

5-Year Street Capital Improvement Plan and Street Maintenance Plan

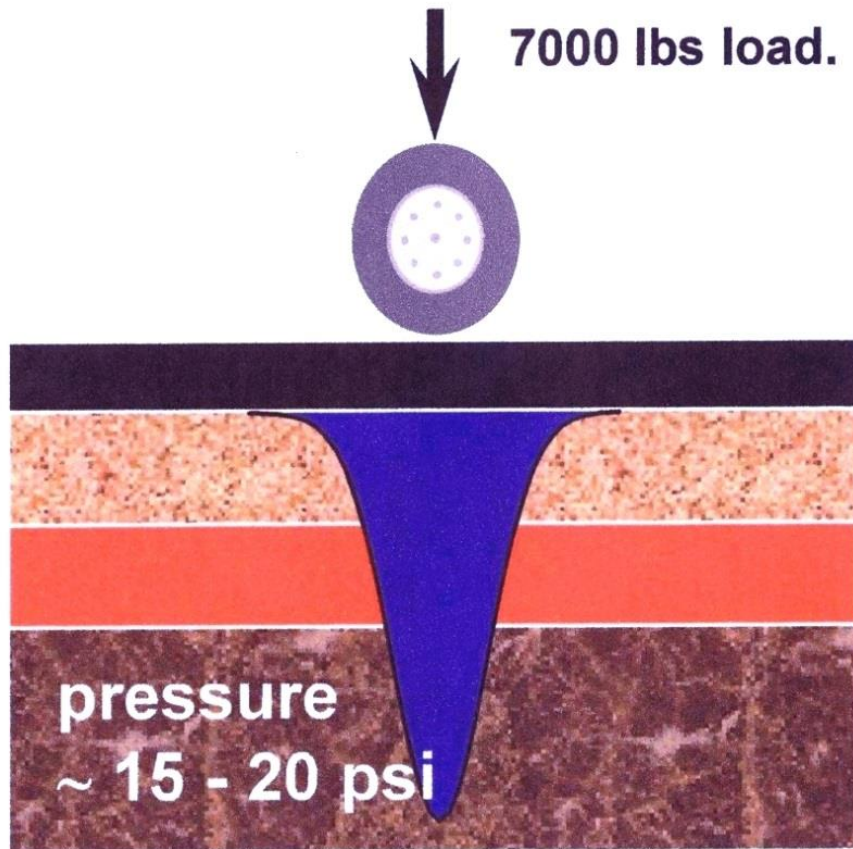
FY 2021 to FY 2025

Presentation to City Council

June 16, 2020

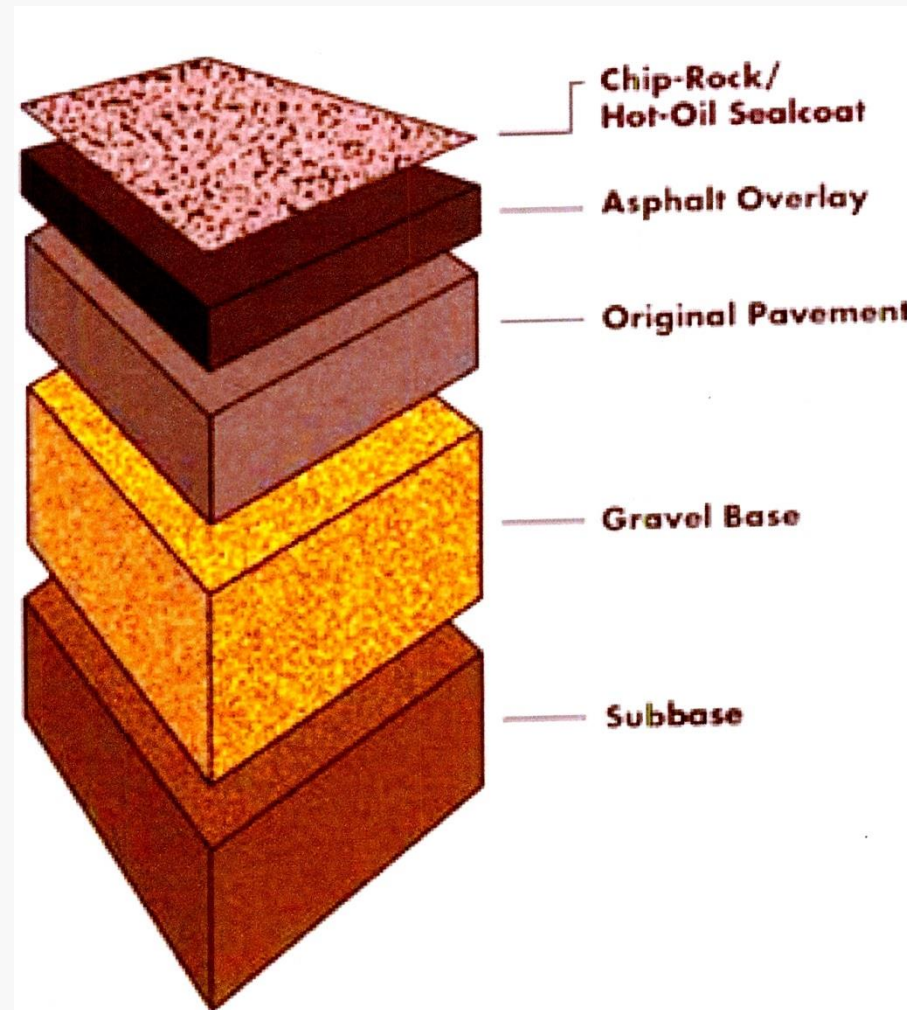


Asphalt Pavement are Flexible

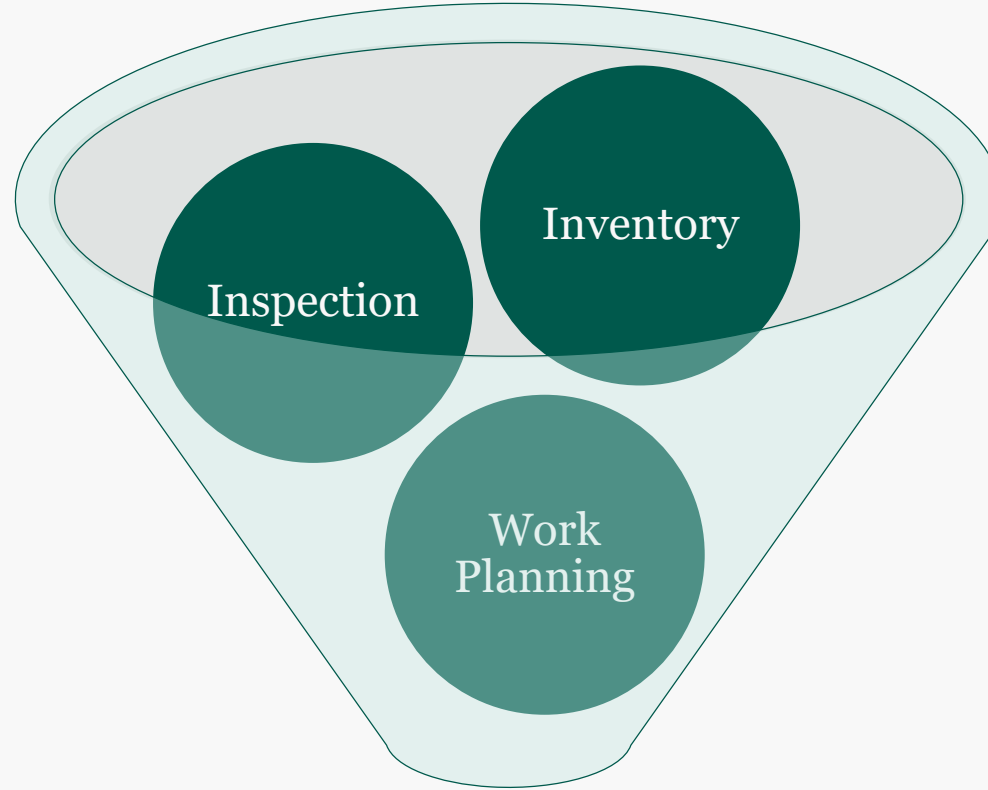


- ☐ Loads are concentrated.
- ☐ Deflections are higher.
- ☐ Subgrade, base and sub-base strength are very important.
- ☐ Usually require more layers and greater thickness for optimally transmitting load to the subgrade.
- ☐ Good drainage is essential.

