

2022 Street Maintenance Plan

City of Helotes Public Works Department

2021 Street Maintenance Plan Review

Street Name	Activity	Total Square Ft	Cost Per Sq. Ft	Estimated Cost
Hollow Ridge	Micro Surfacing	42,475.20	\$0.40	\$16,990.08
Hunters Break	Micro Surfacing	25,326.00	\$0.40	\$10,130.40
Hunters Oak	Micro Surfacing	7,123.20	\$0.40	\$2,849.28
Hunters Path	Micro Surfacing	24,281.40	\$0.40	\$9,712.56
Hunters Way	Micro Surfacing	73,125.60	\$0.40	\$29,250.24
Iron Horse Way	Micro Surfacing	213,165.00	\$0.40	\$85,266.00
	Total	385,496.00		\$154,198.40

2021 Street Maintenance Plan Review

Street	Activity	Sq. Ft	Sq. Ft. Cost	Estimated Cost
Bitterroot	HA5	37,076.20	\$0.36	\$ 13,347.43
Black Horse	HA5	73,371.55	\$0.36	\$ 26,413.76
Canyon River	HA5	48,896.10	\$0.36	\$ 17,602.60
Five Brooks	HA5	54,423.60	\$0.36	\$ 19,592.50
Rainbow View	HA5	51,052.75	\$0.36	\$ 18,378.99
Ashwell	HA5	33,372.50	\$0.36	\$ 12,014.10
Wild Heart	HA5	43,592.50	\$0.36	\$ 15,693.30
Lost Horse	HA5	6,304.65	\$0.36	\$ 2,269.67

2021 Street Maintenance Plan Review

Street	Activity	Sq. Ft	Sq. Ft. Cost	Estimated Cost
Red Tail	HA5	5,103.12	\$ 0.36	\$ 1,837.12
Mystic Saddle	HA5	38,771.40	\$ 0.36	\$ 13,957.70
Spotted Horse	HA5	18,436.95	\$ 0.36	\$ 6,637.30
Wind Walker	HA5	31,249.40	\$ 0.36	\$ 11,249.78
Wind Ridge	HA5	32,346.00	\$ 0.36	\$ 11,644.56
Flying Horse	HA5	16,011.00	\$ 0.36	\$ 5,763.96
Spirit Horse	HA5	28,589.00	\$ 0.36	\$ 10,292.04
Ribbon Ridge	HA5	11,869.00	\$ 0.36	\$ 4,272.84
	Total	530,465.72		\$ 190,967.66

2021 Street Maintenance Plan Review

Street Name	Activity	Total Square Ft	Cost Per Sq. Ft	Estimated Cost
Shaenfield	Repaint Street Markings	57,854.00	\$1.50	\$86,781.00
Braun	Repaint Street Markings	23,384.00	\$1.50	\$35,076.00
Iron Horse Way	Repaint Street Markings	11,491.00	\$1.50	\$17,236.50
	Total	92,729.00	\$1.50	\$ 139,093.50

2021 Street Maintenance Plan Review

- Total Estimated Cost: \$556,899
- Council Approved Expenditure: \$600,000
- Actual Cost: \$460,735.85
- Beginning OCI: 76.28
- Ending OCI: 86

Activity	Impact	Unit
JT/Crack Seal	5	%
Mastic Surface Treatment	60	%
Micro Surfacing/HA5	85	%
Mill/ Overlay	100	Absolute
One Course surface Treatment	85	Absolute
Overlay Chip Seal	95	Absolute

Pavement Condition Index

- **Pavement Condition Index (PCI)**- a numerical index between 0 and 100 which is used to indicate the general condition of a street or pavement segment.
- **Activity**- Road maintenance option programmed into Cartegraph.
- **Impact Amount**- The amount of impact on the each Activity has on the PCI.
- **Unit**- There are two different units of impact that affect the PCI.
 - 1. Percentage: Percentage of increase on current PCI of the Asset.
 - 2. Absolute: Exact PCI point score for the Asset.

