



NOLANVILLE ROAD MAINTENANCE PLAN 2020

Department of Public Works



Abstract

This document provides a guide for assessing and prioritizing road maintenance activities in the City of Nolanville for the purpose of budgeting and ensuring equitable improvement of infrastructure.

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Background

The Nolanville Comprehensive Plan 2015-2030, Action 1.2.2, calls for a prioritized list of Nolanville roads and a schedule for their maintenance and improvement. This task was initially performed by TRC Engineering in August 2013, as an update to their August 2007 draft plan. An enhanced list was completed in 2017 to include Active Daily Travel classification and Surface Conditions, and was updated again in June 2020.

Comprehensive Road List (Alphabetical)

Name	Area	Street Classification	Curb & Gutter	Length (ft.)	Last Treatment
1st Street	RDT	Good Poor elevation transition	No	3,240	Chip/Seal 2015
2 nd Street	RDT	Fair	No	264	UNK
3rd Street	RDT	Good	No	2,100	Chip/Seal 2015
4th Street	RDT	Good	No	2,050	Chip/Seal 2015
5th Street	RDT	Good	No	1,200	Chip/Seal 2015; Repaired 2020
6th Street	RDT	Good	No	964	Chip/Seal 2015
8th Street	RDT	Good	No	1,005	Chip/Seal 2015 235' Overlay 2014 750'
10th Street	Collector	Excellent	Yes	4,080	Recon 2009
Ash Street	P	Poor	No	841	>1970
Ashley Drive	RDT	Good	Yes	510	Micro 2019
Avenue G	RDT	Poor	No	1130	UNK
Avenue H	Collector	Excellent / Good	Yes	4,129	Recon 2015- Main to 10 th Unknown 10 th – City Limit Sealed 2016
Avenue I	RDT	Fair	No	825	Milled 400ft
Avenue J	RDT	Fair	No	1,585	Chip/Seal 2015
Avenue K	RDT	Fair	No	1,905	Chip/Seal 2015
Bald Eagle Drive	BC	Excellent	Yes	1557	~2008
Bella Charca Parkway	BC	Excellent	Yes	2640	2013
Bent Tree Drive	BC	Excellent	Yes	774	~2008
Bella Vita Dr	BC	Excellent	Yes	2100	2018 (New)
Birch Street	P	Fair	No	844	Chip/Seal 2016

Name	Area	Street Classification	Curb & Gutter	Length (ft.)	Last Treatment
Black Gum Ct	WW I	Good	Yes	370	~2006
Black Walnut Ct	WW I	Good & Fair	Yes	G-930 F-280	~2006
Bluebonnet	PV	Fair	Yes	862	UNK
Box Canyon	BC VII	Excellent	Yes	1150	2018 (New)
Boxer Street	CH	Excellent/Good	Yes	Excellent - 900 Good - 900	Phase I 2003-2007; II 2016
Brandy Drive	BC VII	Excellent	Yes	3,303	2018 (New)
Button Bush	WW II	Excellent	Yes	320	2018 (New)
Cedar Ridge Drive	R	Good	Yes	3,264	~2003
Cedar Street	P	Fair	No	850	Chip/Seal 2016
Chimney Hill	BC I	Excellent	Yes	3068	~2008 Mill/Overlay 2019 (600 ft)
Cindy Lane	RDT	Good	Yes	755	Micro 2019
Coffee Tree Ct	WW I	Good & Poor	Yes	Good – 333 Poor – 37	2006
Dale Avenue	RDT	Excellent & Fair	45% Y / 55% N	Excellent - 495 Fair - 605	~2006
Dober Street	CH	Excellent & Good	Yes	Excellent - 900 Good - 900	Phase I 2003; II 2016
Dogwood Street	P	Poor/Excellent	No/Yes	851	Chip Seal 2016 50% Recon 2018
Elm Street	P	Excellent	Yes	856	Recon 2018
Fawn Trail	BC IV	Excellent	Yes	317	2013
Fieldwood	BC I	Excellent	Yes	753	~2004
Fir Street	P	Poor / Fair	No	843	Chip Seal 2016
Fossil Ridge	BC VII	Excellent	Yes	2020	2018 (New)
Gehler Circle	RDT	Excellent	Yes	1,500	~2003
Green Street	WL I	Excellent	Yes	925	2020 (New)
Harvest Street	BC	Excellent	Yes	4,256	~2004 & 2012
Heritage Loop	BC V	Excellent	Edging	1056	2018
Hickory Ridge	R	Excellent	Yes	1,500	~2003
Horatio Street	WL I	Excellent	Yes	1880	2020 (New)
Jack Rabbit Road	Collector	Fair	No	5439	Point Repairs 2020
Jordan Loop	RDT	Fair	Yes	1,491	~1983

