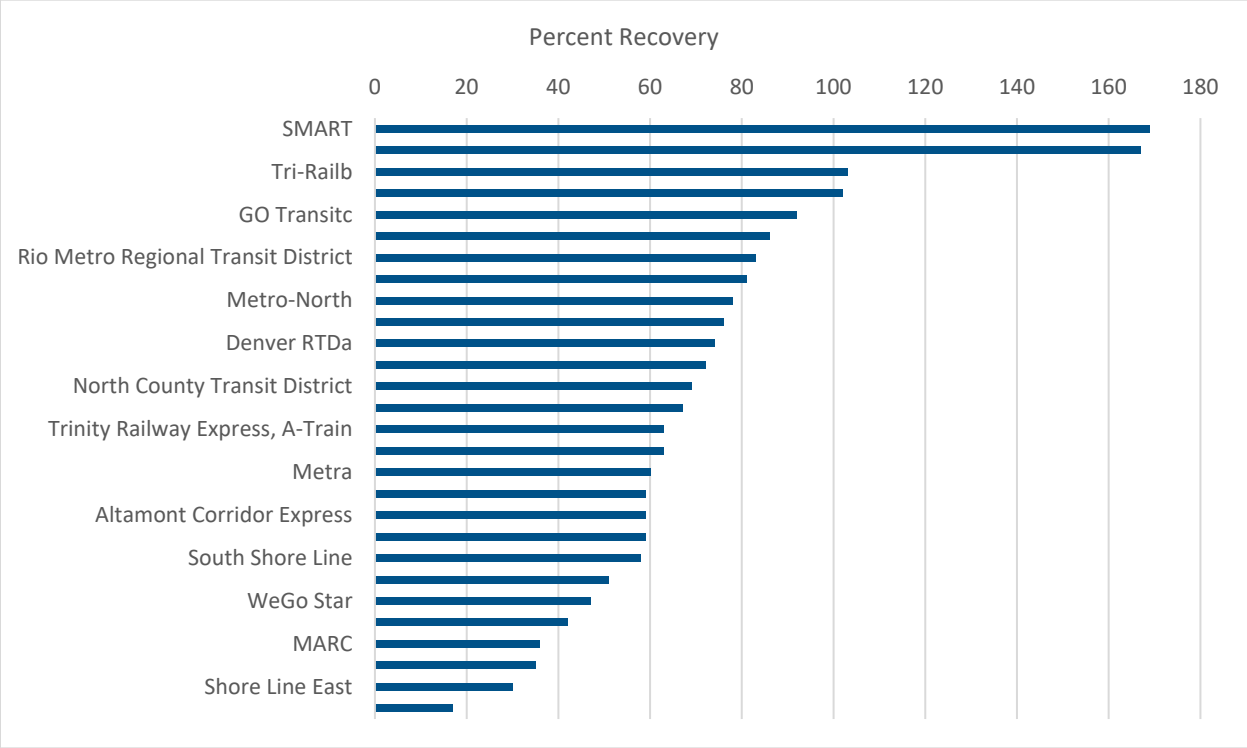
1. Vehicle equivalent is based on FY26 average weekday SMART ridership, which is 4,656.

## Mobility 1.5

**Analysis Objective:** Compare SMART's ridership recovery rate with other commuter rail systems nationally.

**Findings:** When comparing 2019 and 2024 ridership data, SMART has the highest ridership recovery rate of all commuter rail systems in the United States.

**Figure 1.5 Commuter Rail Systems in the United States, by Ridership Recovery**




Source: National Academies of Sciences, Engineering, and Medicine. 2025. The Future of Commuter Rail in North America. Washington, DC: The National Academies Press. https://doi.org/10.17226/27.

## Mobility 2.1

**Analysis Objective**: Quantify travel markets at the station area level.

**Findings**: About 40% of long-distance trips that begin or end within one mile of a SMART station are inter-county, which generate a disproportionate share of VMT due to their length and represent strong candidates for mode shift to SMART.

The North Bay's strongest travel markets today are community hubs with a high concentration of diverse destinations in the immediate station vicinity like the Downtown San Rafael, Downtown Petaluma, and Santa Rosa's Railroad Square. These areas function as both local anchors of activity and regional gateways, generating a high volume of trips that extend beyond the immediate station area. The Sonoma County Travel Behavior Study shows that many of these trips are intercounty and longer in distance, particularly for work, services, and other essential activities.

This concentration of destinations, combined with strong regional travel demand, aligns closely with SMART's service profile. With an average passenger trip distance of 21 miles, SMART is well suited to serve these longer-distance trips that would otherwise be made by car. As a result, stations located in these community hubs are uniquely positioned to capture trips that contribute disproportionately to VMT, linking land use patterns, regional travel behavior, and transit service in a way that supports meaningful mode shift and VMT reduction.

**Table 2.1 Travel Markets**

| Trips over 15 miles, 1 mile buffer radius around stations | | |
|---|---|---|
| **% of Trips with an Origin within a 1-mile buffer of station** | **% of Trips with a Destination within a 1-mile buffer of station** | **SMART Stations** |
| 3% | 3% | Larkspur Station |
| 4% | 4% | San Rafael Downtown Station |
| 6% | 7% | Marin Civic Center Station |
| 2% | 2% | Novato Hamilton Station |
| 4% | 4% | Novato Downtown Station |
| 1% | 1% | Novato San Marin Station |
| 15% | 14% | Petaluma Downtown Station |
| 7% | 7% | Petaluma North Station |
| 8% | 7% | Cotati Station |
| 5% | 5% | Rohnert Park Station |
| 8% | 8% | Santa Rosa Downtown Station |
| 8% | 9% | Santa Rosa North Station |
| 4% | 5% | Sonoma County Airport Station |
| 7% | 7% | Windsor Station |
| 8% | 8% | Healdsburg Station |
| 10% | 10% | Cloverdale Station |

Source: Replica.

## Mobility 3.1

**Analysis Objective**: Quantify SMART's pathway contribution to the overall active transportation networks in the region in miles.

**Findings**: The SMART pathway accounts for 16% of all off-street protected pathways in the North Bay. To date, SMART and its partners have completed 39 miles of the planned 70-mile pathway. Currently, 29 miles of the completed pathway are Class I, fully separated biking and walking facilities. While Jurisdictions in the two counties are building out their active transportation network, SMART's Pathway is significantly contributing to that network, playing a critical role in enhancing bike and pedestrian connectivity throughout the region.

**Table 3.1.1 Class 1 Facilities in Marin County**

| Location | SMART Pathway | Bay Trail | Class 1 Facilities | All Class 1 Facilities | Percent of Class 1 Facilities Attributed to SMART |
|---|---|---|---|---|---|
| Corte Madera | - | 1.6 | 2.6 | 4.2 | - |
| Fairfax | - | - | 0.1 | 0.1 | - |
| Larkspur | 0.7 | 1.3 | 5.3 | 7.2 | 10% |
| Mill Valley | - | 1.1 | 1.7 | 2.8 | - |
| Novato | 2.7 | - | 4.6 | 7.4 | 37% |
| Ross | - | - | 0.3 | 0.3 | - |
| San Rafael | 4.4 | 3.1 | 2.1 | 9.6 | 46% |
| Sausalito | - | - | 0.3 | 0.3 | - |
| Tamalpais | - | - | 0.7 | 0.7 | - |
| Tiburon | - | 2.3 | 0.2 | 2.6 | - |
| Unincorporated | 1.0 | 7.7 | 8.2 | 17.0 | 6% |
| **Marin County** | **8.8** | **17.1** | **26.3** | **52.2** | **17%** |

Source: Marin County Initial Primary Active Transportation Network, Jurisdictional Plans.

**Table 3.1.2 Class 1 Facilities in Sonoma County**

| Location | SMART Pathway | Bay Trail | Class 1 Facilities | All Class 1 Facilities | Percent of Class 1 Facilities Attributed to SMART |
|---|---|---|---|---|---|
| Cloverdale | - | - | 1.1 | 1.1 | |
| Cotati | 0.4 | - | 2.1 | 2.5 | |
| Healdsburg | 2.7 | - | 3.3 | 6.0 | 45% |
| Petaluma | 2.1 | - | 23.2 | 25.3 | 8% |
| Rohnert Park | 3.8 | - | 14.0 | 17.8 | 21% |
| Santa Rosa | 3.7 | - | 31.9 | 35.6 | 10% |
| Sebastopol | - | - | 1.5 | 1.5 | |
| Sonoma | - | - | 3.9 | 3.9 | |
| Unincorporated | 5.3 | - | 26.2 | 31.5 | 17% |
| Windsor | 2.4 | - | 3.0 | 5.4 | 44% |
| **Sonoma County** | **20.4** | **-** | **110.2** | **130.6** | **16%** |

Source: Jurisdictional Plans.

**Table 3.1.3 Class 1 Facilities in Both Counties**

| Location | SMART Pathway | Bay Trail | Class 1 Facilities | All Class 1 Facilities | Percent of Class 1 Facilities Attributed to SMART |
|---|---|---|---|---|---|
| Sonoma & Marin Counties | 29.2 | 17.1 | 136.5 | 182.8 | 16% |

Source: Marin County Initial Primary Active Transportation Network, Jurisdictional Plans.

## Mobility 3.2

**Analysis Objective**: Quantify the number of total regional pathways and trail miles a path user can access from a destination on the SMART pathway at build-out.

**Findings**: Once on the pathway, users will be able to access an additional 93.9 miles of connected trails, including the Bay Trail and Cross Marin Bikeway.

**Table 3.2 SMART Path Connections to Other Trails**

| Geography | Connected Trail Miles |
|---|---|
| Marin County | 32.5 |
| Sonoma County | 61.4 |
| **Total** | **93.9** |

Source: Marin County Initial Primary Active Transportation Network, Sonoma County Active Transportation Plan, Bay Trail.

## Mobility 4.1

**Analysis Objective:** Quantify number of youth and seniors currently being served by SMART and how free fare has supported populations with limited mobility options

**Findings:** Between March 2024 and March 2025, senior ridership increased by 71% and youth ridership increased by 130%. By March 2025, seniors made up 17% and youth 26% of all SMART riders, a combined 103% increase over March 2024. These increases in the senior and youth populations reflect the effectiveness of SMART's fare-free program for youth and seniors, which the agency has committed to continuing through June 2026.

**Table 4.1 March 2025 Youth and Senior Ridership**

| Weekday Trips | Average Senior Ridership | Average Youth Ridership |
|---|---|---|
| Early AM | 11% | 1% |
| Peak AM | 6% | 28% |
| Midday | 31% | 17% |
| Peak PM | 16% | 32% |
| Late PM | 6% | 24% |
| **Overall Weekday** | **17%** | **26%** |

Source: SMART Board of Directors Meeting April 16, 2025

# Access to Opportunity Impacts

## Purpose

The Access to Opportunity assessment aims to better understand SMART's access to points of interest. The Project Team estimated current access to jobs, housing, educational, and other opportunities from the existing pathway and rail network to date and the potential future impacts and outcomes expected with a completed SMART rail and pathway system. By quantifying access to destinations throughout the North Bay, the analysis helps illustrate how SMART expands mobility options and connects communities to the resources they need. Many measures of accessibility were analyzed as part of other assessments (See the land use and equity impact assessments).

## Access 1.1

**Analysis Objective:** Quantify how SMART rail and pathway increases access to key destinations in the counties.

**Findings:** SMART gets you access to a majority of key destinations within Sonoma and Marin counties. 71% of key destinations throughout the North Bay – including jobs, schools, healthcare, and essential services – can be accessed in under an hour when using SMART and available connecting services.

**Table 1.1 Access to Destinations**

| Total | Point of Interest | SMART plus Local Transit | | | | | SMART Only | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 15 min | 0 30 min | 0 45 min | 0 60 min | % served 0 60 min | 15 min | 0 30 min | 0 45 min | 0 60 min | % served 0 60 min |
| 29 | Clinic | 2 | 15 | 25 | 27 | **93%** | 3 | 16 | 24 | 26 | **90%** |
| 51 | Community Center | 6 | 17 | 29 | 31 | **61%** | 5 | 16 | 23 | 28 | **55%** |
| 17 | Hospital | 1 | 3 | 11 | 13 | **76%** | 1 | 4 | 10 | 13 | **76%** |
| 430 | Retail/Mall | 80 | 216 | 294 | 331 | **77%** | 79 | 198 | 245 | 277 | **64%** |
| | Supermarket | 8 | 26 | 36 | 38 | **73%** | 8 | 2 | 26 | 35 | **67%** |
| 5 | College | | 2 | 4 | 5 | **100%** | | 20 | 3 | 4 | **80%** |
| | University | | 2 | 4 | 4 | **100%** | | 3 | 4 | 4 | **100%** |
| 55 | Winery | | 0 | 2 | 2 | **4%** | | | 1 | 3 | **5%** |
| 339 | School | 20 | 99 | 178 | 210 | **62%** | 20 | 87 | 144 | 175 | **52%** |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 311,999 | All Jobs | 45,113 | 117,831 | 196,630 | 221,397 | **71%** | 42,725 | 109,324 | 165,245 | 197,137 | **63%** |
| | ***% of Total*** | ***14%*** | ***38%*** | ***63%*** | ***71%*** | **-** | ***14%*** | ***35%*** | ***53%*** | ***63%*** | **-** |

Source: OpenStreetMap, LEHD, California Department of Education, Transit Service as of February 2025

# Equity Impacts

## Purpose

Transportation equity is achieved through the proactive and community-centered removal of travel barriers and transportation-related disparities for historically and systemically marginalized and excluded populations. The term equity is most often associated with low-income, disability, and racial minority populations, as many individuals in these populations encounter travel barriers and burdens more often than many individuals in higher income, non-disabled, and white populations. Yet, these are not the only populations that have been systemically deprioritized by transportation planning. As is true across the United States, Marin and Sonoma County's transportation planning process has prioritized mobility for cars over mobility for people, with an emphasis on moving commuters. The resulting transportation system puts non-drivers at a disadvantage, creates a safety and comfort disparity between fast-moving vehicles and people walking and biking, and is particularly impactful on the oldest, youngest, and other vulnerable road users. This study aims to evaluate impacts for Historically Underserved Communities, Non-Drivers, and Vulnerable Road Users throughout all topic areas by weaving in demographic analyses, where appropriate, to identify travel barriers and disparities within the SMART travel shed.

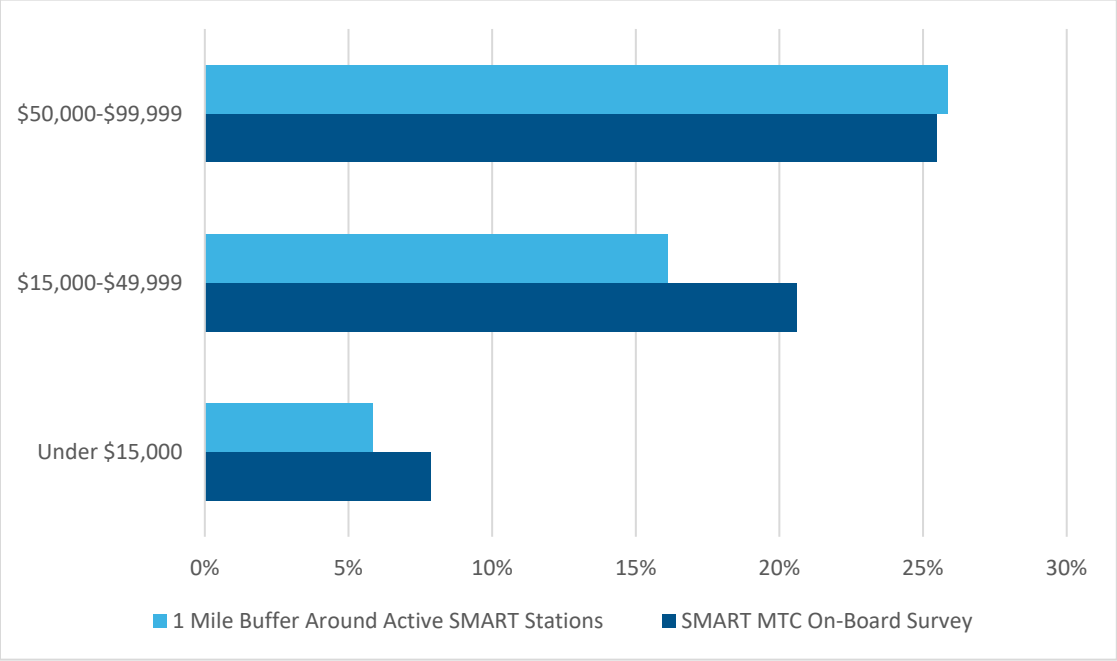
## Equity 1.1

**Analysis Objective:** Spatially quantify SMART's benefits distribution, looking both at SMART's riders and communities served.

**Findings:** SMART ridership largely reflects the demographics of the communities within a half-mile of its stations, while also reaching historically underserved populations.

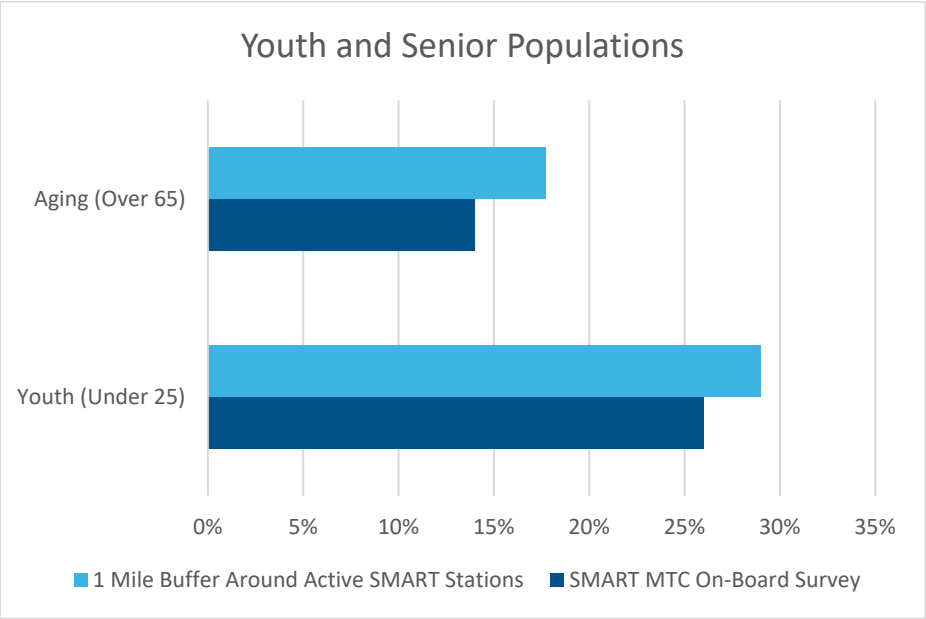
- SMART serves lower-income populations at a higher rate than the communities surrounding its stations, providing critical access to affordable transportation. 28% of SMART riders earn under $50,000, compared to just 22% of residents living within 1 mile of SMART stations.
- SMART provides an alternative to driving for middle- and lower-income households who may face higher transportation cost burdens. Over half of SMART riders (54%) earn under $100,000, reflecting the system's relevance to working families and cost-conscious commuters.
- SMART supports mobility for low-car households by offering an alternative to car ownership. 38% of households near SMART stations have limited access to a vehicle, compared to 34% in Sonoma County and 38% of Marin County. Within 1 mile of SMART stations, 6% of households have no vehicle available.
- SMART provides households the option to own fewer or no personal vehicles by providing a reliable and convenient alternative to driving.
- Five percent of SMART riders have a disability.