Activity	Impact	Unit
JT/Crack Seal	1	%
Mastic Surface Treatment	60	%
Micro Surfacing/HA5	100	Absolute
Mill/ Overlay	100	Absolute
One Course surface Treatment	100	Absolute
Overlay Chip Seal	100	Absolute

Condition Category Ride Quality

- **Ride Quality-** Score from Zero to One Hundred on smoothness of ride for the street.
- **Activity-** Road maintenance option programmed into Cartegraph.
- **Impact Amount-** The amount of impact on the each Activity has on the PCI.
- **Unit-** There are two different units of impact that affect the PCI.
 - 1. Percentage: Percentage of increase on current PCI of the Asset.
 - 2. Absolute: Exact PCI point score for the Asset.

Overall Condition Index (OCI)

Asset Estimated OCI Calculations:

- The estimated OCI for an asset is calculated by taking into account the asset's age, predicted performance, and inspections and tasks performed on the asset. Using this data, the estimated OCI for the asset is determined.



Highly Polymer-Modified (HPM) mixtures can use 7% to 8% polymer to create a more integrated polymer chain network, which improves rutting and fatigue.

Street Maintenance - Micro Surfacing

What is Micro Surfacing?

- Micro surfacing is a highly polymer modified surfacing system that protects asphalt pavements and increases the durability of roads.
- Micro Surfacing offers a greater resistance to damage than other surfacing applications by providing a tougher surface that will minimize the road's vulnerability.
- Micro surfacing is typically used as a preventive maintenance solution for roads in moderately good condition, in order to raise their Pavement Condition Index levels and keep them in good condition longer.
- Micro surfacing – more resistant to cracking and raveling.