Name	Area	Street Classification	Curb & Gutter	Length (ft.)	Last Treatment
					Micro 2019
Lazy Brook	BC	Excellent	Yes	808	~2004
Live Oak Street	P	Fair	No	847	Chip Seal 2016
Lonesome Oak	WW I	Good & Fair	Yes	G – 1072 F – 460 E- 500	~2006-Present
Lonita Avenue	RDT	Fair	No	1100	Point Repairs 2020
Lorrie Avenue	RDT	Fair	No	1,300	50% 1.5” Overlay 2017 325’ 50% Chip Seal 2015 975’
Manhattan Drive	RDT	Excellent	Yes	581	~2006
Main Street	RDT	Good & Fair	No	Good - 1,363 Fair - 1,363	Chip/Seal 2015
Mac Dougal Street	WL I	Excellent	Yes	620	2020 (New)
Meadow Oaks	PV	Excellent	Yes	800	~2004
Mercer Street	WL	Excellent	Yes	1020	2020 (New)
Mesquite Boulevard	P	Excellent	No	2152	North End 2” Overlay 2017 South End 2” Overlay 2015
Morningside	PV	Fair	Yes	2,200	UNK
Moss Road	RDT	Fair	Yes	488	>1970 Micro 2019
Mountain Ridge	BC I?	Excellent	Yes	189	~2004
Nolan Ridge Drive	R	Excellent	Yes	3,300	~2003
North Drive	RDT	Good & Poor	Yes	563	UNK
Oak Ridge Drive	R	Excellent	Yes	2,083	~2003
Old Nolanville Road	Collector	Excellent, Good & Fair *Edging Poor	60% Y / 40% N	Excellent - 5,852 Good - 1,950 Fair - 1,951	Bridge to East of School- Recon 2018 PV to State Maint. Chip Seal 2015
Parkridge Road	BC	Good	Yes	703	~2004
Pine Street	P	Fair	No	868	Chip Seal 2016
Pleasant Hill Cemetery	Collector	Good & Fair *Edging Poor after tracks	No	3,000	UNK Mill/Overlay RR to Access Road 2019
Pointer	P	Excellent & Fair	Yes	Excellent – 1848	I 2007; II 2016 Point Repair 2018

Name	Area	Street Classification	Curb & Gutter	Length (ft.)	Last Treatment
Red Bud	BC	Good	Yes	937	~2008
Red Fox	BC	Excellent	Yes	419	~2008
Red Leaf	BC I-II	Excellent *300 ft damage from constant drainage	Yes	2150	04-08
Ridgeback Street	CH	Good	Yes	634	2004
Ridgeway Court	BC	Excellent	Yes	317	2004
Ryan Circle	RDT	Good	Yes	581	2006
Setter Street	CH	Good	Yes	634	~2007
Shady Hollow	BC II	Excellent	Yes	457	~2004
Sims Ridge Drive	R	Excellent	Yes	2,303	~2003
Slippery Elm	WW II	Excellent	Yes	1685	2018 (New)
South Drive	RDT	Fair	Conc. Edging	563	UNK
St. John Avenue	RDT	Good & Fair	40% Y / 60% N	Good - 400 Fair - 600	~2006 Point Repairs 2020
Stonecrest	BC I	Excellent	Yes	700	~2004
Sugar Maple Court	WW I	Good & Poor	Yes	Good – 523 Poor – 60	2006
Sunset	PV	Good	Yes	443	UNK
Sweet Gum Court	WW I	Good	Yes	106	2006
Tanglewood Court	BC I	Excellent	Yes	108	~2004
Timber Ridge Drive	R	Excellent	Yes	2,057	~2003
Topeka Court	WW I	Excellent	Yes	475	2006
Via Toscana	WW II	Excellent	Yes	285	2018 (New)
Wayne Drive	PH	Good	Edging	1268	2003
Weeping Willow	WW I	Good	Yes	390	2006
Wilderness Basin	BC I	Excellent	Yes	1,268	2004
Willow Street	P	Fair	No	843	Chip Seal 2016
Whitetail Trail	BC II	Excellent	Yes	317	2013
Wilderness Court	BC I	Excellent	Yes	317	2004
Woodhaven Drive	BC III?	Excellent	Yes	650	~2008
Wooster Street	WL	Excellent	Yes	2700	2020 (New)
			Total:	~139,000 Ft	

Area Abbreviations

BC Bella Charca
 CH Cedar Heights
 P Plaza

PV Pecan Village
 R Ridges
 RDT Residential Downtown
 WW Wildwood Estates

Road Repair Evaluation

Road repairs are prioritized when there is evidence of base failure or public safety is an issue. Cracks that compromise the base, and especially wet cracks, accelerate base failures. Repairs are evaluated by Active Daily Travel (ADT), Surface Condition and Square Feet of Area Affected and given a score. The score determines the priority for repair and helps decide whether Nolanville Public Works will service the road or hire a contractor.