**Figure 1.1 Household Income of SMART Riders and Households Surrounding SMART Stations**




Source: MTC On-Board Survey.

**Figure 1.2 Age of SMART Riders and Individuals Surrounding SMART Stations**




Source: MTC On-Board Survey.

## Equity 2.1

**Analysis Objective:** Quantify the commute costs and trade-offs of a SMART rider and path user and how those compare to a single-occupancy vehicle driver.

**Findings:** Households in Marin and Sonoma County spend nearly half of household income on housing and transportation.

**Table 2.1 Housing and Transportation Costs as a Share of Income**

| Cost | Sonoma County | Marin County | MTC Region |
|---|---|---|---|
| Housing | 31% | 30% | 27% |
| Transportation | 18% | 13% | 13% |
| Remaining Income | 51% | 57% | 60% |

Source: H+T Fact Sheet

## Equity 2.2

**Analysis Objective:** Quantify the commute costs and trade-offs of a SMART rider and path user and how those compare to a single-occupancy vehicle driver.

**Findings:** Nearly 80% of registered vehicles in Marin and Sonoma counties are gasoline-powered.

**Table 2.2 Share of Vehicle Types**

| Fuel Type | Marin County | Sonoma County | North Bay Total |
|---|---|---|---|
| Battery Electric | 6.8% | 3.0% | 4.2% |
| Diesel and Diesel Hybrid | 3.1% | 6.5% | 5.4% |
| Flex-Fuel | 2.4% | 4.0% | 3.5% |
| Gasoline | 77.5% | 79.1% | 78.5% |
| Hybrid Gasoline | 7.8% | 6.0% | 6.6% |
| Hydrogen Fuel Cell | 0.0% | 0.0% | 0.0% |
| Natural Gas | 0.0% | 0.0% | 0.0% |
| Other | 0.0% | 0.0% | 0.0% |
| Plug-in Hybrid | 2.4% | 1.5% | 1.8% |
| **Total** | **100%** | **100%** | **100%** |

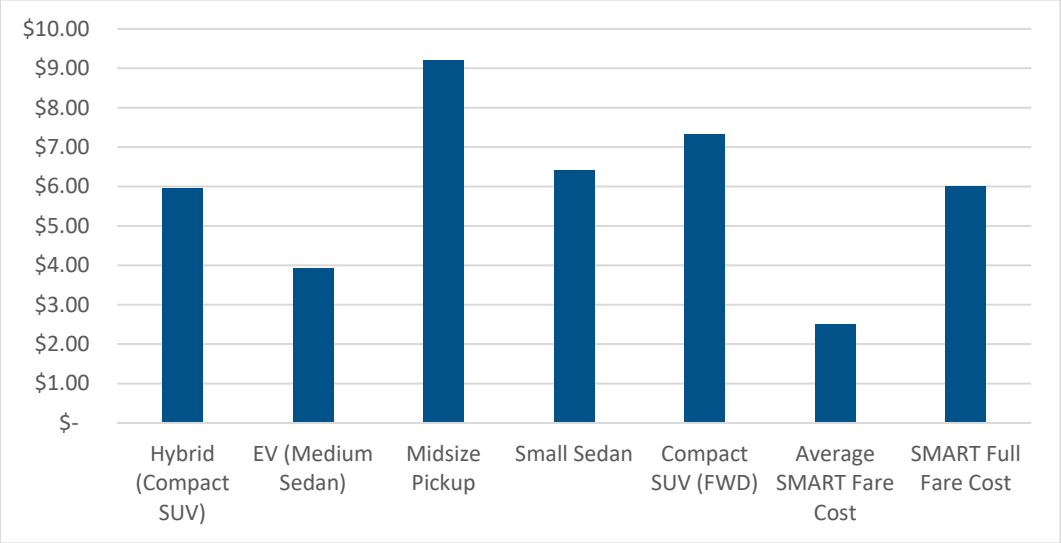
Source: US Census Bureau

## Equity 2.3

**Analysis Objective:** Quantify the commute costs and trade-offs of a SMART rider and path user and how those compare to a single-occupancy vehicle driver.

**Findings:** When traveling from San Rafael to Santa Rosa, the cost of driving is three times the cost of an average SMART fare, not including fixed costs of owning a vehicle. When considering the full cost of owning a vehicle, that same trip costs nearly eight times the cost of an average SMART fare.

**Figure 2.3 Travel Cost Between San Rafael and Santa Rosa by Mode**




Source: YDC Vehicle Category Brochure + EV, Hybrid, & Gas Comparison 2024, *AAA*.

# Environment, Public Health, & Safety Impacts

## Purpose

The environment, public health and safety assessments evaluate the benefits of SMART's rail and pathway system in terms of air quality, greenhouse gas (GHG) emissions, health, and safety across both existing and full build-out scenarios. A transportation system that prioritizes safe, active, and accessible modes of travel can support healthier communities by reducing the risk of injury, encouraging physical activity, improving air quality, and enhancing overall well-being. Key objectives include quantifying public health benefits generated from the SMART Pathway and travel to rail stations, safety costs and impacts associated with collisions, and environmental outcomes related to greenhouse gas emissions and air pollution.

## Public Health 1.1

**Analysis Objective**: Measure the public health benefits generated through active travel on SMART's Pathway and to SMART Rail stations.

**Findings**: The SMART Pathway generates approximately 118,500 active minutes per day, which equates to approximately 48 daily active minutes per person on average.

**Table 1.1 Active Minutes Attributed to the SMART Pathway**

| SMART Pathway Counter Location | Sum of Hourly Pedestrian Counts | Sum of Hourly Bicycle Counts | Pedestrian Trip Length[1] | Cyclist Trip Length [2] |
|---|---|---|---|---|
| Larkspur north of station | 113 | 291 | 226 | 873 |
| San Rafael north of Andersen | 161 | 154 | 322 | 462 |
| San Rafael Plum Tree Lane | 181 | 197 | 362 | 591 |
| Novato north of Hamilton Station | 111 | 40 | 222 | 120 |
| Novato north of Rush Creek | 74 | 33 | 148 | 99 |
| Petaluma North of Payran | 133 | 100 | 266 | 300 |
| Rohnert Park South of Expressway | 84 | 105 | 168 | 315 |
| Santa Rosa north of Bellevue | 156 | 65 | 312 | 195 |
| Santa Rosa Downtown South of 8th street | 155 | 130 | 310 | 390 |
| Santa Rosa South of Guerneville Road | 113 | 94 | 226 | 282 |
| **Total Miles on the Pathway Per Day** | | | **2,562** | **6,189** |
| **Approximate Minutes of Active Transportation Per Day** | | | **64,050**[3] | **54,405**[4] |

Source: SMART Pathway Intercept Survey, 2023.

Notes:

1. Total trip length is based on the average pedestrian length of 2 miles.
2. Total trip length is based on the average cyclist length of 3 miles.
3. Assuming an average trip time of 50 minutes
4. Assuming an average trip time of 15 minutes

## Public Health 1.2

**Analysis Objective**: Measure the public health benefits generated through active travel on SMART's Pathway and to SMART Rail stations.

**Findings**: From April 2023 to April 2025, monthly active transportation use along the SMART Pathway grew by 63.3%, increasing from approximately 60,000 users to 98,000. In October 2025, SMART pathway users were up 30% from October 2024. Today, SMART's pathway experiences similar usership to ridership onboard the train.

**Figure 1.2 Average Monthly Profile of SMART Pathway Counter Sites**

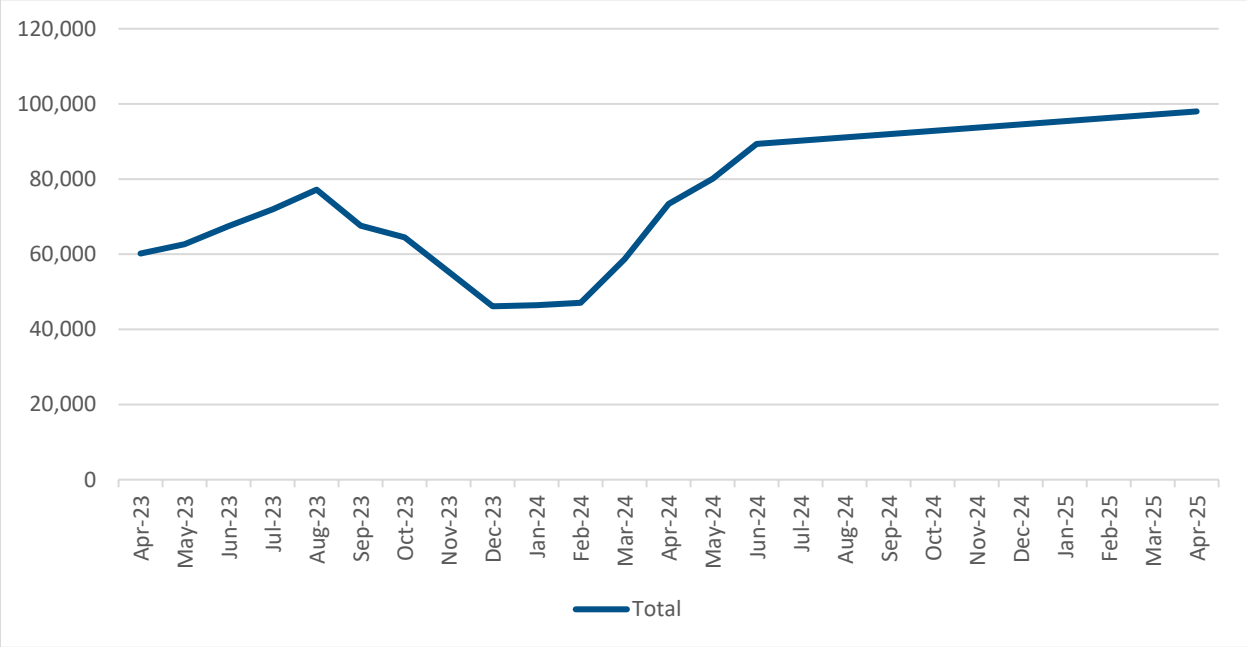
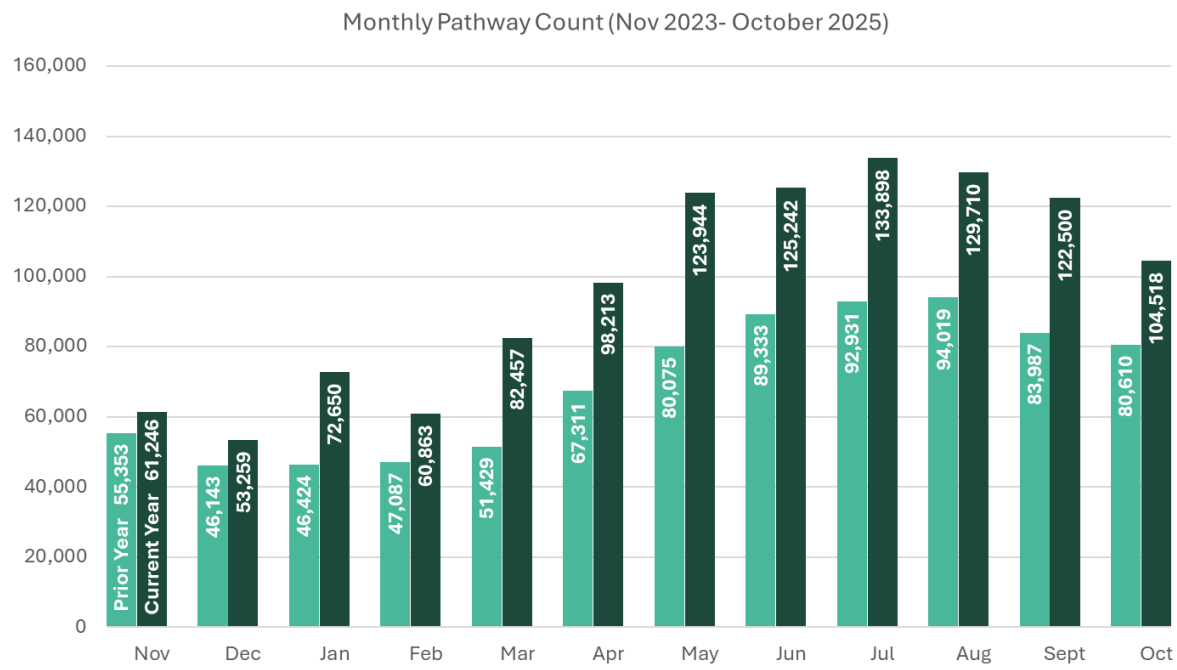



**Figure 1.3 Average Monthly Profile of SMART Pathway Counter Sites Monthly (Year over Year Comparison)**




Source: SMART Pathway Counts.

## Public Health 1.3

**Analysis Objective**: Measure the public health benefits generated through active travel on SMART's Pathway and to SMART Rail stations.

**Findings**: Active commuting can reduce overall mortality risk by at least 10%, lower the risk of cardiovascular disease by 10%, reduce type 2 diabetes risk by 30%, and lower cancer-related mortality by 30% among bike commuters. Transit users experience significantly lower costs, with total health care expenses 59–69% lower and medication costs 31–37% lower than non-users. Each 1% increase in physical activity is linked to a $28 million reduction in direct health care costs.

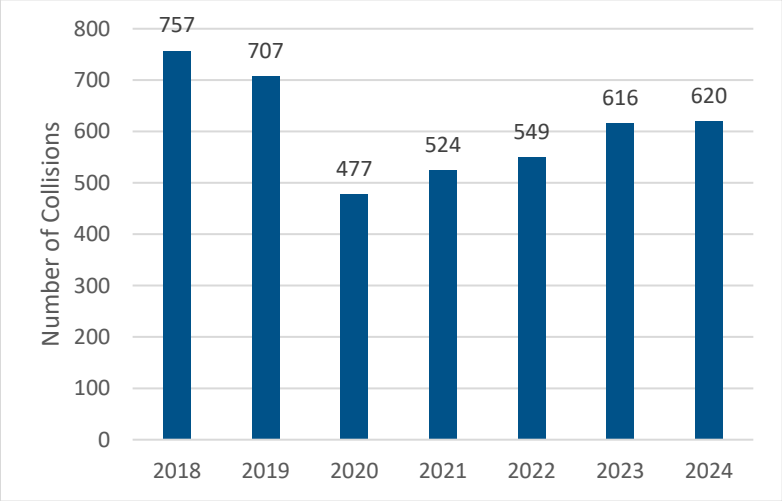
Source: "Active Transportation in Urban Areas: Exploring Health Benefits and Risks," *National Collaborating Center for Environmental Health*; "Transit Use and Health Care Costs: A Cross-sectional Analysis," *Journal of Transport & Health*; "The Business Case for Active Transportation," *Better Environmentally Sound Transportation.*

## Safety 1.1

**Analysis Objective:** Quantify the costs and safety impacts associated with driving collisions.

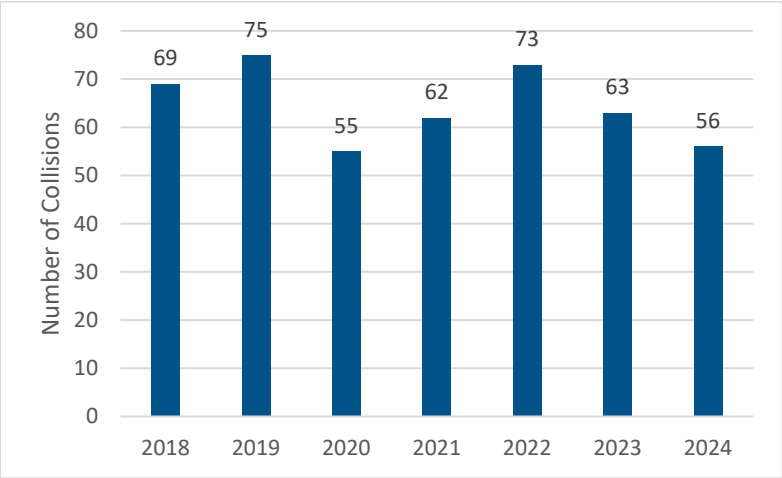
**Findings:** On average, there are over 1.7 collisions per day (51 per month) on the US 101 corridor in Marin and Sonoma Counties. Along the US 101 corridor in Marin and Sonoma Counties, there are more than 1.7 collisions per day, adding up to over 600 crashes each year. These regular crashes can make a trip on the freeway less safe and less predictable. Since 2018, one in five of those crashes resulted in serious injury or death, which is approximately more than 1 per week on average.

**Figure 1.1.1 Collisions per Year on US-101**




Source: Transportation Injury Mapping System (TIMS) (2018 - 2024)

**Figure 1.1.2 Killed or Severely Injured (KSI) Collisions per Year on US-101**



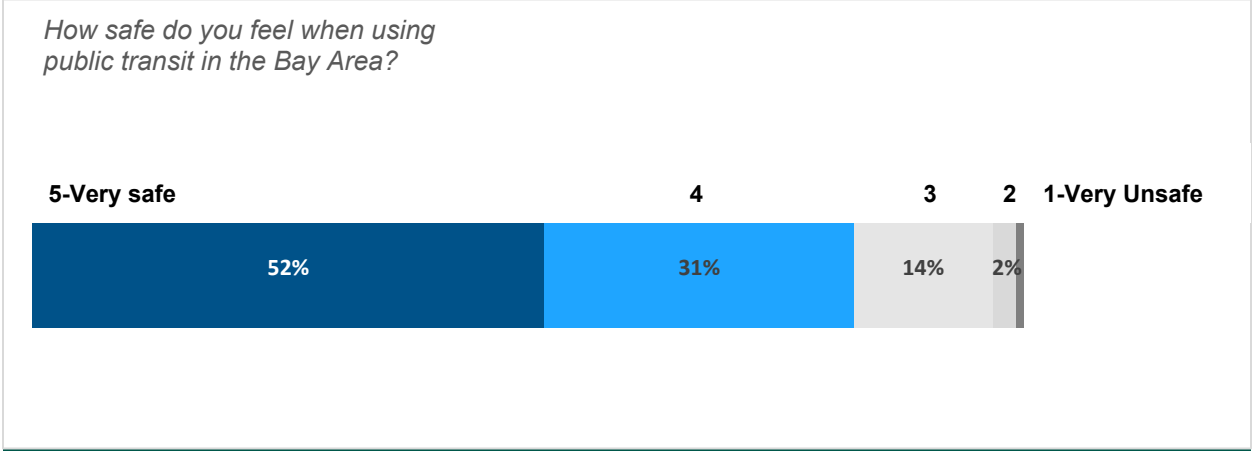

Source: Transportation Injury Mapping System (TIMS) (2018 - 2024)

## Safety 1.2

**Analysis Objective**: Quantify the costs and safety impacts associated with driving collisions.

**Findings**: SMART enjoys broad support as a safe transportation option according to surveyed SMART users. Riders consistently recognize SMART as a safe and dependable choice: survey results show strong public confidence in the system's safety and reliability, providing peace of mind and a pleasant travel experience. In fact, 83% of respondents rated SMART above neutral in terms of safety, with over 51% considering it very safe and more than 31% rating it safe.