Layers



Pavement Condition Assessment



Pavement Condition Asset
Management

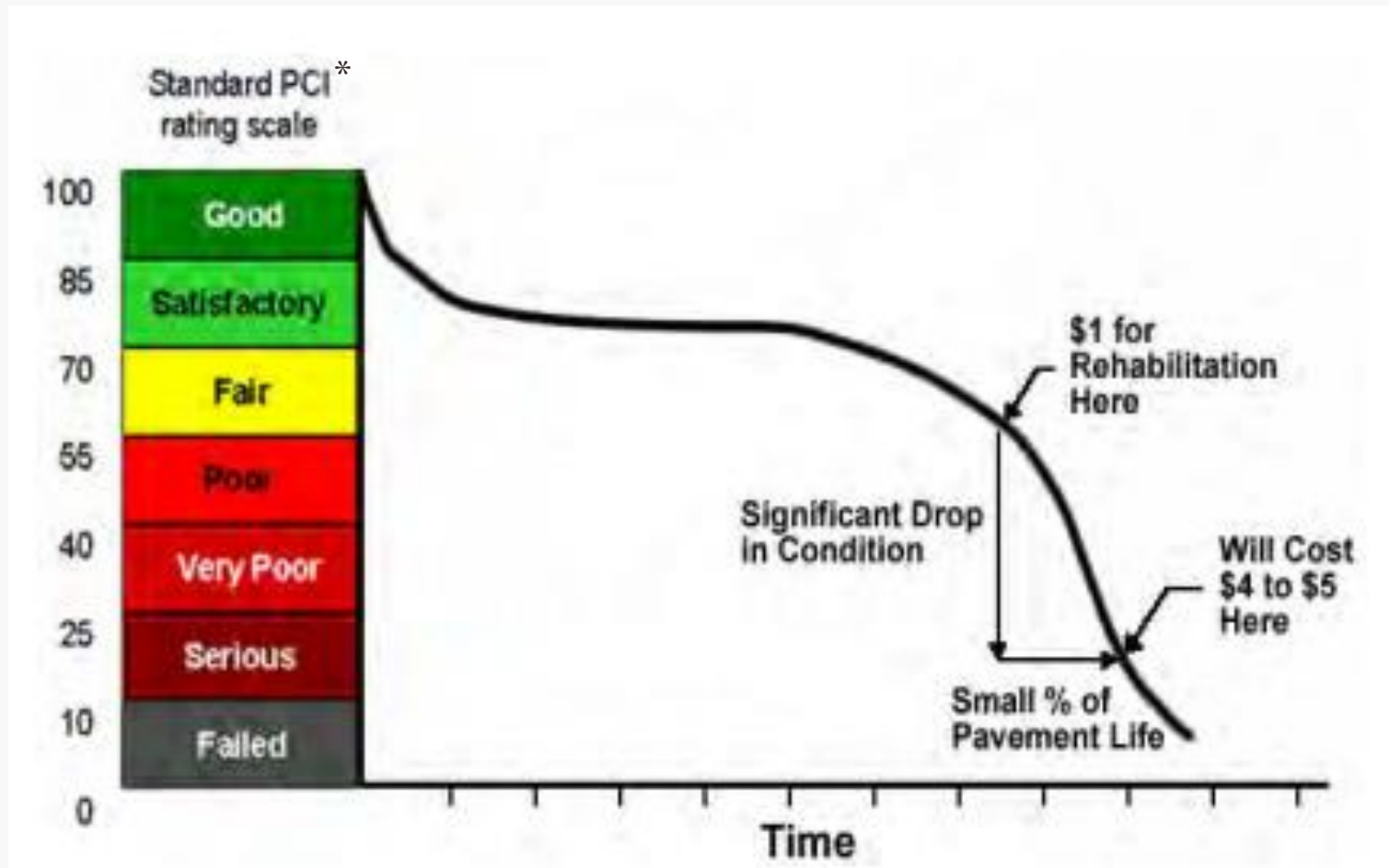
Pavement Data Collection and Asset Management Process Transition