Road ID	ADT	Surface	Area	Score
Old Nolanville Road (ONR) (State Maint. to Pecan Village)	5	4	5	14
Plaza Side Streets	2	5	5	12
Jackrabbit Road	4	3	5	12
Residential- RDT	1	4	5	10
North/South Str	2	3	5	10
Ave H (10 th to Jackrabbit)	5	5	5	15

Score 1-5 = Low priority, city crew doing work

Score 6-9 = Medium priority with city crew doing work or contractor doing specialty type work

Score 10 or above = High priority, possibly hiring contractor

ADT - <20 = 1, 20-50 = 2, 51-100 = 3, 101-500 = 4, >500 = 5

Surface - Good = 0, Cracking <20 = 1, Cracking 20-50% = 2, Cracking >50% = 3

Loose cracking, failing base = 4, Wet, open cracking, failing base = 5

Problem area observed < 400 sf = 0,
area observed > 400 sf = 5

Preventive Maintenance

In contrast to repair activities, preventive maintenance reduces the amount spent in the long run, if performed prior to base failures. The price rate for base failure repairs is nearly five times the cost of a seal coat — a commonly used process that lays a thin, new surface on roads in moderate condition.

Seal Coat, sometimes referred to as Chip Seal or Aggregate Sealing, is Nolanville's primary street maintenance activity for residential streets. This preventive maintenance activity is necessary to prolong the life of an asphalt street. Without a seal coat every 8-10 years, the asphalt would oxidize, dry out and lose flexibility. Loss of asphalt flexibility leads to cracking, water infiltration, potholes and failure of the structural components of the roadbed. Seal coating may consist of several different types of material applicators, all designed to be quick and economical and rejuvenating to the existing asphaltic wearing surface. Seal coating can be used to rejuvenate asphalt surfaces that are severely oxidized and dry, but still have structurally sound base courses. Grade 5 or Grade 6 aggregate with AC-5 or RC-2 is generally used in the warm summer months to seal coat suitable surfaces. Cracks up to ¼" width can be covered, but any base failures and potholes should be repaired prior to seal coating.

Hot Mix Overlays may also be considered as maintenance, even though they are more expensive. An overlay can be used over any existing asphaltic surface to fill shrinkage cracks and level up small depressions and irregularities. An overlay will not bridge over any base failure.

Scarifying and Reconstruction of existing pavement may be used as a repair or maintenance procedure if sufficient base material exists. The subgrade should be determined satisfactory before consideration of this procedure. Scarifying and reconstruction involves scarifying the asphaltic wearing surface and the full depth of the base course, mixing the pulverized asphalt with the base material, re-compacting the combined material into a "new" base course, and coating with asphaltic prime coat and a new asphaltic wearing course.

Road preventive maintenance activities are prioritized based on the last known treatment and current condition. Consideration is also given to grouping roads that require similar surface treatment to reduce mobilization and bid costs.

Street Condition Classification System

Condition	Description
Excellent	New.
Good	Small amounts of oxidation, cracking, raveling, and no base failures; good maintenance has been practiced.
Fair	Oxidized and inactive; moderate surface cracking and scattered failures.
Poor	Numerous base failures, cross-hatched cracking; unpaved streets, very narrow driving surfaces, bad drainage problems.



Total City Road Lengths within the City Limits is ~139,000 linear feet of City Road Treatment recommended every 7-8 years, approximately 3.5 miles per year. Collector streets identified in the chart and the Thoroughfare Plan, included in this document, will require a different treatment application and additional budget considerations.