**Figure 1.2 Perceived Safety on SMART**




Source: MTC On-Board Survey

## Safety 2.1

**Analysis Objective**: Quantify the costs and safety impacts associated with driving collisions.

**Findings**: Collisions on 101 have cost the region an average of $63 million every year since 2018, covering expenses such as medical care, emergency response, insurance, legal fees, property damage, and lost productivity. Factoring in the broader societal impact, measured through Quality Adjusted Life Years (QALYs), which estimate the cost of lives lost or permanently altered, this amount climbs to $347 million.

**Table 2.1.1 Cost per Collision (2018 – 2024)**

| Victim Degree of Injury (TIMS) | Number of Collisions (TIMS) | Severity (NHTSA) | Cost per Incident (With QALY) | Cost per Incident (Without QALY) |
|---|---|---|---|---|
| 0 - No Injury | 3 | MAIS0 | $4,789 | $4,789 |
| 1 - Killed | 71 | Fatal | $11,258,495 | $1,606,644 |
| 2 - Severe Injury | 2 | MAIS5 | $6,048,251 | $979,328 |
| 2 - Severe Injury | 2 | MAIS4 | $3,613,735 | $675,727 |
| 2 - Severe Injury | 2 | MAIS3 | $2,052,266 | $288,385 |
| 3 - Other Visible Injury | 21 | MAIS2 | $478,301 | $75,960 |
| 4 - Complaint of Pain | 77 | MAIS1 | $65,086 | $23,974 |
| 5 - Suspected Serious Injury | 114 | MAIS5 | $6,048,251 | $979,328 |
| 5 - Suspected Serious Injury | 114 | MAIS4 | $3,613,735 | $675,727 |
| 5 - Suspected Serious Injury | 114 | MAIS3 | $2,052,266 | $288,385 |
| 6 - Suspected Minor Injury | 1336 | MAIS1 | $65,086 | $23,974 |
| 7 - Possible Injury | 2698 | MAIS1 | $65,086 | $23,974 |

Source: Transportation Injury Mapping System (TIMS) (2018 - 2024); The Economic and Societal Impact of Motor Vehicle Crashes (2019), US DOT National Highway Traffic Safety Administration.

**Table 2.1.2 Total Estimated Costs Attributed to Collisions (2018 – 2024)**

| Victim Degree of Injury (TIMS) | Total Estimated Cost (With QALY) | Total Estimated Cost (Without QALY) |
|---|---|---|
| 0 - No Injury | $14,367 | $14,367 |
| 1 - Killed | $799,353,145 | $114,071,724 |
| 2 - Severe Injury | $12,096,502 | $1,958,656 |
| 2 - Severe Injury | $7,227,470 | $1,351,454 |
| 2 - Severe Injury | $4,104,532 | $576,770 |
| 3 - Other Visible Injury | $10,044,321 | $1,595,160 |
| 4 - Complaint of Pain | $5,011,622 | $1,845,998 |
| 5 - Suspected Serious Injury | $687,484,530 | $111,316,949 |
| 5 - Suspected Serious Injury | $410,761,212 | $76,807,636 |
| 5 - Suspected Serious Injury | $233,274,235 | $32,779,762 |
| 6 - Suspected Minor Injury | $86,954,896 | $32,029,264 |
| 7 - Possible Injury | $175,602,028 | $64,681,852 |
| **Total** | **$2,431,928,860** | **$439,029,592** |

Source: Transportation Injury Mapping System (TIMS) (2018 - 2024); The Economic and Societal Impact of Motor Vehicle Crashes (2019), US DOT National Highway Traffic Safety Administration.

## Environment 1

**Analysis Objective**: Quantify the greenhouse gas savings per typical trip.

**Findings**: SMART rail service allows riders to avoid nearly eight pounds of GHG emissions for every trip taken.

**Table 1 GHG Savings from Riding SMART**

| Metric | Unit | Value |
|---|---|---|
| Average train trip RT | Miles | 44 |
| Personal Vehicle Round Trip | Miles | 44 |
| Vehicle Occupancy | Persons | 1.06 |
| Train diesel fuel consumption | Gallons | 375,687 |
| Train passenger miles/year | PMT | 20,757,236 |
| Train diesel/PMT | gal/PMT | 0.0181 |
| GHG emissions/gal diesel | lbs. CO2e/gal | 22.715 |
| Average vehicle emissions/mile | lbs. CO2e/mile | 0.63 |
| Social Cost of GHGs (2024) | $/MT | 206 |
| Conversion factor | lbs./MT | 2204 |
| Conversion factor | g/lb. | 0.00220462 |
| Vehicle emissions per Pass trip | lbsCO2e | 26.028 |
| Train emissions per trip | lbsCO2e | 18.089 |
| **Delta** | **lbsCO2e** | **7.939** |
| **Avoided Damages** | **$** | **$0.74** |

Source: SMART, US Census Bureau, US EPA, EMFAC 2025.

## Environment 2

**Analysis Objective:** Quantify the change in annual personal carbon footprint.

**Findings:** SMART rail service allows the average rider to lower their personal carbon footprint by 3.9% and represents a 36% decrease in carbon emissions compared to passenger vehicles for equivalent travel.

**Table 2.1 Carbon Footprint Savings from Riding SMART**

| Metric | Unit | Value |
|---|---|---|
| Average train trip RT | Miles | 88 |
| Personal Vehicle RT | Miles | 88 |
| Annual Trips/person | # | 254 |
| Vehicle Occupancy | Persons | 1.06 |
| Train diesel fuel consumption | Gallons | 375,687 |
| Train passenger miles/year | PMT | 20,757,236 |
| Trail diesel/PMT | gal/PMT | 0.018099086 |
| GHG emissions/gal diesel | lbs. CO2e/gal | 22.71488175 |
| Average vehicle emissions/mile | lbs. CO2e/mile | 0.627036708 |
| Average Annual Carbon Footprint | MTCO2e | 50 |
| Social Cost of GHGs (2024) | dollars | 206 |
| Conversion | lb./ton | 2204 |
| Vehicle emissions per RT | lbs./CO2e | 55.18 |
| Train emissions for equivalent PMT | lbs./CO2e | 38.35 |
| Delta | lbs./CO2e | 16.83 |
| Annual Trips | # | 254 |
| Avoided Emissions | lbs./CO2e | 4274.84 |
| Gallons of Gas Avoided | Gallons | 218 |
| **Percent reduction in Carbon Footprint** | **%** | **3.9%** |
| **Avoided Damages** | **$** | **$400** |

Source: SMART, US Census Bureau, US EPA, Berkeley Cool Climate Calculator, EMFAC 2025.

**Table 2.2 Carbon Footprint Savings from Riding SMART**

| Metric | Unit | Value |
|---|---|---|
| Ridership | riders per year | 1,123,686 |
| Passenger train miles traveled | passenger train miles per year | 23,384,889 |
| Average train miles per passenger per trip | passenger train miles per rider per trip | 21 |
| Diesel consumption | gallons per year | 408,360 |
| Total CO2e emissions | metric tons per year | 4,207 |
| CO2e emissions per passenger train mile | pounds per passenger train mile per year | 0.40 |
| Avoided passenger VMT | miles avoided per year | 21,552,893 |
| Total CO2e reduction | metric tons avoided per year | 6,610 |
| CO2e emissions reduced per passenger train mile | pounds reduced per passenger train mile per year | 0.62 |
| Change in CO2e by riders using SMART | -2,403 | -2,403 |
| Rail emissions to avoided onroad emissions | | 64% |
| **Change in CO2e from SMART trains to emissions from passenger vehicles for equivalent travel** | | **-36%** |

Source: SMART, US Census Bureau, US EPA, Berkeley Cool Climate Calculator, EMFAC 2025.

## Environment 3.1

**Analysis Objective:** Quantify the greenhouse gas annual reductions, reductions to date, and projected future reductions.

**Findings:** SMART rail service lowers GHG emissions by approximately 3.75 million pounds of CO2 annually.

**Table 3.1 Annual SMART GHG Emissions Reductions**

| Metric | Unit | Value |
|---|---|---|
| Annual Ridership | # | 965,004 |
| Annual Train PMT | miles | 20,757,236 |
| Annual Diesel Consumption | Gallons | 375,687 |
| GHG emissions/gal diesel | lbs. CO2e/gal | 22.71488175 |
| Vehicle Occupancy | # | 1.06 |
| Average vehicle emissions/mile | lbs. CO2e/mile | 0.63 |
| Social Cost of GHGs (2024) | #/MT | $206 |
| Conversion Factor | Lbs./MT | 2204 |
| Vehicle emissions | Lbs. CO2e | 12,278,820 |
| Train emissions | Lbs. CO2e | 8,533,686 |
| **Delta** | **Lbs. CO2e** | **3,745,134** |
| **Avoided Damages** | **$** | **$350,044** |

Source: SMART, US Census Bureau, US EPA, EMFAC 2025.

## Environment 3.2

**Analysis Objective:** Quantify the greenhouse gas annual reductions, reductions to date, and projected future reductions.

**Findings:** SMART will have reduced GHG emissions by over 130,000 metric tons of CO2 by 2050.

**Table 3.2: SMART Total GHG Emissions Reduction**

| Period | Unit | Value | Avoided Damages |
|---|---|---|---|
| 2017 - present | MTCO2e | 4,296 | $9,470,684 |
| Present - 2050 | MTCO2e | 126,804 | $279,555,342 |
| **2017 - 2050** | **MTCO2e** | **131,100** | **$289,026,026** |

Source: SMART, US EPA.

# Land Use and Economic Impacts

## Purpose

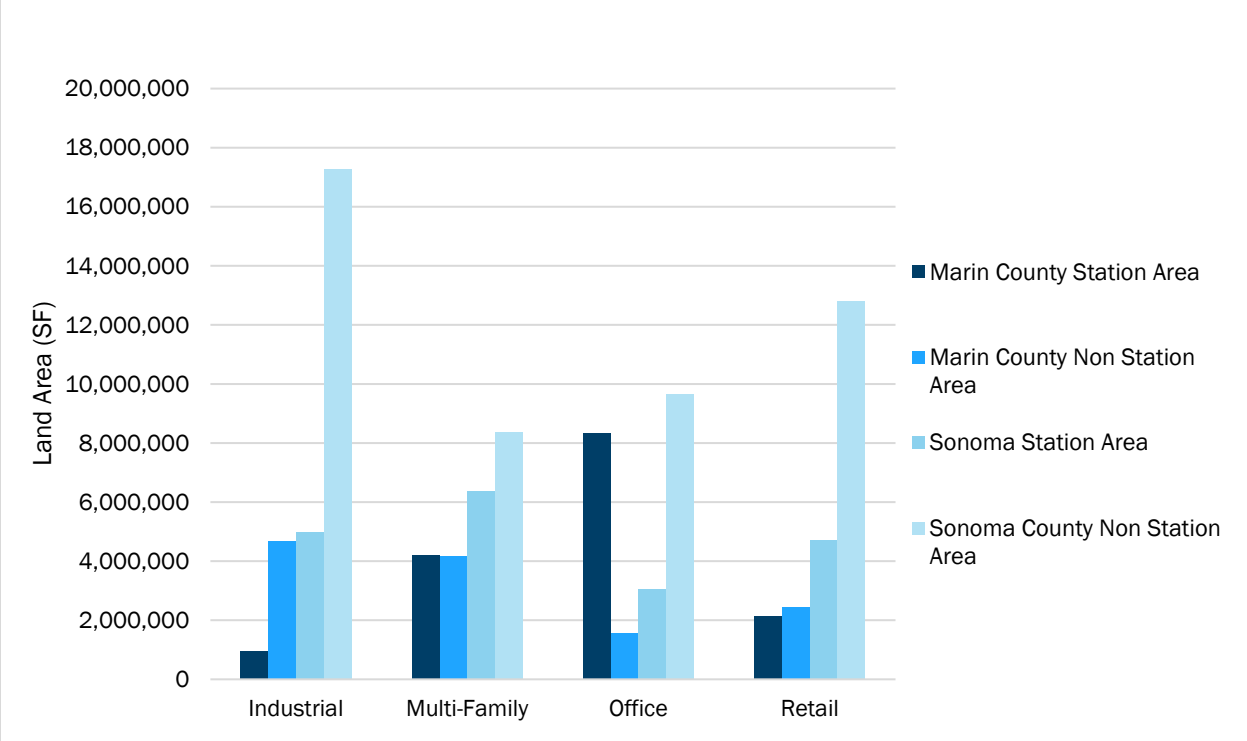
The economics assessments evaluate the benefits of SMART's rail and pathway system in terms of land use, economics, retail expenditures, and socioeconomic benefits. The intent is to describe the role that SMART plays in attracting development, density, and a mix of uses near its stations while also helping to secure funding for affordable housing. In addition, the economics assessments estimate the retail expenditures and regional economic benefits generated by the SMART transit system construction and operations, the SMART pathway, and by SMART transit and pathway users.

## Land Use 1.1

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and demonstrate how SMART is helping these jurisdictions achieve their goals.

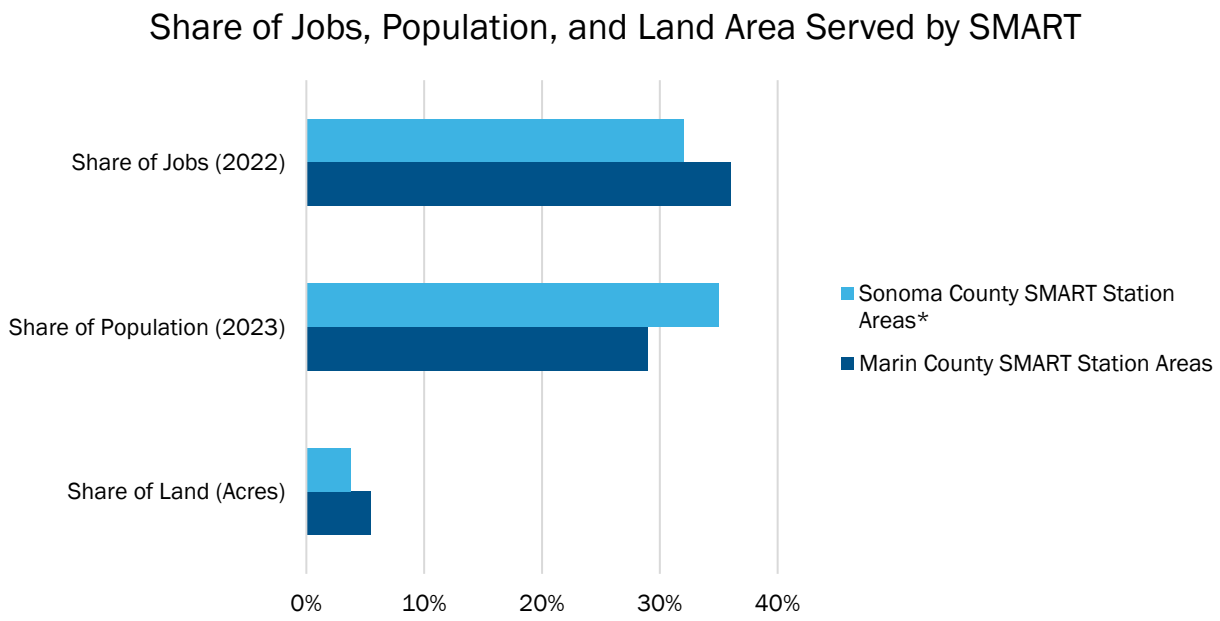
**Findings:** Existing and planned SMART stations are catalysts for infill development, mixed-use, and higher intensity uses and are prioritized as such in local planning goals and policies across Marin and Sonoma County. Commercial (non-single family residential) property transactions are clustered in SMART Station Areas, particularly in Marin County. Additionally, there is a heavy concentration of rentable commercial space in SMART station areas.

**Figure 1.1.1 Sold Land Area by Use, 2019-2024**




Source: Costar, 2024; Strategic Economics, 2025.

**Figure 1.1.2 Share of Jobs, Population, and Land Area Served by SMART**




Source: CoStar, 2025; LEHD, 2022; ACS, 2023; Strategic Economics, 2025.

* *Sonoma County SMART Station Areas includes all existing and proposed stations*

**Table 1.1.1 Share of Total County Land Sold (SF) by Use in SMART Station Areas, 2019-2024**

| Geography | Flexible Use | Health Care | Hospitality | Industrial | Multi Family | Office | Retail |
|---|---|---|---|---|---|---|---|
| Marin County Station Areas | 30% | 53% | 63% | 17% | 50% | 84% | 47% |
| Sonoma County Station Areas | 55% | 3% | 5% | 22% | 43% | 24% | 27% |

Sources: Costar, 2024; Strategic Economics, 2025.

**Table 1.1.2 Share of Rentable Building Area and Units Built Since 2000**

| Geography | Retail | Office | Industrial | Multi Family |
|---|---|---|---|---|
| Marin County SMART Station Areas | 64% | 71% | 29% | 88% |
| Sonoma County SMART Station Areas | 54% | 44% | 34% | 34% |

Source: CoStar, 2025; LEHD, 2022; ACS, 2023; Strategic Economics, 2025.

## Land Use 1.2

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals.

**Findings:** Since the SMART Project was approved, a significant amount of the office and retail property construction, and to a lesser extent industrial property, has been within existing and planned SMART station catchment areas.  SMART Stations are essential to Marin/Sonoma's future employment growth. Station areas account for significant employment activity, especially in middle to high wage jobs.

**Figure 1.2.1 Office Properties Built Since 2000, Marin and Sonoma Counties**




Sources: Costar, 2025; Strategic Economics, 2025.

**Figure 1.2.2 Retail Properties Built Since 2000, Marin and Sonoma Counties**




Sources: Costar, 2025; Strategic Economics, 2025.

**Figure 1.2.3 Industrial Properties Built Since 2000, Marin and Sonoma Counties**




Sources: Costar, 2025; Strategic Economics, 2025.

## Land Use 1.3

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals.

**Findings:** Existing and planned SMART stations, as tier 4 TOC designated areas, assist in clustering development in urban cores, which protects jurisdictional urban growth boundaries and open space, according to commercial property development data between 2017 and 2024.

**Figure 1.3 Property Development 2017-2024**




Sources: Costar, 2025; Strategic Economics, 2025.