PAVER

**Laser Crack
Measurement System**

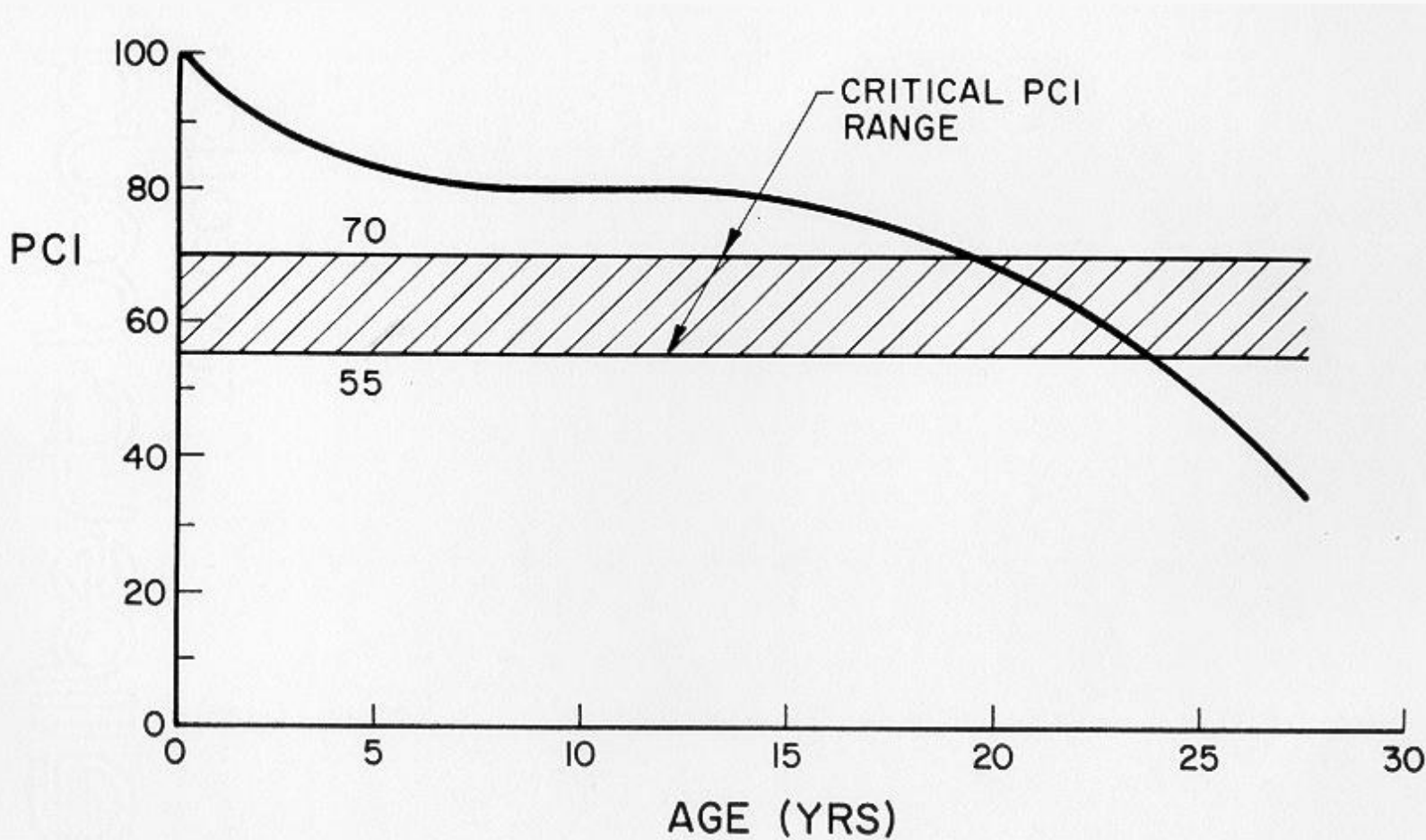
- ☐ Objective
- ☐ User Friendly
- ☐ Millimeter Level Scanning
- ☐ Digital Imagery

Pavement Maintenance



*PCI – Pavement Condition Index

Pavement Preservation Goals



Street Selection Criteria



Distribute among different City Council Districts

Types of Treatments (crack seal, chip seal, HA5 or liquid road, reclaim and overlay, overlay rehab, reconstruction)

Utility conflicts or scheduled utility projects

SEGUIN
TEXAS

CAPITAL
PROJECTS/
ENGINEERING

City Streets Pavement
Condition Index July 2019

Paver Condition Index

Seguin Streets PCI July 2019

Condition

- Good 86-100
- Satisfactory 71-85
- Fair 56-70
- Poor 41-55
- Very Poor 26-40
- Serious 11-25
- Failed 0-10

Seguin Streets PCI July 2019

Condition

- Good 86-100
- Satisfactory 71-85
- Fair 56-70
- Poor 41-55
- Very Poor 26-40
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Seguin Council Districts

This map is for information purposes only and represents the best data available at the time of printing. The City of Seguin assumes no liability for errors on this map or use of this information.