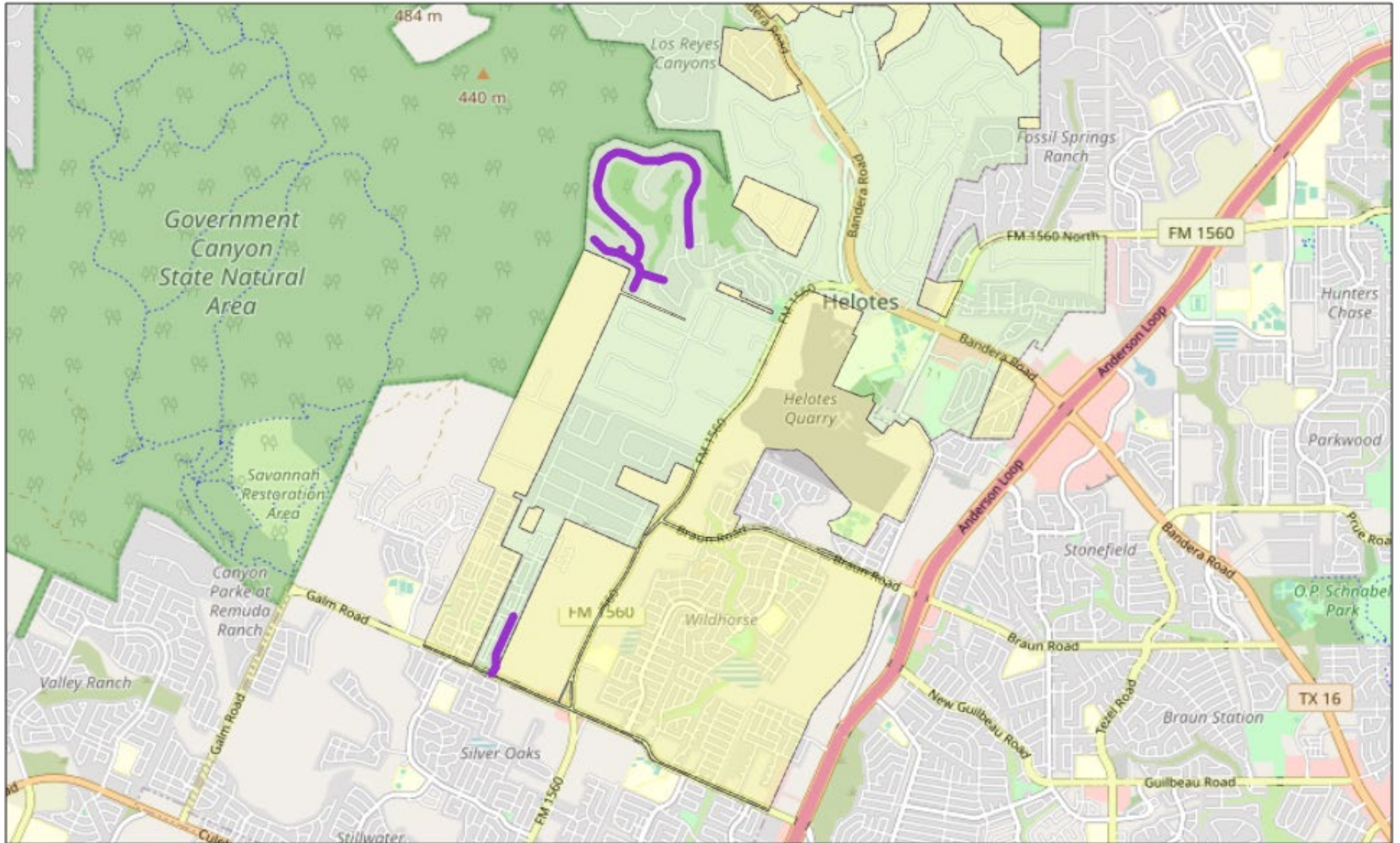
Micro-Surfacing



2022 Recommended Activities

Street Name	Activity	Total Square Ft	Cost Per Sq. Ft	Estimated Cost
Iron Horse Way	Micro Surfacing	392,731	\$0.45	\$176,728.95
Iron Saddle	Micro Surfacing	27,005	\$0.45	\$12,152.25
Trotting Path	Micro Surfacing	85,435	\$0.45	\$38,445.75
Pecan Stable	Micro Surfacing	38,964	\$0.45	\$17,533.80
Rustic Sand	Micro Surfacing	5,000	\$0.45	\$2,250.00
Bricewood Park	Micro Surfacing	111,726	\$0.45	\$50,276.70
	Total	660,861	\$0.45	\$297,387.45

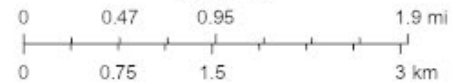
2022 Micro Map



February 1, 2022

— All Pavement

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Benefits:

- Significantly extends pavement life
- Lower cost of pavement ownership/management
- No loose aggregate or grainy residue on the surface post installation
- Performance backed by seven year study
- High public approval

Street Maintenance - HA5

- HA5® was developed to meet the demand for effective asphalt preservation on residential roadways without the negative side effects of chip seals or slurry seals. Specifically engineered to preserve the native asphalt binder, HA5 is exceptional at preventing oxidative damage.
- HA5 is a High Density Mineral Bond uniquely emulsified with a near neutral charge that is able to hold a proprietary blend of fine aggregates.