## Land Use 1.4

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals.

**Findings:** Local agencies in Marin and Sonoma counties have ambitious goals related to increasing transit usage and accessibility; reducing auto travel and associated vehicle miles of travel (VMT) and greenhouse gases (GHG); reducing or eliminating traffic injuries and deaths and increasing opportunities to walk and cycle for improved health and placemaking. SMART positively impacts local agencies' abilities to meet these goals by making active transportation and transit both more visible and viable travel alternatives.

**Table 1.4 Circulation-Related Policies and Goals by Jurisdiction**

| Jurisdiction | Policies and Goals |
|---|---|
| Sonoma County | • Reduce the need for future automobile use<br>• Coordinate regional, express, and local bus transit services and integrate them with passenger rail service and other facilities, including employment centers, schools parks, etc.<br>• Develop SMART right-of-way for passenger rail service with supporting multimodal feeder system"<br>• Develop and enhance opportunities for bicyclists and pedestrians to easily access other modes of transportation<br>• Establish a comprehensive countywide bicycle and pedestrian transportation system.<br>• Encourage a shift toward low-carbon transportation options<br>• Establish a planning area roadway system of primary and secondary routes to adequately serve traffic demands<br>• Provide special bicycle lanes along major planning area driving routes; fixed route transit and airport shuttle buses, van pools, and/or subscription buses; adequate and safe pedestrian access<br>• Increase use of non-motorized modes for commute trips<br>• Provide incentives for business and government to increase the use of walking and bicycling by employees<br>• Close gaps in existing walkway and bikeway networks<br>• Prioritize roadway designs that comply with Complete Streets Policies |

| Jurisdiction | Policies and Goals |
|---|---|
| Santa Rosa | • Enhance connectivity between the east and west parts of town through linkages for pedestrians, bicycles, and automobiles that are free flowing and unobtrusive to the neighborhoods<br>• Reduce dependence on the automobile by improving pedestrian, bicycle, and transit alternatives<br>• Design bicycle and pedestrian facilities that are accessible and comfortable for people of all ages and abilities to use<br>• Identify, develop, and maintain a complete and convenient bicycle and pedestrian network.<br>• Increase awareness and support of bicycling and walking through programs and citywide initiatives.<br>• Improve the bicycle and pedestrian network in Santa Rosa through design elements, training, and facilities<br>• Improve the frequency, efficiency, reliability, and safety of transit to, from, and within Santa Rosa<br>• Improve our transportation network to reduce vehicle miles traveled a nd promote multi-modal transportation.<br>• Provide more opportunities for pedestrian connectivity<br>• Ensure that all improvements and development in the Plan<br>• Area will integrate and connect safely and effectively to all<br>• transit, including bus transit and the SMART line<br>• Propose improvements to existing bicycle and pedestrian connections along key streets and corridors from surrounding districts and neighborhoods |
| Rohnert Park | • Maintain a safe, efficient, and connected transportation system<br>• Improve connection points between the different modes of transportation, including attention to last mile connectivity<br>• Embrace all modes of transportation (e.g., bus, transit, bike, auto)<br>• Establish connections between the bike network proposed and the pending SMART Multi-use Path (MUP)<br>• All streets should be constructed as “complete streets”<br>• Sidewalks on both sides of all improved streets in plan area<br>• All new roads accommodate bicycle travel, either with bicycle lanes or with off-street Class I bicycle paths.<br>• Pedestrian travel is proposed along roadways throughout the majority of the Plan Area. Every improved road shall have sidewalks on both sides and provision for bicycle travel<br>• Pedestrian lighting, benches, street trees and other sidewalk amenities<br>• Pedestrian-oriented linkages - wide pedestrian sidewalks<br>• Bulb-outs to reduce walking distance across streets |

| Jurisdiction | Policies and Goals |
|---|---|
| Cotati | • Provide links between commuter rail, bus, pedestrian, and bicycle travel and to provide retail and services to serve SMART transit users<br>• Ensure that effective transit linkages are in place between the SMART commuter rail station and the City's primary activity and employment centers<br>• Accommodate vehicular and non-vehicular traffic<br>• Develop a local and countywide bicycle and pedestrian transportation network that provides access to and among major activity centers<br>• Encourage School districts to participate in providing safe and continuous bicycle and pedestrian connections<br>• Development of a Class I multi-use pathway along the SMART right-of-way<br>• Require new development to provide safe, continuous and convenient pedestrian access<br>• Implement Car-sharing Program and Bike-Sharing Program<br>• Improve and Increase Transit Service<br>• Improve the walking and bicycling system through downtown Cotati as well as the interconnections between Cotati and the region |
| Petaluma | • Expanding pedestrian and bicycle access and safety<br>• Prioritize cycling, walking, transit, and other transportation alternatives over automobiles<br>• Fund and implement the Bicycle Plan and complete gaps in the bikeway network<br>• Strive to create a five percent bicycle commute share by 2025<br>• Improve the pedestrian experience through streetscape enhancements, focusing improvements where there is the greatest need, and by orienting development toward the street<br>• Improve street crossings and complete gaps in the sidewalk system<br>• Encourage Diversity in Transportation Modes<br>• Recognizes the need to improve vehicular circulation as well as promote alternative modes, specifically pedestrian, bicycle, rail and bus transportation"<br>• Expand and improve transit and shared mobility services to be more accessible, affordable, and timely<br>• Manage travel demand by<br>  - Reducing single-occupancy vehicle trips, incentivizing active transportation and transit use to lower VMT and greenhouse gas emissions.<br>  - Managing parking resources more efficiently to lower VMT and greenhouse gas emissions.<br>  - Prioritizing walking, biking, rolling, and transit use over auto travel.<br>• Enhance connectivity and circulation<br>• Walkable extension of the downtown, with limited parking where the majority of the riders arrive by transit, bicycle, walking, or water |

| Jurisdiction | Policies and Goals |
|---|---|
| Marin County | • Expand public transportation system to better connect jobs, housing, schools, shopping, and recreational facilities<br>• Provide affordable and convenient transportation alternatives that reduce our dependence on single occupancy vehicles, conserve resources, improve air quality, and reduce traffic congestion"<br>• Expansion of Bicycle and Pedestrian Access<br>• Adequate and Affordable Public Transportation<br>• Encourage bicycling and micromobility as an alternative to vehicular travel<br>• Encourage walking as an alternative to vehicle use<br>• Support and promote public transit<br>• Encourage residents, commuters, employees, and visitors to take the SMART train<br>• Reduce vehicle miles traveled commuting to work |
| Larkspur | • Make it easier to move around Larkspur without having to use a motor vehicle<br>• Assure adequate transit service (bus, ferry, airport limousine) as alternatives to the auto.<br>• Improve all forms of connections (i.e., pedestrian, bicycle, and auto) between the several parts of Larkspur and with neighboring communities<br>• Promote Transit-Oriented Housing Development<br>• Encourage bicycling and micromobility as an alternative to vehicular travel<br>• Encourage walking as an alternative to vehicular travel through outreach channels and partner agencies.<br>• Support and promote public transit. Encourage residents, commuters, and employees to take the SMART train.<br>• Reduce vehicle miles traveled commuting to work<br>• Reduce reliance on the automobile<br>• Create a coordinated system of automobile, pedestrian and bicycle routes to serve the Plan area, Downtown and the community as a whole<br>• Completion of gaps in the existing bike/pedestrian pathways<br>• Develop a more pedestrian/bicycle-friendly community<br>• Improve transit access<br>• Identify regional and multi-jurisdictional gaps in connectivity |

| Jurisdiction | Policies and Goals |
|---|---|
| San Rafael | • Reduce vehicle miles traveled<br>• Make transit a more viable alternative to driving, by collaborating with service providers and through local land use decisions<br>• Improvements to pedestrian and bicycle systems<br>• Create an exemplary public realm to improve pedestrian and bicycle connectivity<br>• Develop bicycle and pedestrian networks that connect residents and visitors to major activity and shopping centers, existing and planned transit, and schools<br>• Close gaps between existing facilities<br>• Transportation to Schools<br>• Expanded Transit Service<br>• Access to Bikes/Scooters, Secure Bike Parking, and Bicycle Education<br>• Encourage bicycling and micromobility as an alternative to vehicular travel<br>• Encourage walking as an alternative to vehicular travel through outreach channels and partner agencies.<br>• Support and promote public transit. Encourage residents, commuters, and employees to take the SMART train.<br>• Reduce vehicle miles traveled commuting to work |
| Novato | • Encouragement of interconnected modes of local transportation, including bicycle and pedestrian paths and trails, shuttles, buses, and paratransit.<br>• Develop a bicycle and pedestrian environment that sustains healthy communities and supports a vibrant economy<br>• Improve walkability of Novato streets<br>• Encourage students to bicycle and walk to school<br>• Plan, design, and build complete streets<br>• Improve transit schedule coordination for connecting services<br>• New sidewalk construction and repair broken sidewalks<br>• New bicycle lanes and facilities<br>• Reduce emissions from transportation sources through promotion of n on-vehicular modes travel. |

Sources:

**Sonoma County**
Circulation & Transit (General Plan), Countywide Bicycle and Pedestrian Master Plan (SCTA), Regional Climate Action Plan (RCPA), Airport Land Use Plan, Bicycle and Pedestrian Plan (Permit Sonoma), Vision Zero Action Plan

**Santa Rosa**
General Plan 2035 (City of Santa Rosa), Bicycle and Pedestrian Master Plan (City of Santa Rosa), Community Climate Action Plan (City of Santa Rosa), Municipal Operations Climate Action Plan (City of Santa Rosa), Downtown Station Area Specific Plan

**Rohnert Park**
General Plan (Draft 2040), Northwest Specific Plan, Wilfred Dowdell Specific Plan

**Cotati**
General Plan, Cotati Bicycle and Pedestrian Master Plan, Climate Action Plan, Downtown Specific Plan

**Petaluma**
General Plan, Bike and Pedestrian Master Plan, Central Petaluma Specific Plan, Petaluma's Greenhouse Gas Reduction Plan, Petaluma SMART Rail Station Areas: TOD Master Plan

**Marin County**
Countywide Plan, Local Coastal Program, Climate Action Plan

**Larkspur**
General Plan, Climate Action Plan, Central Larkspur Specific Plan, Bicycle and Pedestrian Master Plan

**San Rafael**
General Plan, Downtown Precise Plan, Bicycle and Pedestrian Master Plan, Canal Neighborhood Community-Based Transportation Plan, Climate Action Plan

**Novato**
General Plan, Bicycle/Pedestrian Plan, Novato Community-Based Transportation Plan, Climate Change Action Plan .

## Land Use 1.5

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals.

**Findings:** Marin and Sonoma County jurisdictions prioritize area and specific planning near SMART stations to increase the amount and quality of development opportunities. Regional agencies also prioritize SMART station areas as prime for development. Many of the area and specific planning documents relevant to SMART station areas are in need of an update and modernization.

**Table 1.5 Findings**

| Findings |
| --- |
| Eight of SMART stations have station area plans, though only Santa Rosa Downtown's plan has been updated since SMART began operation. |
| All jurisdictions with SMART stations have implemented specific plans in the SMART station areas. However, many of these are ten to twenty years old. Specific Plan updates are funded and, in some cases, underway through the MTC TOC grant program at the following stations: Larkspur, Petaluma Downtown, Petaluma North, Santa Rosa Downtown, Santa Rosa North, Sonoma County Airport, Windsor, and Healdsburg. |
| Proximity to transit is a primary factor of priority development area designation by ABAG MTC and SMART promotes PDA designation within the District. PDAs along the SMART corridor are located in San Rafael (Downtown, Canal District, Northgate); Petaluma (Lakeville and Corona); Cotati (Downtown Cotati and Depot and Gravenstein Corridor); Rohnert Park (Central Rohnert Park and Sonoma Mountain Village); Santa Rosa (Mendocino Avenue/Santa Rosa Avenue Corridor, Roseland, Santa Rosa Avenue, Downtown Station Area, Santa Rosa North Station Area, Sebastopol Road Corridor); unincorporated Sonoma County (Airport Industrial Specific Plan); Town of Windsor (Station Area/Downtown Specific Plan Area); Healdsburg (SMART Station Area); Cloverdale (Downtown/SMART Transit Area) |
| Jurisdiction General Plans in areas with SMART stations set land use policies and goals that directly relate to promoting density, mixed-use, and infill near SMART station areas. |

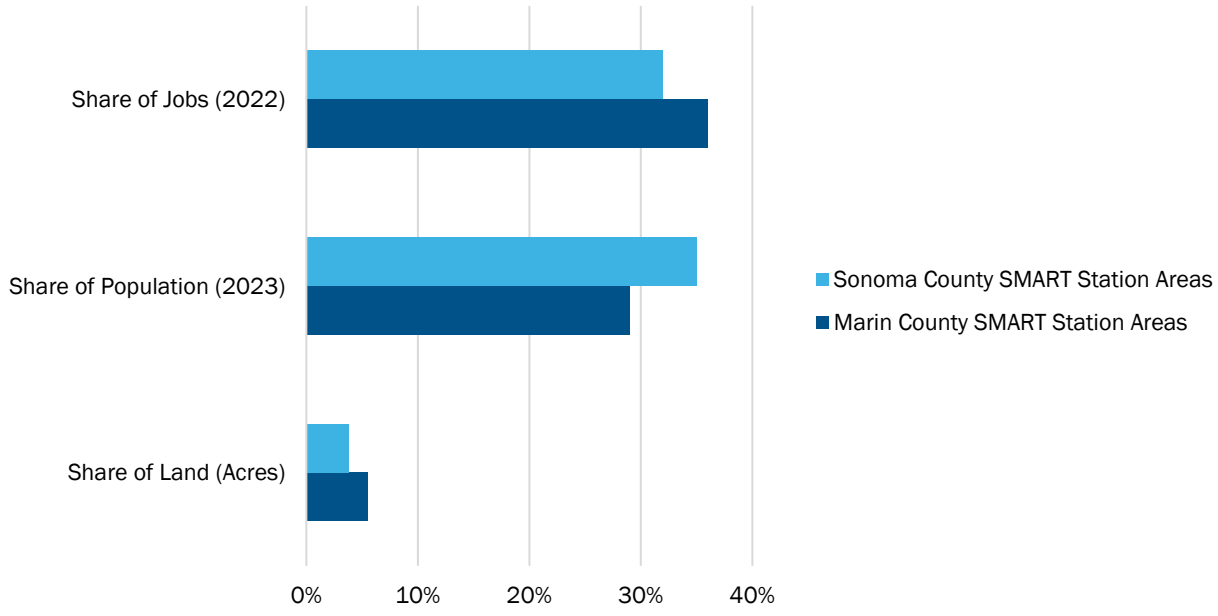
Source: Local Planning and Policy Documents.

## Land Use 1.6

**Analysis Objective:** Identify the land use, housing, and/or economic development goals for each jurisdiction served by SMART and evaluate how SMART is helping these jurisdictions achieve their goals.

**Findings:** Based on 2022 LEHD employment and 2023 ACS population data, while the one-mile area around existing and planned SMART stations make up about four percent of the land area of the two counties, it makes up about 30 percent of jobs and population.

**Figure 1.6 Share of Jobs, Population, and Land Area Served by SMART**



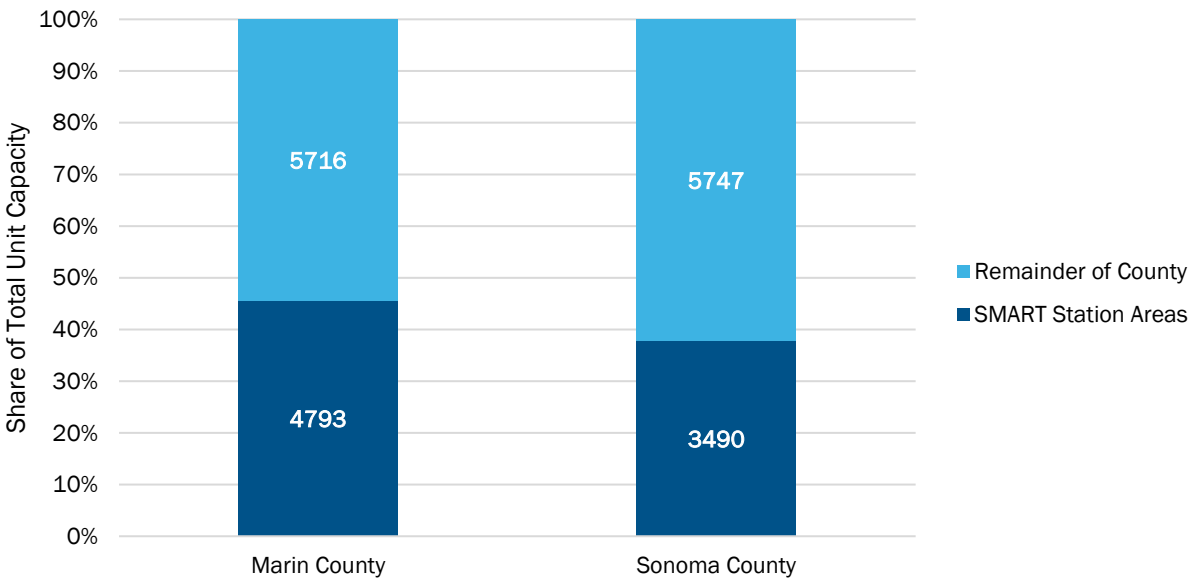

Source: CoStar, 2025; LEHD, 2022; ACS, 2023; Strategic Economics, 2025.

## Land Use 2.1

**Analysis Objective:** Identify how SMART creates opportunity sites for affordable and market rate housing.

**Findings:** Marin and Sonoma County jurisdictions leverage SMART station areas for opportunity site designation in planning and policy documents. As of 2024, 46 percent and 38 percent of total housing opportunity site unit capacity within Marin and Sonoma County, respectively, are located in SMART station areas. As a basis for comparison, the SMART station areas constitute just 4 percent of the land area of the two counties. In total, over 8,000 potential housing units have been identified in SMART station areas.