**CAPITAL PROJECTS
& ENGINEERING**

Street Funding – FY 2021

	PROJECT BUDGET	Exp/Enc. through FY20	FY2021		
AVAILABLE FUNDING		\$ 19,012,296	\$7,500,000		
Recommended Streets		COSTS	ESTIMATE	ESCALATION	2021 TOTAL
RUDELOFF - Ph. I (SH 46 to Huber East of Softball Fields)	\$ 4,873,144	\$ 2,091,144	\$ 2,600,000	\$ 182,000	\$ 2,782,000
STREMPEL (SH 123 to SH 123 Bus - decel/accel lanes option)	\$ 2,421,481	\$ 2,421,481			
HIDALGO (Kingsbury to New Braunfels)	\$ 1,916,773	\$ 1,916,773			
N. KING (Seideman to Railroad w/zipper)	\$ 3,416,013	\$ 3,416,013			
N. MILAM (College to Kingsbury/Mountain to College)	\$ 5,756,160	\$ 5,756,160			
NOLTE STREET (Guadalupe to Travis/Travis to E of Camp)	\$ 103,000	\$ 103,000			
ROOSEVELT (Austin to Woodland)	\$ 231,000	\$ 231,000			
COLLEGE (Austin to King)	\$ 8,569,309		\$ 1,792,000	\$ 125,440	\$ 1,917,440
MEADOWLAKE (Entire Length)	\$ 140,299	\$ 140,299			
RUDELOFF - Ph. II (Huber East to SH 123 at FM 20)	\$ 4,716,994		\$ 1,308,920	\$ 91,624	\$ 1,400,544
CORDOVA (Highway 46 to SH 123) *	\$ 4,415,500				
HEIDEKE SIDEWALK PROJECT (Braden to Kingsbury)	\$ 642,000				
WALNUT SPRINGS BRIDGE ABUTMENT REPAIR	\$ 60,000		\$ 60,000		\$ 60,000
REHAB STREETS (Zipper)	\$ 6,421,887	\$ 2,621,887	\$ 700,000		\$ 700,000
CHIP SEAL	\$ 1,378,289	\$ 254,477	\$ 280,585		\$ 280,585
TOTAL FY FUNDS NEEDED		\$ 18,952,235	\$ 6,741,505	\$ 399,064	\$ 7,140,569
PREVIOUS YEAR REMAINING FUNDS		\$ -			\$ 60,062
ANNUAL REMAINING BALANCE		\$ 60,062			\$ 419,492

Prior Funding Commitment/Obligation

Priority Streets Recommendation

Other funding

Zipper Equipment Costs Per Year

Street Funding – FY 2022 and FY 2023

	PROJECT BUDGET	FY2022			FY2023		
AVAILABLE FUNDING		\$8,750,000			\$4,200,000		
Recommended Streets		ESTIMATE	ESCALATION	2022 TOTAL	ESTIMATE	ESCALATION	2023 TOTAL
COLLEGE (Austin to King)	\$ 8,569,309	\$ 6,216,700	\$ 435,169	\$ 6,651,869			
RUDELOFF - Ph. II (Huber East to SH 123 at FM 20)	\$ 4,716,994	\$ 845,300	\$ 59,171	\$ 904,471	\$ 2,254,186	\$ 157,793	\$ 2,411,979
HEIDEKE SIDEWALK PROJECT (Braden to Kingsbury)	\$ 642,000	\$ 600,000	\$ 42,000	\$ 642,000			
REHAB STREETS (Zipper)	\$ 6,421,887	\$ 700,000		\$ 700,000	\$ 800,000		\$ 800,000
CHIP SEAL	\$ 1,378,289	\$ 231,400	\$ 16,198	\$ 247,598	\$ 207,924	\$ 29,109	\$ 237,033
TOTAL FY FUNDS NEEDED		\$ 8,593,400	\$ 552,538	\$ 9,145,938	\$ 3,262,110	\$ 186,902	\$ 3,449,012
PREVIOUS YEAR REMAINING FUNDS				\$ 419,492			\$ 23,554
ANNUAL REMAINING BALANCE				\$ 23,554			\$ 774,542