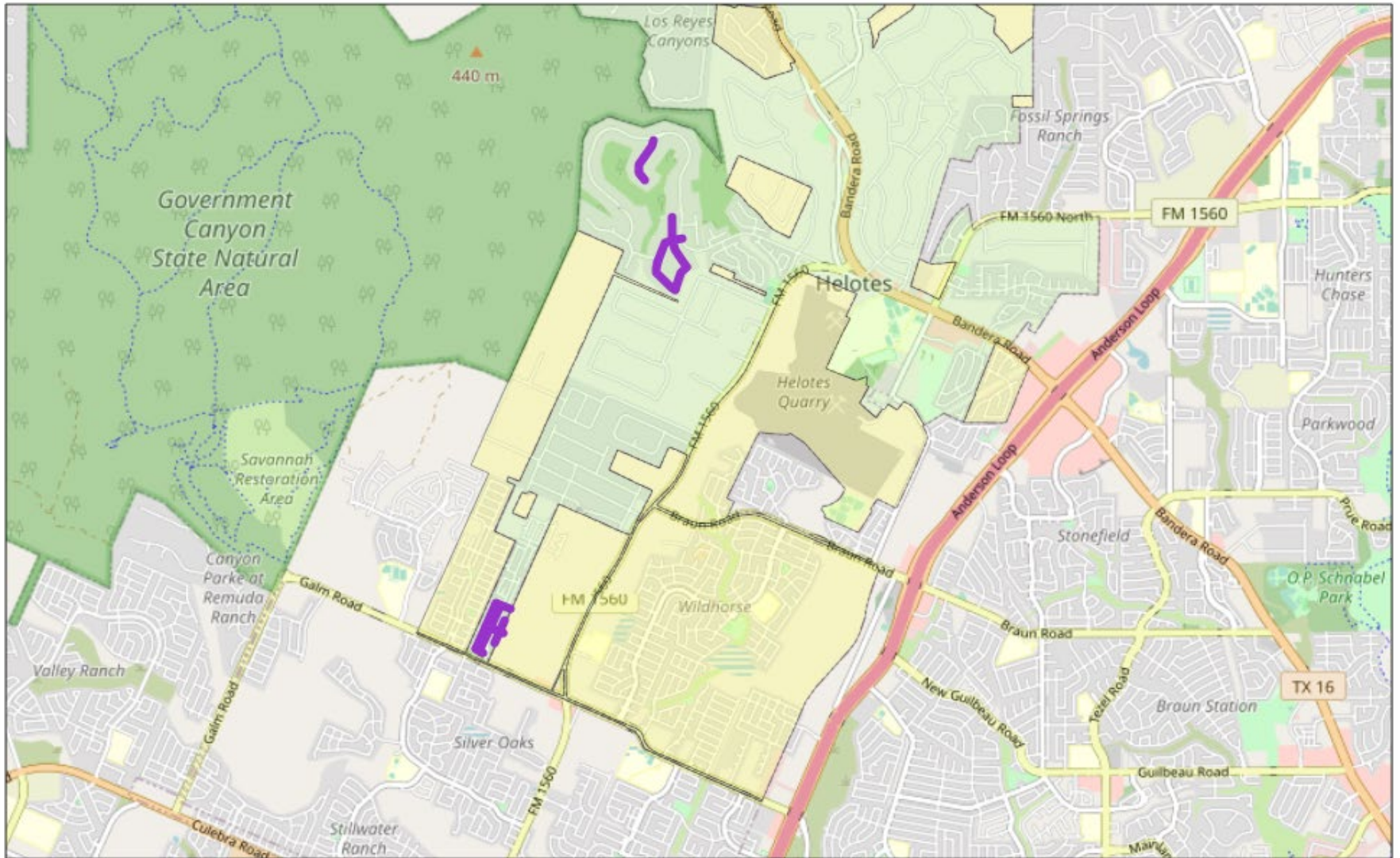
2022 Recommended Activities

Street	Activity	Sq. Ft	Sq. Ft. Cost	Estimated Cost
Panther Valley	HA5	52,867	\$0.45	\$23,790.15
Bricewood Gate	HA5	17,136	\$0.45	\$7,711.20
Bricewood Oak	HA5	45,976	\$0.45	\$20,689.20
Bricewood Pass	HA5	9,744	\$0.45	\$4,384.80
Bricewood Post	HA5	47,572	\$0.45	\$21,407.40
Bricewood Tip	HA5	15,428	\$0.45	\$6,942.60
Bricewood Tree	HA5	23,464	\$0.45	\$10,558.80
Spring Run	HA5	61,892	\$0.45	\$27,851.40

2022 Recommended Activities

Street	Activity	Sq. Ft	Sq. Ft. Cost	Estimated Cost
Iron Spring	HA5	30,818	\$0.45	\$13,868.10
Walking Horse	HA5	74,294	\$0.45	\$33,432.30
	Total	394,770		\$ 177,646.50

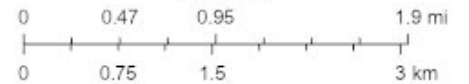
2022 HA5 Map



February 1, 2022

— All Pavement

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Street Maintenance - Street Markings

Hot-Applied Thermoplastic:

- Hot-applied thermoplastic is a solid compound containing pigments, glass beads, binder and filler which becomes liquid when heated.
- It offers many important benefits in terms of road safety including its high level of wet night visibility and the fact that it can be applied as both flat and structured markings.
- The long lifespan of thermoplastic markings furthermore makes them a cost-effective solution as they demand less frequent maintenance or replacement.