**Figure 2.1 Housing Element Opportunity Site Unit Capacity, 2024**



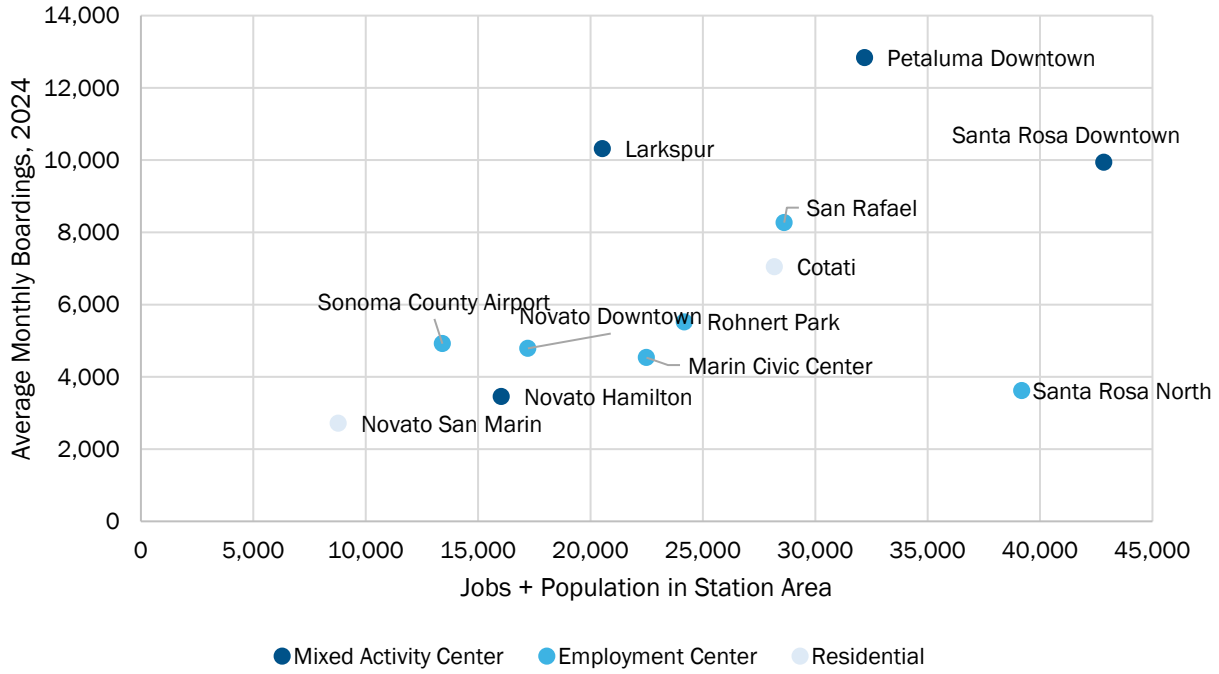

Source: HCD, 2024; Strategic Economics, 2025.

## Land Use 3.1

**Analysis Objective:** Identify how SMART ridership patterns relate to land use and economic activity in station areas.

**Findings:** SMART average monthly ridership is a function of both density and the mix (that is, diversity) of land uses in an area. Population and employment density tend to increase ridership for SMART stations. Existing SMART stations with a high density of both employment and residents such as San Rafael Downtown, Petaluma Downtown and Downtown Santa Rosa typically have the largest monthly ridership totals.

**Figure 3.1 SMART Average Monthly Boardings by Station Job and Population Density, 2024**



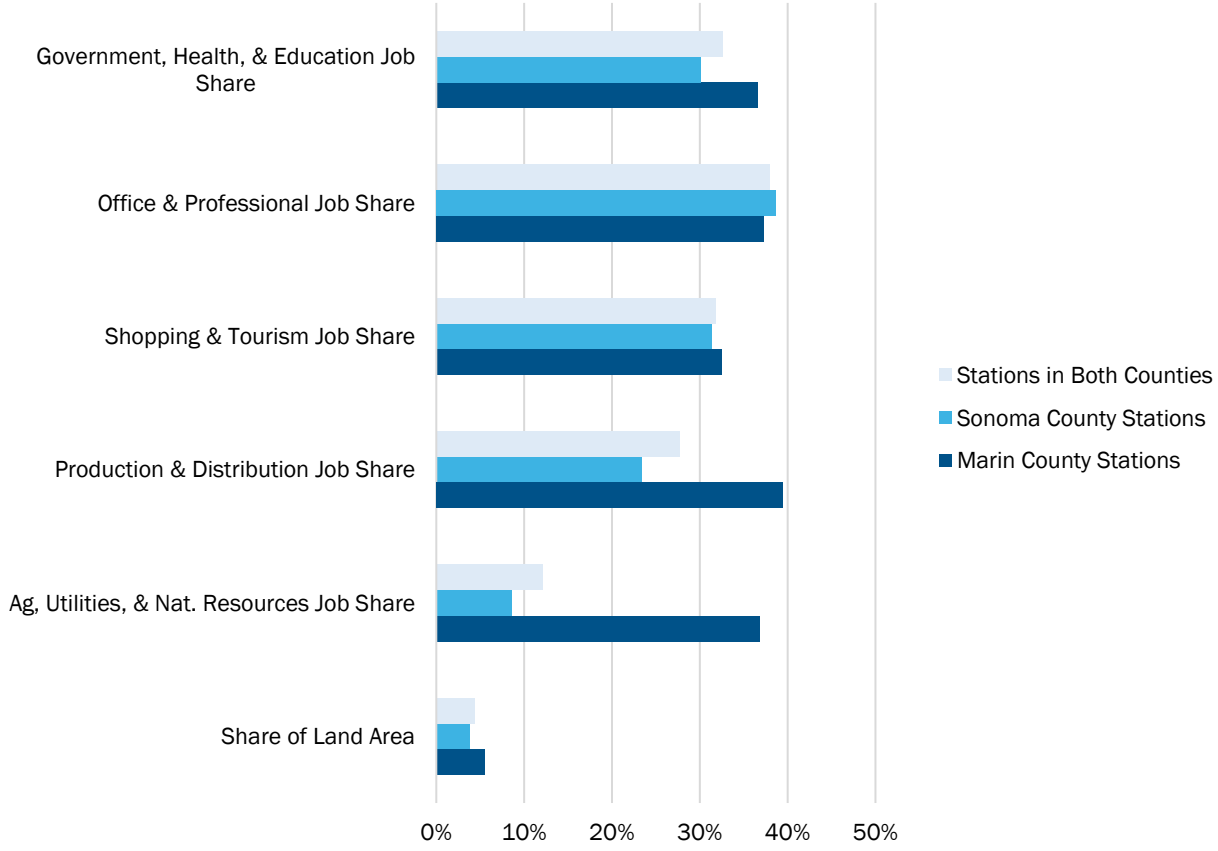

Sources: SMART, 2024; LEHD, 2025; U.S. Census Bureau, 2025; Strategic Economics, 2025.

## Land Use 3.2

**Analysis Objective:** Identify how SMART ridership patterns relate to land use and economic activity in station areas.

**Findings:** 38 percent of Marin and Sonoma County office and professional jobs are located in SMART station areas, despite these areas only covering around 4 percent of the combined county land area. This concentration demonstrates SMART's ability to serve a large share of work commutes within the region.

**Figure 3.2 County Job Share by Industry Groups in SMART Station Areas, 2022**



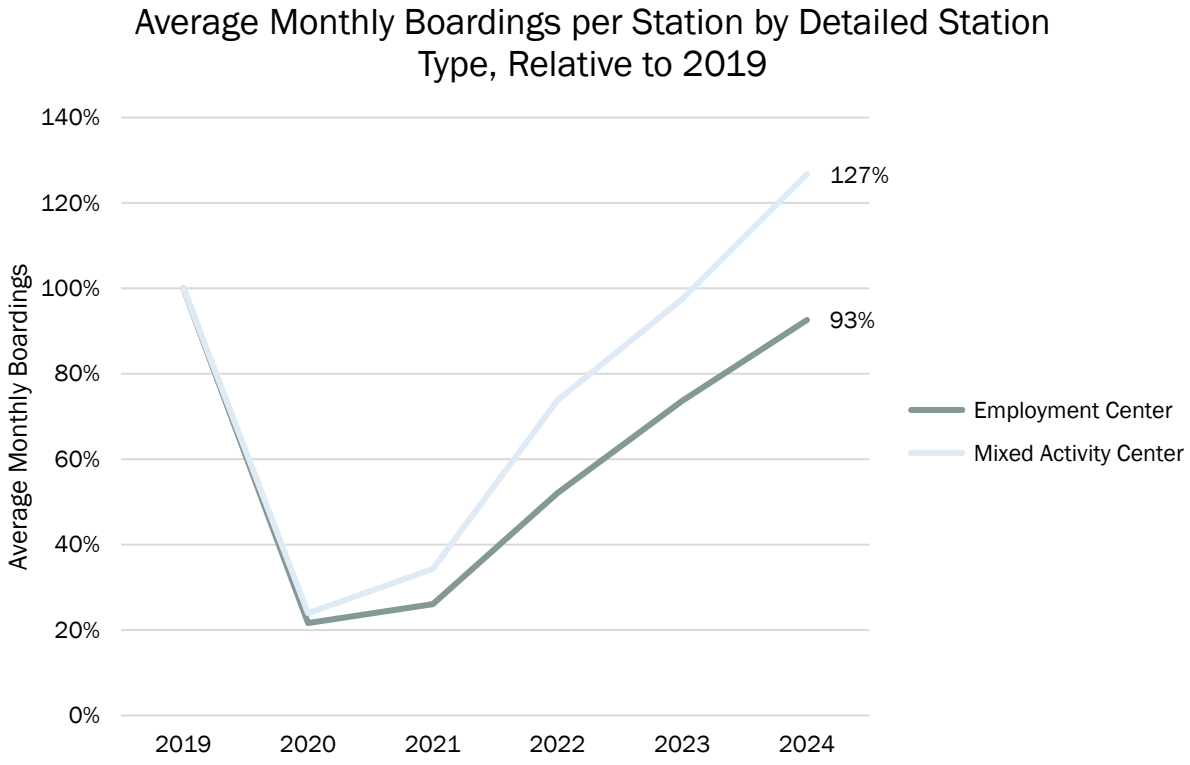

Source: LEHD 2013-2022; Strategic Economics, 2024.

## Land Use Economics 1.1

**Analysis Objective:** Evaluate SMART's ongoing contribution to economic integration between Marin and Sonoma County.

**Findings:** Existing SMART stations with Mixed Activities (i.e. both residential and employment uses) are driving systemwide ridership increases. Those stations with higher employment concentrations have 2024 boardings rates that are nearly back to 2019 pre-pandemic levels (93%) and boardings for mixed activity centers exceed pre-pandemic levels. Most transit systems derive ridership disproportionately from work-related trips. SMART has a more diverse mix of trip purposes, which has helped it recover more quickly from the pandemic than other passenger rail systems in the US, and adapt to changes in national work-from-home trends.

**Figure 1.1 Average Monthly Boardings by General Station Type, Relative to 2019**



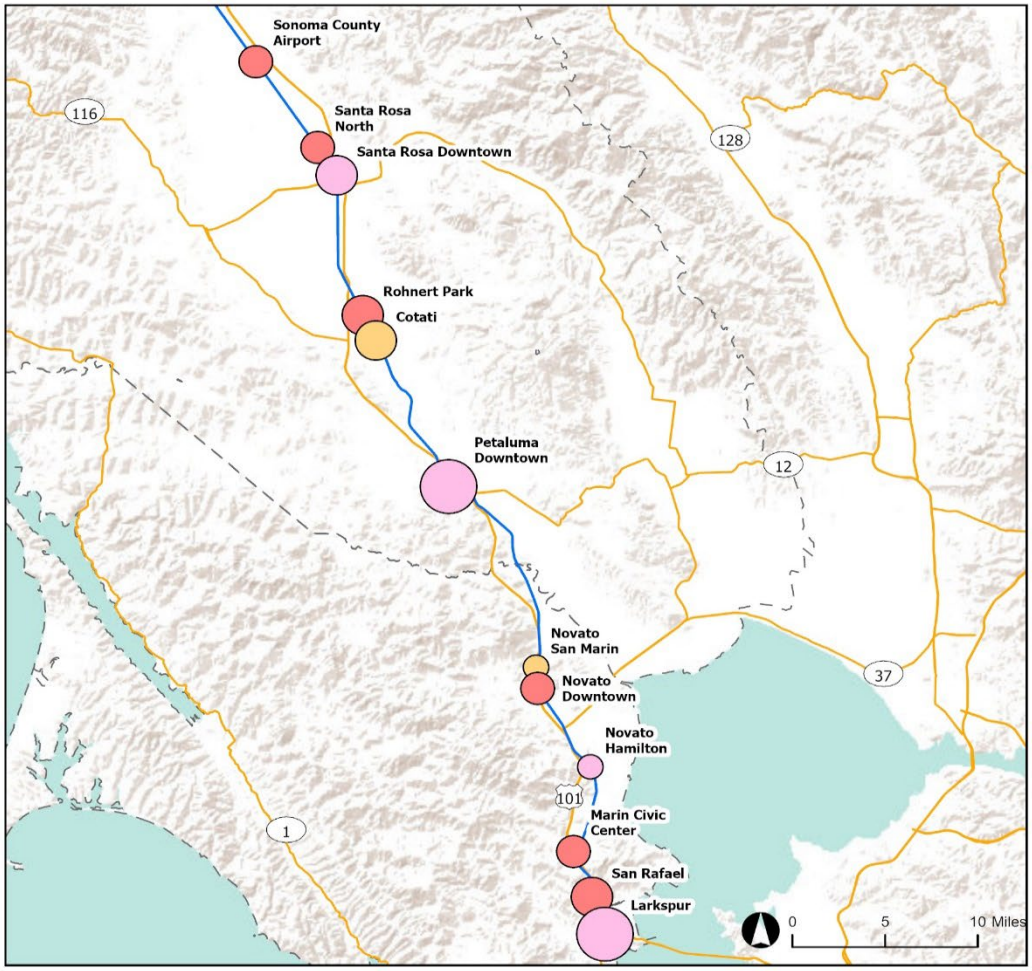

Source: LEHD 2013-2022; Strategic Economics, 2024.

## Land Use Economics 1.2

**Analysis Objective:** Evaluate SMART’s ongoing contribution to economic integration between Marin and Sonoma County.

**Findings:** SMART's existing station areas connect population and activity centers between Marin and Sonoma. The highest volume of boardings occur at station locations that are mixed activity centers serving a mix of employment, entertainment and hospitality and residential communities.

**Figure 1.2.1 SMART Station by General Station Type and Monthly Boardings**




**SMART Station by General Station Type and Monthly Boardings**

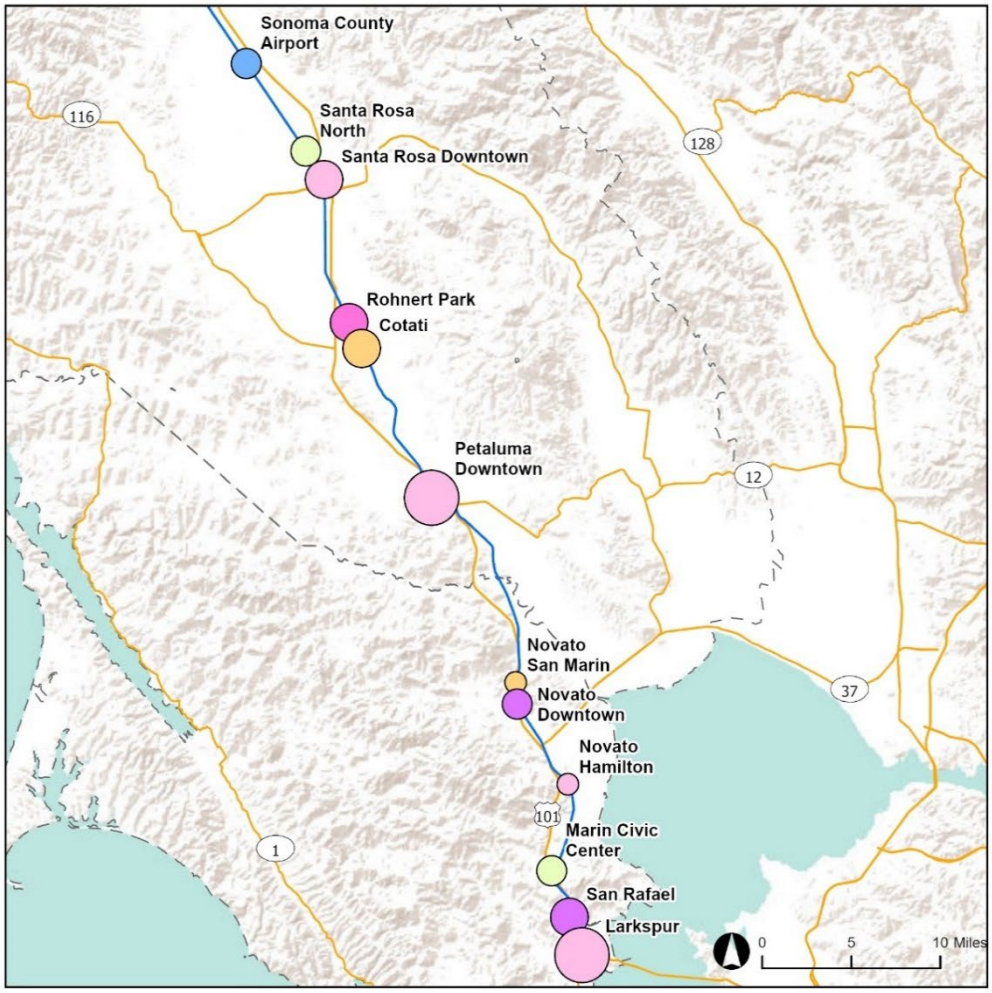
2024 Monthly Boardings
- Less than 3,500
- 3,501 - 5,000
- 5,001 - 10,000
- 10,001 - 12,833

General Station Type
- Employment Center
- Mixed Activity Center
- Residential
- County Boundaries
- SMART Line

STRATEGICECONOMICS

Sources: Sonoma County, 2024; Marin County, 2024; F & P, 2024; Strategic Economics, 2025.

**Figure 1.2.2 SMART Station by Detailed Station Type and Monthly Boardings**




**SMART Station by Detailed Station Type and Monthly Boardings**

2024 Monthly Boardings
- Less than 3,500
- 3,501 - 5,000
- 5,001 - 10,000
- 10,001 - 12,833

Detailed Station Type
- Government, Health, & Education Center
- Mixed Activity Center
- Mixed Employment Center
- Production & Distribution Center
- Residential
- Shopping, Hospitality, and Entertainment Center

County Boundaries
SMART Line

STRATEGICECONOMICS

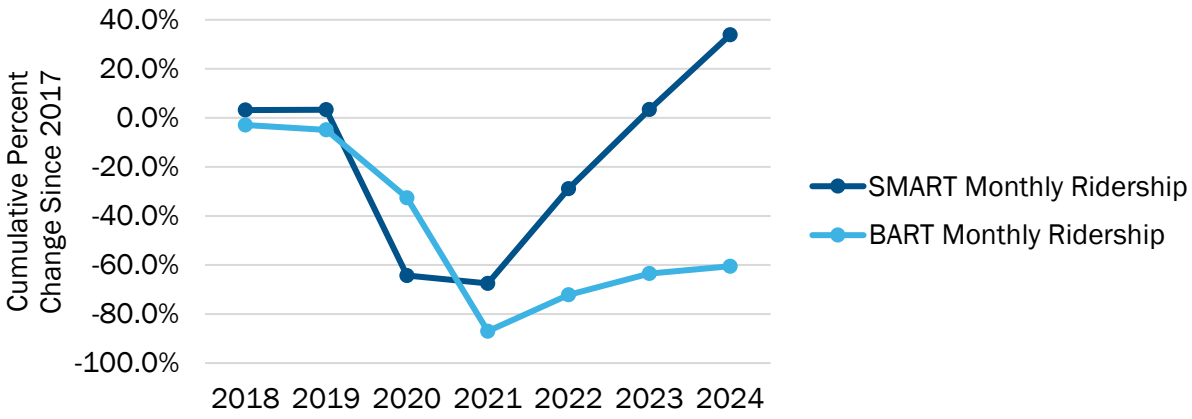
Sources: Sonoma County, 2024; Marin County, 2024; F & P, 2024; Strategic Economics, 2025.