Priority Streets Recommendation
Other funding
Zipper Equipment Costs Per Year

Street Funding- FY 2024 and FY 2025

	PROJECT BUDGET	FY2024			FY2025		
AVAILABLE FUNDING		\$2,750,000			\$4,500,000		
Recommended Streets		ESTIMATE	ESCALATION	2024 TOTAL	ESTIMATE	ESCALATION	2025 TOTAL
CORDOVA (Highway 46 to SH 123) *	\$ 4,415,500	\$ 1,350,000	\$ 378,000	\$ 1,728,000	\$ 2,700,000	\$ 756,000	\$ 3,456,000
REHAB STREETS (Zipper)	\$ 6,421,887	\$ 800,000		\$ 800,000	\$ 800,000		\$ 800,000
CHIP SEAL	\$ 1,378,289	\$ 148,180	\$ 31,118	\$ 179,298	\$ 148,180	\$ 31,118	\$ 179,298
TOTAL FY FUNDS NEEDED		\$ 2,298,180	\$ 409,118	\$ 2,707,298	\$ 3,648,180	\$ 787,118	\$ 4,435,298
PREVIOUS YEAR REMAINING FUNDS				\$ 774,542			\$ 817,244
ANNUAL REMAINING BALANCE				\$ 817,244			\$ 881,946

Priority Streets Recommendation

Zipper Equipment Costs Per Year

* Cordova Road Project contingent upon County 50% cost participation

Zipper Reclamation Process Overview



- On November 9, 2015, a Street Maintenance & Improvement Workshop was held to present the results of the Paver Study. This study assisted in the identification and compellation of streets in each district classified as “**Poor to Failed**”. Based on this data, staff recommended the City begin allocating a minimum of \$3.3 million per year to maintain the current street network from deteriorating below the threshold established by the study.
- Initially, the Pavement Condition Index (PCI) classified the City’s roadway infrastructure in the **Poor/Failed** category. Today, through street preservation efforts, CIP projects and the City’s zipper program, the overall PCI is classified as **Above Fair**. Even though there is still much work to accomplish, the roadway system within the City is improving.



Asphalt Zipper



**CAPITAL PROJECTS
& ENGINEERING**

Road Repairs

Asphalt Zipper Presentation

- Full Depth Reclamation

- Pothole and Asphalt Patching
 - Large areas with pavement distress
 - Utility repairs
 - Mill areas to repave
 - Plain high areas to aid with drainage along curb lines



Plaining a High Patch Milam St. between Walnut St. and Ireland St.



Zipper Program

➤ Cost per Square Yard by doing this in-house

Our cost is \$12.00 per SY and contract would be around \$65.00)

➤ Investment and Commitment

The zipper will allow the City to pave many more streets per year.

(We average 24 streets a year with the zipper process compared to only 6 if we removed the road and hauled in new material)

This program allows for the continued improvement to the roadway system PCI.

➤ Utility Excavations to Repair Water/Wastewater

Today there are approximately 140 open work orders for utility repairs. Plus, we have 2 major utility projects (Camp – Cedar to Kingsbury and Goodrich – Mountain to Ireland).

➤ Personnel

Utilities have 3 repair crews

Streets have 5 open positions.

To run a safe zipper project it takes 6 to 12 on a crew.



Other Considerations (Equipment and Manpower)

- Utility cut backlog will increase. They have added at least one new crew and streets have added one new position
- Have upgraded most of the equipment required for accomplishing the zipper projects. There are still additional equipment needed that will greatly assist in project completion.
- We will need to increase the size of the Public Works workforce to keep up with the pace of both the utility work and zipper program
- Prep work (chip seal, assist utilities)

Nolte Street

Pre-construction



Nolte Street

Pre-Grid/Shape & Haul Off



Nolte Street

Mix P2 to Stabilize the Base



Nolte Street

Pave and Complete



Screen/Recycled Base Material



Street Maintenance Totals

FY Year	Square Yards	Tons of Hot Mix	Gallons of P2	Total	Square Yards of Chip Seal	Total
2016/17	38,481	3,946	82,325	\$365,899.00	53,697	\$200,991.00
2017/18	47,690	5,615	107,213	\$577,012.00	48,977	\$168,764.00
2018/19	60,101	8,643	94,670	\$701,227.00	54,545	\$269,286.00
2019/20	9,159	3,591	27,072	\$246,001.00	55,328	\$213,012.00
Totals	155,431	21,798	311,235	\$1,890,130.00	212,547	\$852,053.00

Savings with the Asphalt Zipper program 2016 to Present

	In-House	Contract	Savings
Zip 155,431 Square Yards	\$1,890,130.00 (\$12.00 per SY)	\$10,013,015.00 (\$65.00 per SY)	\$8,122,885.00
Screen	\$2,500.00	\$15,000.00	\$12,500.00
New base material		\$25,000 X 4 years	\$100,000.00
Recycled Base	10,000CY X \$3.00 Per		\$30,000.00
Total			\$8,265,386.00