Street Maintenance - Mill and Overlay

Reasons for removing a portion of the existing surface include :

- Leveling because of rutting;
- Reducing crack width caused by spalling; and
- Eliminating raveling.

2022 Recommended Activities

Street Name	Activity	Total Linear Ft	Cost Per Sq. Ft	Estimated Cost
Iron Horse Way	Repaint Street Markings	3,000	\$1.50	\$4,500
Leslie	Mill/Overlay	58,000 sq. ft	\$2.59	\$150,220

Budget

2022 Street Maintenance Plan
Estimated Cost:

\$ 625, 254.00

Budget

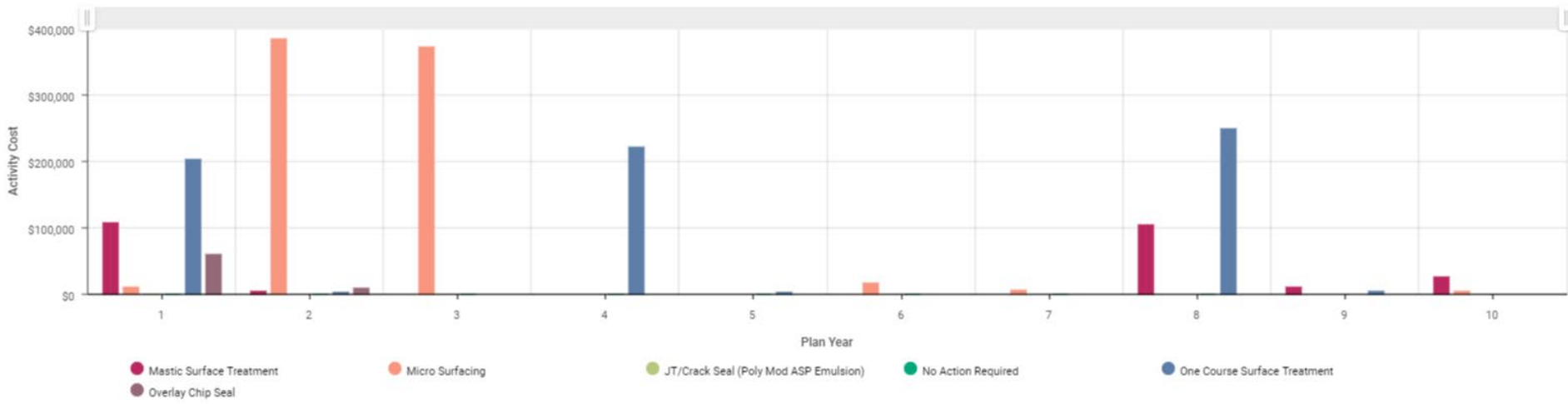
Department requests approval to initiate the
2022 Street Maintenance Plan
in an amount not to exceed:

\$700,000.00

10 Year Plan

Plan Year	Assets	Cost	Beginning OCI	Ending OCI	Activities
1	102	\$382,575.72	76.29	80.16	102
2	107	\$403,318.04	80.16	80.24	107
3	117	\$371,686.90	80.24	80.03	117
4	109	\$221,663.79	80.03	78.93	109
5	66	\$3,517.36	78.93	75.2	66
6	60	\$16,874.12	75.2	71.68	60
7	24	\$6,634.07	71.68	67.8	24
8	57	\$353,460.18	67.8	66.77	57
9	4	\$14,777.63	66.77	63.11	4
10	4	\$30,464.30	63.11	59.53	4

Activity Cost per Plan Year



ANY
QUESTIONS?