## Land Use Economics 2.1

**Analysis Objective:** Identify ridership trends and patterns that differentiate SMART from other Bay Area transit.

**Findings:** SMART ridership is growing, and recovering, more quickly than BART ridership since 2020.

**Figure 2.1 Base Percent Change of SMART/BART Monthly Average Exits Since 2017**



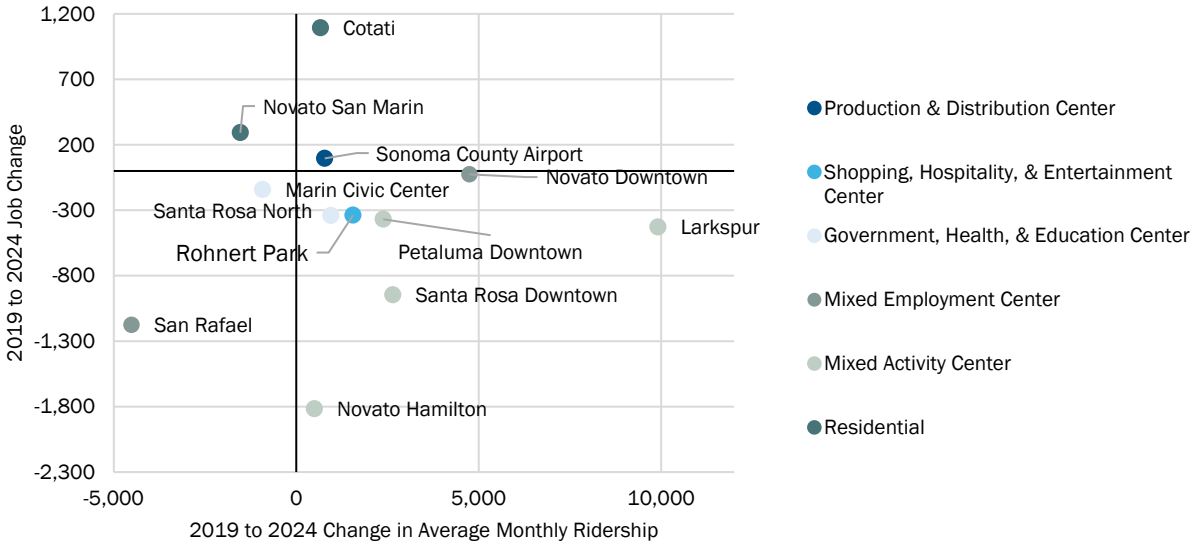

Source: SMART, 2025; BART, 2025; Strategic Economics, 2025.

## Land Use Economics 2.2

**Analysis Objective:** Identify ridership trends and patterns that differentiate SMART from other Bay Area transit.

**Findings:** SMART's ridership patterns are unique, encouraging, and strong. While many station areas, and Marin County as a whole, has lost jobs over recent years, SMART continues to hit ridership highs. Meaning that the system has both diversity and resiliency.

**Figure 2.2 SMART Stations by Job and Ridership Change, 2019-2024**



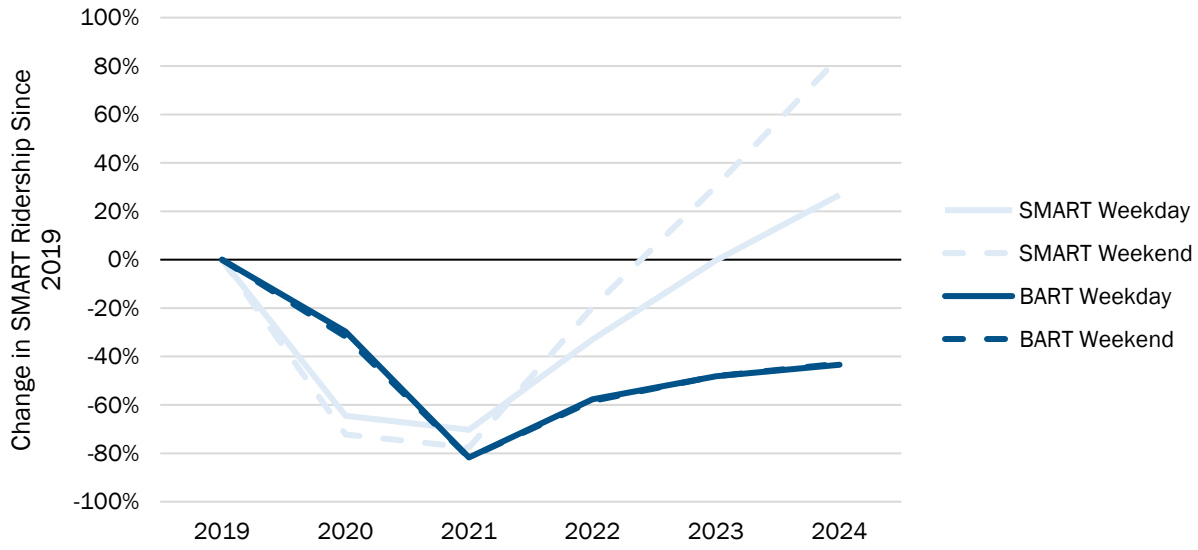

Sources: SMART, 2025; Source: LEHD 2013-2022; Strategic Economics, 2025

## Land Use Economics 2.3

**Analysis Objective:** Identify ridership trends and patterns that differentiate SMART from other Bay Area transit.

**Findings:** SMART's success lies in the fact that it serves both the work and non-work trips. Half of SMART ridership attributed to non-work trips. Since the Pandemic, SMART's services have pivoted to better serve a wider variety of trip needs, including providing service that supports both commute and non-commute travel. SMART's post-pandemic success compared to other systems is due, in part, to this effort to serve more non-commute hour and weekend trips.

**Figure 2.3 Change in SMART and BART Ridership Since 2019**

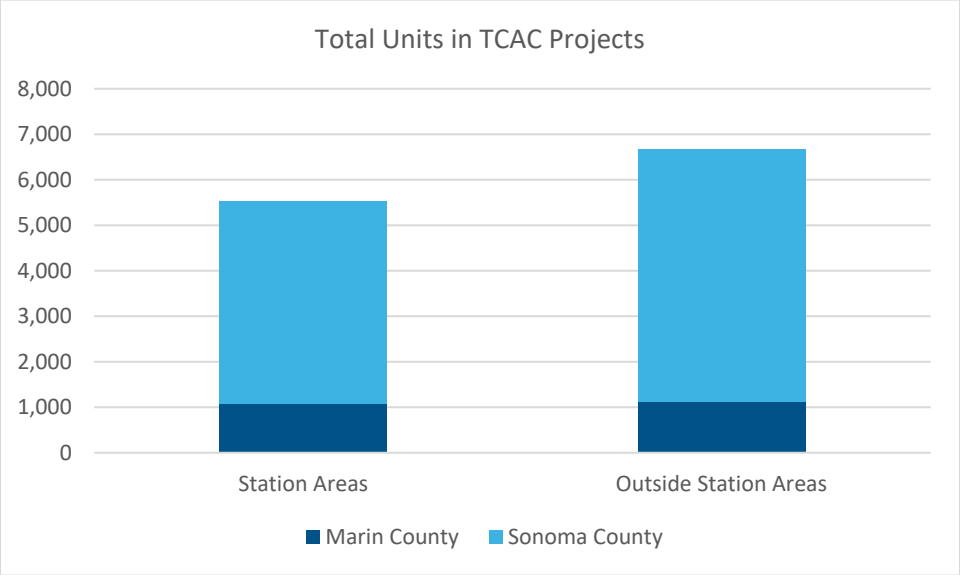


## Land Use Economics 3.1

**Analysis Objective:** Measure how SMART is leveraged to secure funding for new affordable housing.

**Findings:** There are about 5,500 income-restricted homes within a mile of an existing or planned SMART station in Marin and Sonoma counties. This represents about 45% of affordable homes in the two counties. The majority of affordable housing units funded by Tax Credit Allocation Committee (TCAC) in Marin and Sonoma County are located in SMART station areas. In addition, over $97 million in Affordable Housing and Sustainable Communities (AHSC) funding has been awarded for affordable housing and integrated connectivity projects in the two counties since 2017.

**Figure 3.1 Total Housing Units in TCAC Projects Within and Outside Sonoma/Marin Station Areas**




Source: AHSC, 2025; Strategic Economics, 2025.

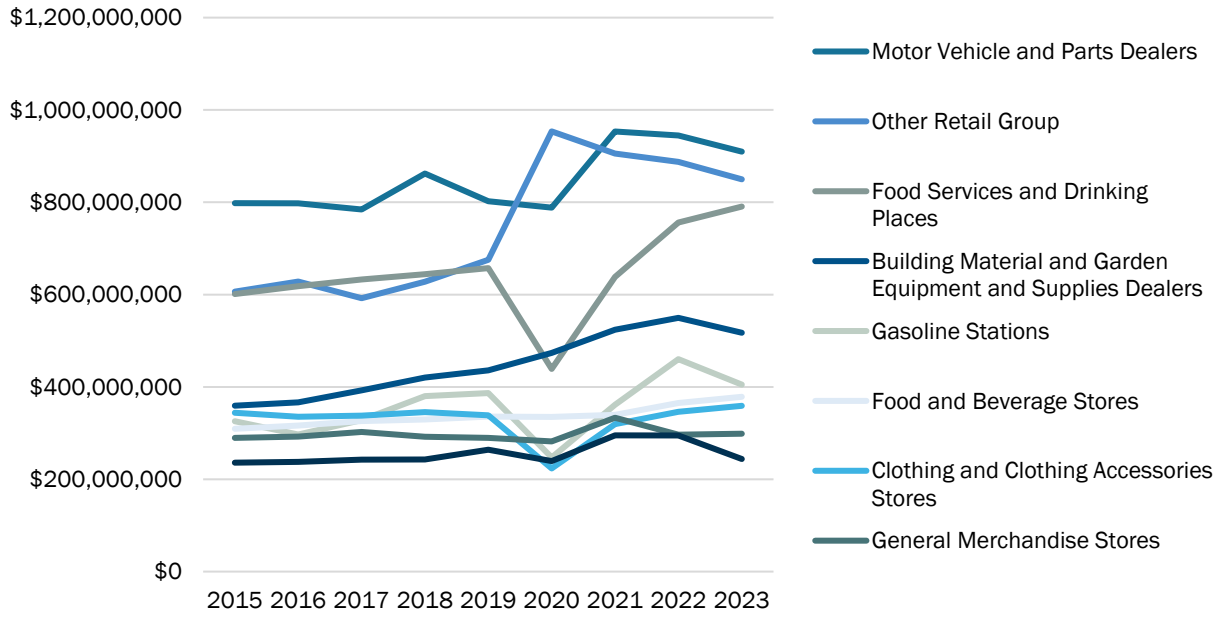
## Land Use Economics 4.1

**Analysis Objective:** Identify how SMART has affected local tax revenues and business performance.

**Findings:** Sales tax revenue streams across the jurisdictions served by existing SMART stations have shifted towards food, drinking, and entertainment destinations. This fact, in conjunction with SMART's increasing weekend ridership, suggests that people are using SMART to access retail, food and drink, and experiential establishments across the region.

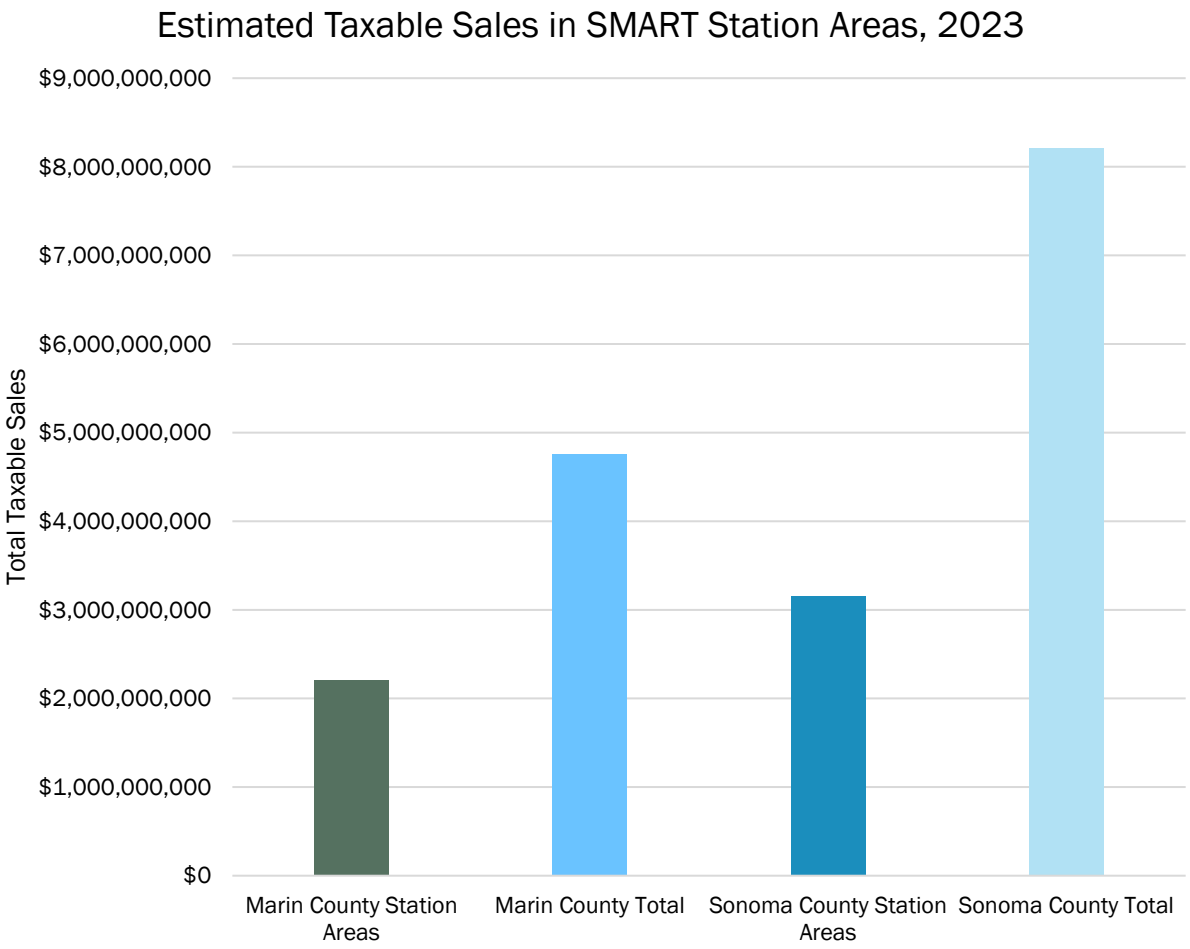
In 2023, retail sales space in SMART station areas generated over $5.3 billion in taxable sales, representing 40% of taxable sales in the two counties

**Figure 4.1.1 Marin County Taxable Sales by Industry, 2015-2023**



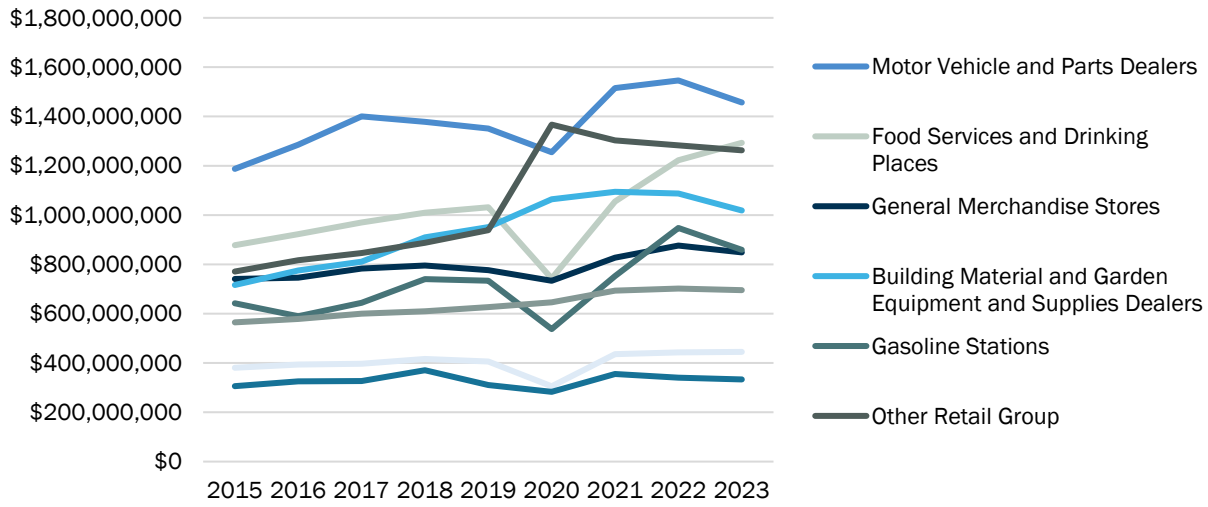

Source: CDFTA, 2025; Strategic Economics, 2025.

**Figure 4.1.2 Estimated Taxable Sales in SMART Station Areas, 2023**




Source: CDFTA, 2025; CoStar 2023; Strategic Economics, 2025.