2020 Street Maintenance Plan

Chip Seal

Street	Limits
Cherry Hill	Pebble Beach to River Oak Drive
David	Austin to Pecan
Erkel	Court to Miller
Kathy	Eastwood to Gloria
McKee	Guadalupe to Saunders
Mitchell	Guadalupe to Stratton
Moore	Court to Jefferson
Patricia Park Court	Sunbelt Loop to Dead End
Pebble Beach	Champions to River Oak Drive
Saunders	Nelda to Jefferson
Sunbelt	Hwy 90 to drainage boxes
Sunbelt Loop East	Sunbelt to Sunbelt Loop South
Sunbelt Loop South	Sunbelt Loop East to Sunbelt Loop West
Sunbelt Loop West	Sunbelt to Dead End
Taft	Austin to Dead End
Wallace	Court to Jefferson
Wurzbach	Jefferson to Johnson

Zipper

Street	Limits
Bauer (N)	Pine to New Braunfels
Baxter (W)	Guadalupe to Austin
Benbo	Guadalupe to Austin
Bowie (S)	Cedar to Ireland
Burges	Zunker to Bend in Burges
Cherry (N)	Pine to Dead End
Collins	Guadalupe to Eighth
Donegan	Milam to San Marcos
Fox Run	Dead End to Glen Cove
Jefferson	Hwy 46 to Short
Meadow Lake	SH 123 B to SH 123
New Braunfels (W)	Guadalupe to Eighth
Olive	Pine to Dead End
Peach	Pine to Kingsbury
Pine (E)	Heideke to King
River Oak Drive	Champions to Dead End
Sycamore	King to Vetter
Vetter	Sycamore to Spruce

2021 Street Maintenance Plan

Chip Seal

Street	Limits
Burges	Left Turn Bend to Dead End
Chaparral	Guadalupe River Drive to Dead End
Cherry (S)	Court to Nolan
Countryside Blvd	FM 466 to Joe Carrillo
Garnet	Topaz to Joe Carrillo
Gordon	Court to Dead End
Guadalupe River Drive	Chaparral Drive to Cul-De-Sac
Huber Road	Bridge to Rudeloff Road
Nolan	Dead End to Dead End
Paige	Renee to Burges
Renee	Burges to Burges
Rio Grande Drive	Chaparral Drive to Augusta
Tabernacle	King to Cherry
Topaz	Countryside to Joe Carrillo
Volunteer	Jefferson to Dead End

Zipper

Street	Limits
Avenue B	Guadalupe to Ball
Avenue C	Guadalupe to Ball
Ball	Kingsbury to Cedar
Bartholomae	Kingsbury to Humphreys
Boenig	Zunker to Dead End
Gloria	King to Kathy
Harper	Guadalupe to Harper
Jefferson	Short to Saunders
Keller	Hummingbird to Peacock
Magnolia	Vetter to Norris
Norris	Spruce to Sycamore
Quail	Hummingbird to Dead End
Seideman (E)	Heideke to King
Spruce	King to Vetter



2022 Street Maintenance Plan

Chip Seal

Street	Limits
Aldama	Kingsbury to Dead End
Brazos	Guadalupe River Drive to Rio Grande Drive
Colorado	Guadalupe River Drive to Rio Grande Drive
Gamecock	FM 725 to FM 467
Ilka Switch	Kingsbury to Dead End
Jahns	US Hwy 90A to Dead End
Llano	Nueces to Colorado
Mill Tex	US Hwy 90 to Dead End
Nueces	Guadalupe River Drive to Rio Grande Drive
Old Ilka	US Hwy 90 to Dead End
Rudeloff	US Hwy 46 to Woodstone
Tangelwood	Gamecock to FM 725
Woodstone	Rudeloff Road to Dead End

Zipper

Street	Limits
Cedar (E)	King to Cherry
Champions	Rio Grande to River Oak Drive
Chapman	Baxter to Seideman
Clay	Court to Taylor
Dibrell	Guadalupe to Dolle
Dolle	Cemetery to Dead End
Erskine (N)	Court to Mountain
Gerdes	Austin to Pecan
Humphreys (E)	San Marcos to Milam
Milam (N)	College to Kingsbury
Nagel	Stockdale Hwy to Dead End
Pecan	Austin to Dead End
San Marcos (S)	Court to Nolte
Shannon	Dibrell to Jones
Taylor	Clay to Erkel
Trinity	Guadalupe River Drive to Rio Grande Drive