**Table 4.1.3 Sonoma County Taxable Sales by Industry, 2015-203**



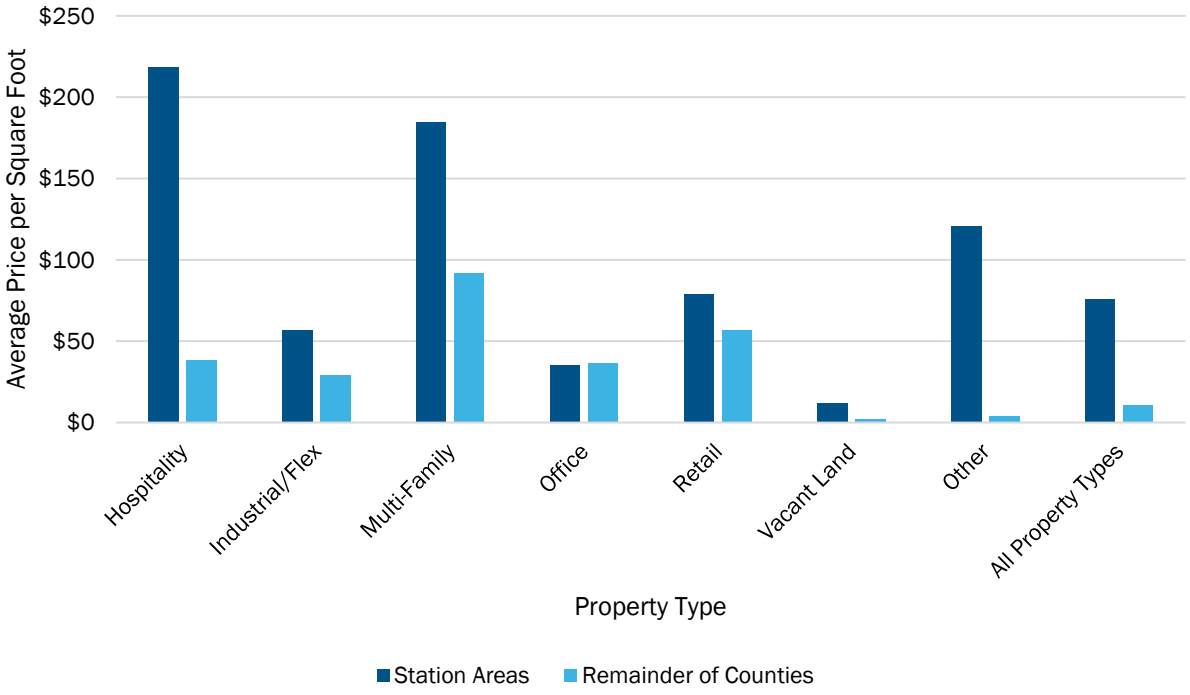

Source: CDFTA, 2025; Strategic Economics, 2025.

## Land Use Economics 4.2

**Analysis Objective:** Identify how SMART has affected local tax revenues and business performance.

**Findings:** There is a property tax premium for property near existing SMART stations. Between 2020 and 2025, the average commercial property sales prices near SMART stations were 700% higher than comparable properties.

**Figure 4.2 Property Sales Prices per Square Foot of Land, SMART Station Areas vs Rest of Marin and Sonoma Counties, 2020-2025**



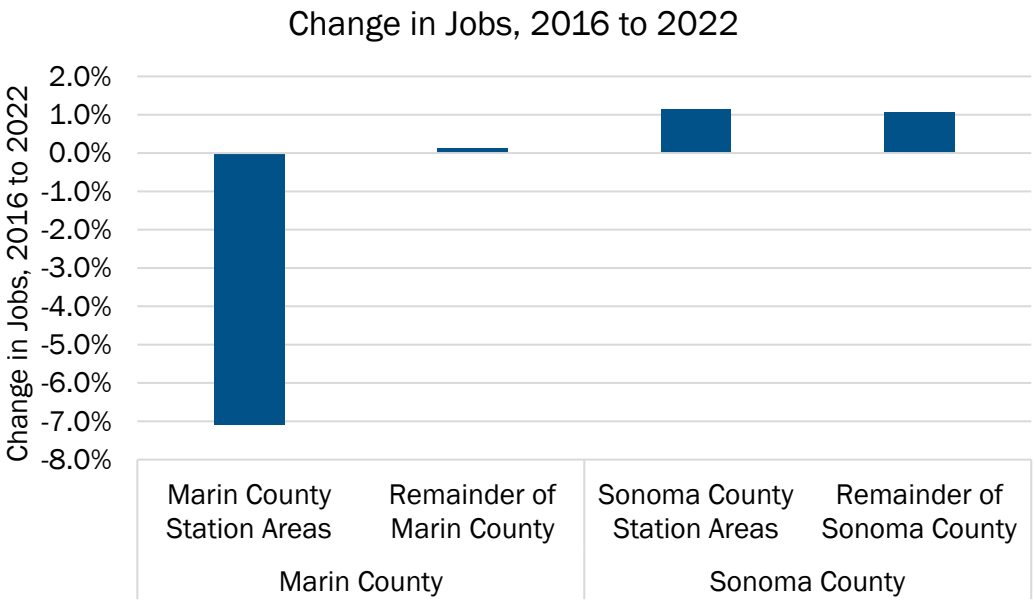

Sources: Costar, 2024; Strategic Economics, 2025.

## Land Use Economics 5.1

**Analysis Objective:** Identify how proximity to SMART supports employment density and growth.

**Findings:** Total employment in Marin County station areas declined by seven percent between 2016 and 2022, whereas the remainder of the County saw little to no change in total jobs. Total employment in existing Sonoma County station areas grew by one percent between 2016 and 2022, at about the same rate as the remainder of the County.

**Figure 5.1 Change in Jobs, 2016-2022**




Source: LEHD 2013-2022; Strategic Economics, 2024.

## Expenditures 1.1

**Analysis Objective:** Analyze SMART's impact on retail expenditures on non- work/school transit trips.

**Findings:** Almost one third of total monthly SMART transit trips are recreational purposes.

**Table 1.1 SMART Trip Purpose Distribution**

| Trip Purpose | Share of Total Trips |
|---|---|
| **Work and School** | |
| Work | 48.8% |
| School | 15.1% |
| **Other** | |
| Social/Recreational | 28.8% |
| Personal errand/medical | 5.1% |
| Shopping | 1.9% |

Source: MTC Ridership Survey, 2024; Strategic Economics, 2025.

## Expenditures 1.2

**Analysis Objective:** Analyze SMART's impact on retail expenditures on non- work/school transit trips.

**Findings:** An average of over 25,000 transit trips on SMART per month were for non-work/school purposes between September 2024 and 2025.

**Table 1.2 Average Monthly Non-Work/School SMART Trips**

| Metric | Value |
|---|---|
| Average Monthly SMART Boardings, September 2024 to 2025 | 101,816 |
| Share of Total Trips for Non-Work/School Purposes* | 25% |
| Average Monthly Non-Work/School SMART Boardings, September 2024 to 2025 | 25,454 |

Source: SMART, 2024; Strategic Economics, 2025.

*The share of non-work/school purpose trips was adjusted from the 28.8% in Expenditures 1.1 to account for the potential variability of these trips, including seasonal shifts.

## Expenditures 1.3

**Analysis Objective:** Analyze SMART's impact on retail expenditures on non- work/school transit trips.

**Findings:** Non-work/school transit trips on SMART between September 2024 and 2025 were estimated to generate over $11 million in expenditures.

**Table 1.3 Expenditures Generated by Non-Work/School SMART Trips**

| Metric | Value |
|---|---|
| Average Monthly Non-Work/School SMART Trips, September 2024 to 2025 | 25,454 |
| Average Annual Non-Work/School SMART Trips, September 2024 to 2025 | 305,447 |
| Average Per Trip Recreational Expenditures for Transit Users | $37.58 |
| **Estimated Annual Expenditures of SMART Transit Riders on Non-Work/School Trips** | **$11,477,238** |

Source: Clifton et al., Examining Consumer Behavior and Travel Choices, 2013; Bent and Singa, Modal Choices and Spending Patterns of Travelers to Downtown San Francisco, California: Impacts of Congestion Pricing on Retail Trade, 2009; San Francisco Transportation Authority, Columbus Avenue Neighborhood Transportation Study, 2010; SMART, 2024; Strategic Economics, 2025.

## Expenditures 2.1

**Analysis Objective:** Analyze SMART's impact on retail expenditures on non-work/school pathway trips.

**Findings:** Recreational SMART pathway trips by pathway only users between September 2022 and 2023 generated between $1.6 and $1.9 million in estimated expenditures.

**Table 2.1 SMART Path Average Weekly Trips by Trip Purpose**

| Trip Purpose | Share of Total Trips |
|---|---|
| **Work and School** | |
| Work | 21% |
| School | 7% |
| **Other** | |
| Traveling to and from recreational destinations | 20% |
| Recreational trips | 33% |
| Running errands | 18% |
| Other | 2% |
| **Estimated Share of Non-Work/School Trips** | **72%** |

Source: Source: SMART Pathway Intercept Survey, 2023; Strategic Economics, 2025.

**Table 2.2 Average monthly Non-Work/School SMART Pathway Trips**

| Metric | Pedestrian | Cyclist | Cyclist (Adjusted) |
|---|---|---|---|
| Average Monthly SMART Pathway Trips, September 2022 to 2023 | 27,942 | 28,050 | 28,050 |
| Pathway Trip Discount | 0% | 0% | 25% |
| Share of Total Trips for Non-Work/School Purposes | 72% | 72% | 72% |
| Average Monthly Non-Work/School SMART Pathway Trips, September 2022 to 2023 | 20,160 | 20,238 | 15,179 |

Source: SMART, 2024; Strategic Economics, 2025.

*A discount was applied to Pathway trips to account for longer distance pathway trips crossing multiple counter locations.

**Table 2.3 Expenditures Generated by Non-Work/School SMART Pathway Trips**

| Metric | Pedestrian | Cyclist | Cyclist (Adjusted) |
|---|---|---|---|
| Average Monthly Non-Work/School SMART Pathway Trips, September 2022 to 2023 | 20,160 | 20,238 | 15,179 |
| Trip Discount to Account for Pathway Only Users | 74% | 74% | 74% |
| Trip Adjustment Factor to Account for Irregular Pathway Users | 3% | 3% | 3% |
| Adjusted Average Monthly Non-Work/School SMART Pathway Trips by Pathway Only Users, September 2022 to 2023 | 5,039 | 5,058 | 3,794 |
| Average Pathway Per Trip Recreational Expenditures | $15.93 | $15.93 | $15.93 |
| Estimated monthly expenditures of SMART pathway only users on non-work/school trips | $80,250 | $80,561 | $60,421 |
| Estimated annual expenditures of SMART pathway only users on non-work/school trips | $962,997 | $966,733 | $725,050 |
| Pedestrian + Cyclist Annual Expenditure Total | | $1,929,730 | |
| Pedestrian + Cyclist (Adjusted) Annual Expenditure Total | | $1,688,047 | |

Source: Strategic Economics, 2025.

## Expenditures 3.1

**Analysis Objective:** Measures the estimated annual economic output resulting from SMART's annual expenditures.

**Findings:** Every year SMART creates an economic impact of millions of dollars locally through SMART's annual rail operations, maintenance, and capital spending. In 2024, SMART's capital and operating expenditure totaled $69 million. As a result of this spending. SMART's economic impact in 2024 was over $116 million — an impact nearly double SMART's actual expenditures. This total impact is the combined result of the direct, indirect and induced effect of SMART's spending.

**Figure 3.1 APTA Economic Impact Tool Local Economic Impacts Summary for SMART's FY24 Expenditures**

Local Economic Impacts Summary

| Impact Type | Employment | Labor Income ($M) | Value Added ($M) | Output ($M) |
|---|---|---|---|---|
| **Direct Effect** | **333** | **37.26** | **38.44** | **65.29** |
| Transit Operations & Maintenance | 155 | 21.50 | 21.50 | 35.19 |
| Transit Capital Investment | 178 | 15.76 | 16.94 | 30.10 |
| **Indirect (Supplier) Effect** | **146** | **9.34** | **12.20** | **28.05** |
| Driven by Operations & Maintenance | 109 | 6.51 | 7.85 | 20.68 |
| Driven by Capital Investment | 36 | 2.83 | 4.35 | 7.37 |
| **Induced (Income Respending) Effect** | **131** | **8.24** | **14.85** | **23.04** |
| Driven by Operations & Maintenance | 72 | 4.53 | 8.16 | 12.65 |
| Driven by Capital Investment | 59 | 3.72 | 6.69 | 10.39 |
| **Total Effect** | **609** | **54.84** | **65.49** | **116.38** |
| Driven by Operations & Maintenance | 336 | 32.54 | 37.50 | 68.52 |
| Driven by Capital Investment | 273 | 22.31 | 27.99 | 47.86 |

## Socioeconomic Benefits 1.1

**Analysis Objective:** Express societal benefits that SMART rail service creates in monetary terms.

**Findings:** SMART helps riders reduce costs of vehicle ownership.

**Table 1.1 Cost of Vehicle Ownership vs SMART**

| Metric | Value |
|---|---|
| FY 2024 SMART Passenger Miles | 18,400,000 |
| Share of Trips with Vehicle Alternative | 66.3% |
| Assumed Driving Miles Avoided | 12,198,670 |
| Vehicle Operating Cost per Driving Mile | $0.56 |
| **Costs Avoided** | **$6,831,254.99** |

Source: Strategic Economics, 2025.

## Socioeconomic Benefits 1.2

**Analysis Objective:** Express societal benefits that SMART rail service creates in monetary terms.

**Findings:** SMART riders benefit from a safer transportation experience, avoiding the impacts of traffic crashes that can lead to injuries or fatalities.

**Table 1.1 Benefits of Avoided Traffic Crashes**

| Variable | Assumed Crashes Avoided | Value per Injury/Fatality Avoided | Value per Year |
|---|---|---|---|
| Possible Injury | 2.35 | $118,000 | $276,990 |
| Non-Incapacitating | 2.15 | $246,900 | $531,270 |
| Incapacitating | 0.39 | $1,254,700 | $490,875 |
| Fatalities | 0.20 | $13,200,000 | $2,582,114 |
| **Total** | **5.09** | | **$3,881,250** |

Source: Fehr & Peers, 2025; PeMS, 2025; Strategic Economics, 2025

## Socioeconomic Benefits 2.1

**Analysis Objective:** Express societal benefits that SMART pathway creates in monetary terms.

**Findings:** The SMART Pathway provides intrinsic value to cyclists who use the path, because they experience safer and more enjoyable journeys.

**Table 2.1 Intrinsic Value of Cycling on the SMART Path**

| Metric | Value |
|---|---|
| Value per Cycling Mile | $1.70 |
| Estimated Total Miles Traveled | 496,964 |
| **Total Value** | **$844,837.95** |

Sources: US DOT, 2024; SMART, 2024; Fehr & Peers, 2025; Strategic Economics, 2025; Cycle.Travel,2025.

## Socioeconomic Benefits 2.2

**Analysis Objective:** Express societal benefits that SMART pathway creates in monetary terms.

**Findings:** The SMART Pathway provides safe and comfortable travel options for pedestrians and cyclists.

**Table 2.1 Monetized Benefits of Walking and Biking on SMART Path**

| Metric | Walking | Biking |
|---|---|---|
| Unique Trips | 388,169 | 165,655 |
| Share of Users in Age Range | 72% | 70% |
| Share of Trips that Wouldn't Occur Otherwise | 89% | 67% |
| Value per Induced Trip | $8.06 | $7.18 |
| Value per Unique Trip | $5.19 | $3.38 |
| Total Value | $2,012,886 | $560,499 |
| **Combined Total Value** | | **$2,573,385** |

Sources: US DOT, 2024; SMART, 2024; Fehr & Peers, 2025; Strategic Economics, 2025

## Appendix C.

# Engagement Summary

# Engagement Summary

## Engagement Overview

Between 2024-2026, the Project Team held a variety of community engagement activities to gather input from technical experts and community stakeholders and SMART riders about the system's local and regional benefits for the SMART Quality of Life Report. The activities were designed to guide and inform the technical analysis, ground truth and supplement the technical findings from the benefits analysis, and to reflect and hone the themes from the analysis. Activities included two meetings with an established Technical Advisory Committee, two sets of small focus groups, a survey for SMART riders, follow-up interviews with survey participants, and testimonials from local businesses and institutions. Audiences ranged from technical experts to community group leaders to SMART riders.

Below is a description of each engagement activity, with the objectives of each effort, the audiences, considerations given to encourage participation, and key themes to emerge from each activity.

## TAC Meetings

The project established a Technical Advisory Committee (TAC) to help guide the project with local technical expertise. SMART's general manager sent invitations to participate on the TAC to all jurisdictions in the two-county district. Additionally local technical partners responsible for county and regional transportation, workforce development, education, community development, and economic development were invited to join the TAC. The TAC was convened in November 2024 and May 2025.

### TAC Attendance

Due to scheduling conflicts not all TAC members were able to attend meetings, but TAC members were also invited to review presented materials and provide feedback.

| Organization | Participant |
|---|---|
| Sonoma County Transportation and Climate Authority | Dana Turrey |
| Transportation Authority of Marin | Scott McDonald |
| Marin Economic Forum | Robert Eyler |
| North Bay Leadership Council | Joanne Webster |
| Sonoma County Tourism | Claudia Vecchio |
| Metropolitan Transportation Commission | Zaccary Bradt |
| City of Cotati | Damien O'Bid |
| City of Healdsburg | Larry Zimmer |
| City of Petaluma | Peter Carter |
| City of Rohnert Park | Kevin King |
| City of San Rafael | Greg Minor |
| Town of Windsor | Jon Davis |
| Town of Windsor | Tim Ricard |
| Town of Windsor | Kim Voge |

| Organization | Participant |
|---|---|
| Sonoma County Community Development Commission | Michelle Whitman |
| Marin County Community Development Agency | Sarah Jones |
| Caltrans | Marley Matthews |

## TAC Meeting #1

The purpose of the initial TAC meeting was to introduce the project, solicit input on the appropriate methods and metrics for qualitatively and quantitatively evaluating factors that influence quality of life. The session included a presentation, interactive questions of attendees and breakout groups to more closely discuss the merits and limitations of different approaches.

### *Major Themes*

After a brief presentation at the beginning of the session, the project team led a Mentimeter activity that asked attendees to assess how well different metrics represented quantifiable benefits and community values. The graph below is a scatterplot of the comparison of each of these metrics, demonstrating that most of these metrics were generally able to produce a quantifiable benefit and represented value to the community. The reduction in GHG emissions (label "3" on the scatter plot) had the highest community value, while metric 6, growth in ridership and active transportation trip, best represented quantifiable benefits. The only metrics that did not have quantifiable benefits was the measure of "fun" of SMART riders.




Additionally, the following arose as some key points during the discussion on metrics:

- SMART should consider how to communicate benefits as they relate to:
    - Tax revenue
    - Tourism is a big part of benefit of SMART
- Last mile connections are a crucial part of SMART connectivity and utility

Attendees also broke out into small groups and discussed the overlap of their agency's goals with SMART, and how to explore the connection within the Quality of Life Study. Below are questions and responses from small group discussions.