TEXAS

**CAPITAL PROJECTS
& ENGINEERING**

2023 Street Maintenance Plan

Chip Seal

Street	Limits
Glen Cove	East Hampton Drive to South Hampton Drive
Hampton (W)	Glen Cove to South Hampton Drive
Hollamon	Glen Cove to South Hampton Drive
Martindale Road	FM 20 to Lone Oak
Redwood	McCullough to Elmwood
Rudeloff Road	FM 78 to Woodstone

Zipper

Street	Limits
Bowie (N)	Terrell to Humphreys
Chico	Guadalupe to Saunders
Geronimo	Kingsbury to Cedar
Guadalupe River Drive	Sutherland Springs Road to Chaparral Drive
Hays	Seideman to Starcke
Ireland (E)	Park to Heideke
Martindale Road	FM 20 to Twin Oak
McCullough	Court to Redwood
Newton	Avenue D to Guadalupe
Rhone	Pitts to Newton
Rudeloff Road	FM 78 to Woodstone
Shelby (E)	Austin to Milam
Starcke	Hays to Seideman
Terrell	Austin to Goodrich



2024 Street Maintenance Plan

Chip Seal

Street	Limits
Arbolas Court	Entrada Esplanade to Dead End
Bailey	College to Krezdorn
Ciela Vista	Court to Dead End
Eastridge Parkway	Preston to Preston
Entrada Esplanade	Court to Via Arroyo
Ermel	Court to Jefferson
Forest Drive	Galvin to Dead End
Galvin	Country Club Drive to Forest Drive
Gardenridge	Eastridge Parkway to Eastridge Parkway
Hallie	Country Club Drive to Dead End
Hilltop	Country Club Drive to Forest Drive
Manor	Kingsbury to County Line
Markgraf	Ermel to Dead End
Parkridge Circle	Country Cub Drive to Parkridge Circle
Seventh	Kingsbury to New Braunfels
Sixth	Collins to New Braunfels
Via Arroyo	Dead End to Dead End
Via Verde	Ciela Vista to Dead End
Walnut Circle	Hallie to Dead End

Zipper

Street	Limits
Baer Creek Trail	Creek Pond to Dead End
Bluebonnet	Blanks to Nagel
Cardinal	Hummingbird to Cedar
Convent	Austin to Milam
Erskine	Ireland to Walnut
Gravel	Court to Mountain
Hays	Braden to New Braunfels
Hummingbird Lane	SH 123 B to Quail
Humphreys	Bruns to San Marcos
Liberty	San Antonio to Dead End
Milam	Kingsbury to Riley
Tampico	Erskine to San Marcos
Tony Lee	San Antonio to Dead End
Vera Cruz	Ireland to Tampico
Violet	Blanks to Nagel



2025 Street Maintenance Plan

Chip Seal

Street	Limits
Cheshire	Middletowne to Cul-De-Sac
Coventry	Middletowne to Cul-De-Sac
Fairfax	Middletowne to Cul-De-Sac
Kenwood	Middletowne to Cul-De-Sac
Jones	Guadalupe to Campbell
Middletowne	123 Bypass to Townwood
Millford	Middletowne to Cul-De-Sac
Nelda	Legette to Boenig
Oldtowne	Townwood to Cul-De-Sac
Park Village	Cul-De-Sac to Cul-De-Sac
Sanders (North)	Court to Jones
Southwick	Middletowne to Cul-De-Sac
Sowell	Burges to Duggan
Stoneham	Middletowne to Cul-De-Sac
Townwood	Middletowne to Oldtowne
Westbend	Legette to Boenig

Zipper

Street	Limits
Duggan	Jefferson to Kunkel
Jalisco	Morelos to Juarez
Juarez	Hidalgo to Jalisco
Lamar	Cedar to College
Live Oak	Austin to Milam
Melrose	University to Creekside
Morelos	Hidalgo to Jalisco
Romberg	Jefferson to Baker
San Marcos (North)	Kingsbury to Seideman
Seideman (East)	San Marcos to Sunset
Tips	Duggan to McKey
Troell	Bluebonnett to Dead End
University	Prexy to Vaughan
Vaughan (South)	Court to Jefferson
Veteran	San Antonio to Newton



Questions/Comments