### *Where is there overlap on your agencies' goals and what benefits SMART provides?*

- SMART stations increase housing and transit-oriented development (TOD) funding
    - This also leads to more units constructed
    - This activates private capital too
    - Total project cost is good metric, but it might be more compelling to include metrics for how many people are housed through construction of affordable housing
- SMART stations can help with the development of hotels and retail that support local businesses and commerce
- SMART stations promote local spending in communities
- SMART helps employees commute, and increases in worker availability, especially in high-cost of living areas
- SMART produces GHG reductions and reduces dependency on single occupancy vehicles
- SMART improves connectivity throughout the larger region

### *How can that connection be explored in this Study?*

- Explore affordable housing production
- Last mile connection is important for ridership
- Ridership graph is compelling and should be emphasized

## TAC Meeting #2

At the second TAC meeting, SMART and the project consultants presented key themes emerging from the analysis performed for each of the quality-of-life indicator areas. The TAC was presented with these findings and offered their technical expertise and insights to home in on the data, critique and fine tune the themes, and offer their first-hand insights as they relate to the findings. To facilitate this discussion, themes were presented and the participants were asked to rate them along a 1-5 scale based on how well the themes resonate and articulate the benefits SMART provides to their communities.

| Theme | Rating |
|---|---|
| SMART enables the creation of more housing options | 4.5 |
| SMART enhances real estate investments | 4.3 |
| SMART makes the North Bay more bikeable and walkable | 4.3 |
| SMART is the sustainable option | 4.1 |
| SMART provides an active and healthy alternative | 4.0 |
| SMART enables connected communities | 4.0 |
| SMART is the North Bay's connector. | 3.9 |
| SMART strengthens North Bay integration | 3.9 |
| SMART makes getting around affordable | 3.9 |
| SMART helps the North Bay stay a viable place to live | 3.8 |
| SMART allows for independence. | 3.6 |
| SMART gets you there safely | 3.6 |
| SMART is reliable, driving isn't | 3.3 |

### *Major Themes*

Overall, the themes were viewed favorably by meeting attendees. The able above shows the average ratings for different themes from Mentimeter, ordered by how well each theme resonated with the attendees, on a scale of 1-5. Consistent feedback was that participants ranked themes lower when the theme was framed too broadly. For example, participants noted that the themes "SMART makes getting around affordable" and "SMART helps the North Bay stay a viable place to live" undercount the lack of affordability in the two counties. Participants said that it was more accurate to refer to SMART as offering a more affordable choice. Participants also said that if comparing SMART to driving more broadly, there are many cases where a car could be more reliable. Participants felt that comparing SMART's reliability specifically to Highway 101 is more accurate.

# Small Group Sessions #1

On October 24th and 29th, 2024, BluePoint Planning led three small group sessions for community stakeholders to discuss the SMART rail and pathway system. The purpose of the small group sessions was to develop a better understanding of what the system's local and regional benefits are, and how and why people use the SMART rail and pathway. SMART staff sent email invitations to members of a variety of organizations, including community organizations, business sectors, education and social service organizations and advocacy groups. Meeting times were set up to accommodate different schedules, including meetings during the lunch hour and in the evening. There were a total of 17 stakeholders in attendance, representing a range of these issue areas.

At the small group sessions, stakeholders discussed their impressions of SMART, the benefits of SMART for the group they represent, what excites them about SMART, and what could make SMART more effective for the community they represent. The information from these small group sessions informed the benefits measured in the Quality of Life Study.

## Small Group #1 Attendance

A total of 17 community stakeholders participated in the first round of small group sessions. Participants represented a range of community organizations, business sectors, and vulnerable populations, including:

| Organization | Participant |
|---|---|
| **Session 1 Attendees** | |
| Windsor Chamber of Commerce | Beth Henry |
| Cloverdale Chamber of Commerce | Neena Hanchett |
| Generation Housing | Josh Shipper |
| Know Before You Grow/Petaluma Urban Chat | Dave Alden |
| **Session 2 Attendees** | |
| Community Action Partnerships Sonoma | Cynthia King |
| Marin Conservation League | Kate Powers |
| Sonoma County Regional Parks Foundation | Melissa Kelley |
| Marin Small Business Development Center | Miriam Karell |
| Marin County Bicycle Coalition | Warren Wells |
| Sonoma County Bicycle Coalition | Eris Weaver |
| Sonoma County Bicycle Coalition | Emily Shartin |
| **Session 3 Attendees** | |
| Disability Services & Legal Center | Collin Thoma |
| Marin Center for Independent Living | Ted Jackson |
| College of Marin | Jonathan Eldridge |
| Santa Rosa Junior College | Deborah Ziccone |
| Boys and Girls Club of Sonoma-Marin | Jennifer Weiss |
| WTB Tam | Patrick Seidler |

## Major Themes

Major themes that emerged from the small group discussions include:

- The freedom to choose when and how to ride transit is important for many, but especially teenagers and elderly who do not have cars.
- SMART is well regarded on the whole and most participants have ridden on the train, but increasing awareness around the Pathway is needed.
- The train is being used often used for recreation and personal business (such as accessing resources in another town) and some use it for commuting.
- The train and pathway have a huge amount of potential that SMART is working towards but has not yet realized. SMART is potentially a huge economic and social boon to communities along the corridor, but access to downtown areas, housing, and stores from the stations, including parking, needs to be addressed to fully realize that benefit.
- The train is a critical piece of the transportation network in connecting services, jobs, and recreation opportunities, especially for those without a car, unreliable access to other means of transportation, and/or those with disabilities.
- The completion of the Pathway will be a great asset for people that want a continuous bike facility between Marin to Sonoma.

## Detailed Discussion Notes

Each small group session opened with introductions and an overview of SMART and the Quality of Life Study. Participants were then asked the following questions and were given a chance to respond in a round-robin of the group.

- What do you think about when you hear “SMART train” and “SMART pathway”?
- What do you see as the most important benefits of SMART for your group?
- What makes you excited about SMART?
- What would make SMART more effective for the community?

The following are the key themes from each question asked during the small group round-robin.

### *Question 1: What do you think about when you hear “SMART train” and “SMART pathway”?*

- Many people are aware of the train and its benefits but only use it occasionally.
    - Some see it as a “novelty” and use it for recreation opportunities, traveling to dinner or to San Francisco.
- Not as much is known about the pathway – but people are excited about it to grow.
- SMART is perceived as middle class, while buses are perceived as lower class.
    - The train is clean and nice inside, stops are easy to use
- The SMART system has a lot of promise – excited for the full vision of the train and pathway to be completed.
- Gaps in train service and headways prevent people from using the train regularly
- The pathway is seen as a first mile/last mile access to the train but is also used by people who only bike and don’t use the train.
- Some see SMART as a way to reduce environmental impact by reducing people’s driving but think it needs to be more regular and more stations added to really increase ridership.

### *Question 2: What do you see as the most important benefits of SMART for your group/organization and the people you serve?*

- Huge potential for elderly populations to get around, including those with limited mobility or access to other forms of transportation.
- Housing near transit is very important and needs to be prioritized.
- Expanded partnerships with other Sonoma and Marin transit agencies could help provide more last-mile transport options, especially in smaller communities
- SMART will bring important economic benefits to towns on the north end of the line once the stations are built.
- SMART helps connect those without reliable access to a car a way to access important services (health, food, appointments, etc.).
- SMART gives younger people (teenagers) a way to get around (both bike path and train) without a car.
- The pathway gives bikers the ability to ride across town and through the county without having to share space with cars.

- The regional parks system is interested in creating linkages between parks and trails for long-distance outings and commuting.
- The connections to communities and other neighborhoods are a huge benefit of SMART.
- Large public health and environment benefits.
- Students could use SMART to travel to college campuses from home or jobs, but not all college campuses are near SMART stations. SMART can expand students' opportunities and access to education.
- For those with disabilities, SMART is a way to get around between counties – there aren't many options to travel between counties right now and they aren't always accessible for those with physical disabilities.
    - The train has better accessibility than buses, especially for those using mobility devices.
    - More outreach is needed to people with disabilities to increase train awareness.
- SMART is an important transportation option for those traveling between the counties for work.

### *Question 3: What makes you excited about SMART?*

- Participants are very excited about the future extensions of both the train and the pathway.
    - The extensions will bring economic activity and tourism to northern towns.
    - The pathway will bring bike tourism into northern towns.
- The potential for connections to other forms of transit and to commercial areas such as downtowns is exciting.
- The opportunity for urban tourism without using a car is great and gives a way to explore small towns easily and not worry about parking.
- But, need more spots for storing bikes on the train, otherwise it gets too busy and people will not want to take the train.
- Excited for when a person can bike from their home to the office to dinner all on a completed connected path.
- Improved headways for trains (more frequent and more regular, i.e. 30 minutes instead of 33 minutes) would increase ridership.
- Excited for an improved connection to the airport that is more in sync with plane departures and arrivals.
- Excited about fewer cars and less driving throughout the counties due to the train and pathway.
- There's a big opportunity for additional partnerships and incentivized riding programs for different populations, such as the free youth and seniors program.
- A completed SMART line would provide better connections to San Francisco and the East Bay.
- Community development plans that tie into SMART are now more possible and will help create more opportunities as the system is built out.
- Now that SMART has been significantly built out, other transportation systems can benefit from connections with SMART and could see higher ridership.
- Civic Center Station is a great model for what all of the stations should be, adding community value to SMART.

### *Question 4: What would make SMART more effective for the community that you serve/represent?*

- Connectivity between housing and other land uses would allow more people to use SMART.
- Connections between SMART and other transit options in the two counties, such as transit hubs and buses, should be improved.
    - Space for collaboration with other transit agencies to align transit schedules and key transfer locations.
    - Improved headways (15 minutes) will improve transfer experiences as well.
    - Extended train hours (into the late evening) would also be helpful in getting around for recreational opportunities at night.
- Improved last-mile connection options would help people get to SMART easily, reliably, and inexpensively.
- Some towns are very car-reliant and are worried about how the SMART station will put more demand on parking.
- Improve the experience of transporting bikes on the train – often is very busy and there isn't room for more bikes, deterring people from boarding.
- Extensions north are greatly anticipated.
- Street crossings for the pathway need improvement as the gates are annoying for cyclists to maneuver around.
- The in-progress wayfinding project will make SMART more effective and easy to use, especially for those who don't use SMART yet.
- SMART trains run on diesel which has a large environmental impact; moving away from diesel is important for the environment.
- Completing the pathway would make the bicycling community very excited.
- Improved first and last mile connections would improve the riding experience for many, including college students and those with disabilities.
- When the trains are busy and crowded, it is difficult to get around for those with mobility devices and disabilities – more train cars and accessible seating on the train would help alleviate those issues.

# Small Group Sessions #2

On May 21 and 22, 2025, BluePoint Planning led three small group sessions as part of the second round of community stakeholder discussions around the SMART rail and pathway system. SMART staff sent invitations via email to the same participant list as the first set of small group sessions, with participants representing a range of community organizations, business sectors, and vulnerable populations. Options for session timing were given to accommodate a variety of schedules, including options during the lunch hour and evening, though there was only one initial participant in the evening session, which was consolidated into another session.

The purpose of the second round of small group sessions was to:

- Provide an overview of SMART's Quality of Life Study

- Review the input provided at the last round of small group sessions
- Highlight key emerging themes from the data analysis performed for the various quality of life metrics; and
- Hear from stakeholders whether these key themes resonate with them and their communities.

BluePoint first provided a recap of project context. BluePoint then reviewed and solicited input on Mentimeter on high-level key themes, asking participants to rate how well each theme resonated with them and their community on a scale of 1 (poor) to 5 (excellent). BluePoint then provided these themes again with additional context from the Quality of Life Impact Study data and testimonials input, and then repeated the Mentimeter rating exercise. BluePoint then led a discussion with participants to understand what contributed to participants' ratings of these key emerging themes and their overall points of view on the themes.

At the small group sessions, stakeholders discussed their points of view on these key emerging themes as they relate to SMART's impact, and indicated the degree to which they felt the key themes were representative to them and the communities that they represent.

## Small Group #2 Attendance

A total of 10 community stakeholders participated in the small group sessions. Participants represented a range of community organizations, business sectors, and vulnerable populations, including:

| Organization | Participant |
|---|---|
| **Session 1 Attendees** | |
| North Marin Community Services | Paul Russell |
| Disability Services & Legal Center | Collin Thoma |
| Canal Alliance | Johanna Schelret |
| **Session 2 Attendees** | |
| SMART Oversight Committee | Dani Sheehan Meyer |
| Marin County Bicycle Coalition | Warren Wells |
| College of Marin | Jonathan Eldridge |
| Know Before You Grow/Urban Chat Petaluma | Dave Alden |
| Know Before You Grow/Urban Chat Petaluma | Chris Chamberlain |
| **Session 3 Attendees** | |
| Sonoma County Bicycle Coalition | Eris Weaver |
| Community Action Partnership Sonoma | Juan Torres |

## Theme Ranking

In the initial theme rating, the combined average responses from participants had favorable impressions of the themes and their resonance for their communities, with average scores hovering between 3.7 and 4.2. After discussion around the supporting data and testimonials, four themes maintained their rating, three themes were rated higher than previously, and two themes were rated lower. The pre-context, post-context ratings are as follows:

| Theme | Pre context rating | Post context rating | Change in rating |
|---|---|---|---|
| SMART allows for independence | 4.24 | 4.01 | -0.23 |
| SMART supports livable communities | 4.20 | 4.20 | +/-0.00 |
| SMART makes the North Bay more walkable and bikeable | 4.19 | 4.19 | +/-0.00 |
| SMART is the sustainable option | 4.10 | 4.10 | +/-0.00 |
| SMART strengthens the local economy by connecting communities | 3.90 | 4.20 | +0.30 |
| SMART provides an active and healthy alternative | 3.89 | 3.89 | +/-0.00 |
| SMART makes getting around affordable | 3.89 | 4.19 | +0.30 |
| SMART is the North Bay's connector | 3.81 | 3.79 | -0.02 |
| SMART is reliable. Driving isn't. | 3.81 | 4.20 | +0.39 |

## Detailed Discussion Notes

- SMART, compared to a car is affordable.
    - Free seniors and youth fares are great for affordability, and more marketing around this could help more people in the community know about this benefit.
    - SMART is associated with the train primarily, not the Pathway, which is very cheap (free!) to use.
- The 101 is very unreliable, but generally cars offer more flexibility for trip making compared to transit in a single corridor.
    - Current service frequency and limited night and weekend hours hinder the resonance of the themes of independence, reliability, and being the North Bay's connector. However, these operational constraints are true for SMART and other transit services in the North Bay.
- SMART is improving the connection between corridor communities and strengthening the economic ties.
    - SMART is getting people to local events where parking is limited.
    - There is even more potential in the future for more connection as planned housing around the stations is completed.
- Even more compelling than the active and health benefits of SMART is its safety benefit, which is not explicitly captured in the themes.
    - Do parents think the train and bike on Pathway is safer than bus/car etc.?
    - People take crashes for granted on the highway.
    - Using Pathway for bikers is MUCH safer than sharing with cars.
- Sustainability is not people's first motivation for using SMART.
    - More compelling benefits include not having to drive, making it easy to get around, and reducing cars on the road.
    - Clarity around the word sustainability is important, whether referring to economic, environmental, or something else.

- SMART's ability to act as North Bay's connector is true for connections along SMART's north and south-oriented corridor.
    - SMART works well for those in direct proximity to a station, but there are limitations when it comes to east-west connections or for those destinations further away from the corridor.
    - SMART's frequency and schedule require people to orient themselves around the system, constraining SMART's ability to serve all of an individual's travel needs.
    - Because the Pathway and train go in the same direction, the first and last mile connection of the pathway is limited.
- Walkability and bikeability due to SMART will be true in the future as the trail is connected, but it feels more like a patchwork today.
    - Completing gaps and connecting to other trails will be needed for SMART to have the intended impact.
    - The pathway is heavily used, and that should be captured better.
- SMART works great for youth- Bike and transit combo is popular, especially those going to school.
- There is opportunity to get SMART more connected to large local festivals and large events, to Sebastopol.
- There is opportunity to promote the benefits of SMART for people with disabilities and seniors with community-based organizations.
- Lots of books get read because of SMART!
- Explore how people with disabilities are using the train and pathway.
- Prioritize conversations with other transit agencies to coordinate service and make it more seamless opportunity.

# Testimonials

## Survey

To add a personal perspective to the Quality of Life Study, the Project Team gathered testimonials from SMART riders as to why they use SMART and the benefits they gain from using SMART. SMART staff furnished the trains with flyers inviting passengers to "provide their SMART story" via a QR code linking to the survey. The survey included two simple open response questions: "What benefits does SMART bring to you and your community?" and "Why do you choose to use the SMART rail and pathway?" The survey was designed to be simple, quick, and as easy to respond to as possible to lower the barrier of participation and gather more responses. The testimonial survey and the outreach materials were available in English and Spanish, and the survey was open for one month. SMART offered a chance to win one of two $50 Visa gift cards to participants to encourage responses. Overall, there were 119 responses in English and nine in Spanish.

Below are common themes from the testimonials provided through the survey, many of which mirror key themes from the Quality of Life Study:

- Taking SMART train provides riders with peace of mind, reducing the stress of driving and traffic, allowing riders to relax during their commute, read, or get work done
- SMART train provides community, allowing regular commuters to connect with each other
- SMART train is affordable and cost-effective
- SMART train is faster than car-commuting
- SMART train is reliable and convenient
- Taking the SMART train reduces pollution from cars
- SMART pathway provides recreation opportunities

## Interviews

To build on the survey responses, the Project Team reached out via email to participants with compelling responses for a more in-depth interview. The Project Team sent emails to 23 people and conducted a total of six virtual interviews to hear more in-depth about the benefits and reasons they use SMART. Interviewees were also provided a $25 Visa gift card for their time.

The interviewer first asked participants to elaborate on their survey responses and then asked some or all of the follow-up questions below, depending on the flow of the conversation. The summary of interviewee responses are detailed below by question:

### *What was your favorite trip you've taken on SMART?*

- Novato and Santa Rosa
- Cotati to Petaluma
- Larkspur and Petaluma, allowing them to go over all three bridges
- Healdsburg, San Rafael Bridge
- Marin, Windsor

### *What do you use SMART for?*

- Commuting (5)
- Recreation (3)

### *What benefits does SMART bring to you?*

- Receives time back in their day (3)
- Trip is pleasant, far more than driving (3)
- Less pollution
- Healthy lifestyle with bike path (2)
- Allows riders to avoid car ownership (2)
- Financial benefits (2)
- Friendly staff and riders, builds community (6)
- Expands work options
- SMART is easy to use
- Safe and secure experience

- GoSonoma brings additional benefits for logging trips for biking, train, and carpool

*Share a time when SMART was helpful to you or someone you know.*

- Promotes equity

### Business Outreach

In addition to soliciting testimonials from riders, the Project Team did outreach to local businesses, schools, and other community institutions near SMART train stops, asking about the benefits their organization saw from being located nearby a SMART station. The particular list of organizations were chosen as either being recognized as key institutions in the community and/or had already indicated their support for SMART, and were dispersed between Marin and Sonoma Counties. The Team sent emails to 10 businesses, and received statements from four businesses.

Below is the list of organizations that responded with testimonials:

- Marin Country Mart
- Eames Institute
- Grossman's Noshery and Bar
- Credo High

Overall, the testimonials highlighted the following themes for these businesses/ institutions:

- Increase in number of visitors/ customers
- Supports organization values of sustainability, community and equity
- Helps get children to school

## Outreach Outcomes

Each phase of outreach for the project helped to guide and inform the final Study. The initial input from the small group discussions and the TAC meetings shaped the design of the analysis and the metrics used. The second round of TAC and small group discussions contributed to the development and refinement of the themes as represented in the final Study. The input generated through the survey, interviews, and business outreach helped inform the themes in the final Study and the predominant and recurring points were included in the Study as direct quotes.