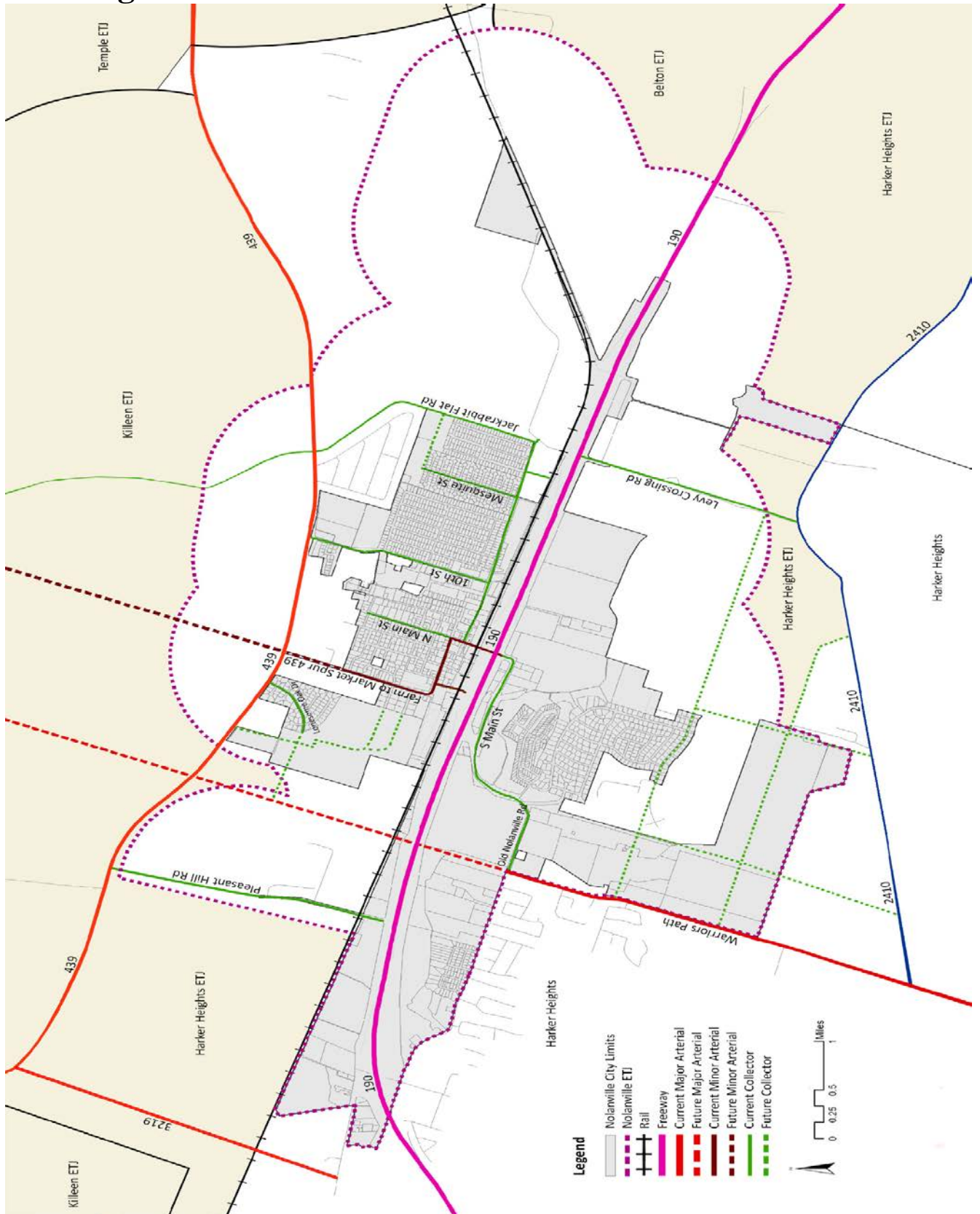
Tentative Schedule of Preventive Maintenance

Goal is to improve 3.5 miles of road per Fiscal Year.



Maintenance completed in FY 19/20 or programmed for reconstruction in the next year. Next preservation treatment anticipated in 7 years.

Thoroughfare Plan



History of Capital Improvements

June 4, 2020 \$1,500,000 Certificate of Obligation Issued for the Following Projects:

PROJECT Information: Bond was issued in July 2020 and initial payments are planned into Interest & Sinking (I&S) for FY 20-21.

The first item to be initiated is the engineering for Old Nolanville Road Bridge repairs. This will enable Council to determine the amount of construction dollars to allocate towards the repairs.

Channel improvements for Ave H/10th Street will be included as a supplemental bid item to save money. Work performed may be included as the grant match for a Texas Commission on Environmental Quality application recently submitted by the City.

The completed preliminary engineering plans for Avenue H & Mesquite Street are expected by August 2020 with construction start date expected January 2021. Phase I will be accomplished primarily with Texas Department of Transportation (TxDOT) Grant (80% TxDOT, with 20% City match from the Certificate of Obligation), Phase II is completely funded by the City through the Certificate of Obligation. As these projects conclude, decisions can then be made as to how many roads can be reconstructed in the Plaza and which Facility Projects can be completed.

Bond 2020 Project	ENG	CONSTR	TOTAL	Comments
Avenue H N 40-04 Phase I (Grant)		300,000	300,000	\$233,000 can be reimbursed to Street Maintenance Fund for Engineering and Construction Administration funding with Sales Tax FY 19-20. Also referred to as "Nolanville Park Connectivity." TxDOT Grant that pays 80% of construction (1.2 million).
Avenue H Phase II (Mesquite to Jackrabbit)	37,900	354,284	392,184	Base failures occurring
Plaza Roads (Ash, Birch, Cedar)	109,150	628,980	738,130	Six (6) roads- East and West Sides, Each (1) road is approx. = 123,000
Bridge Old Nolanville Road	33,600		33,600	
Channel Improvements		150,000	150,000	Use improvements as part of match towards TCEQ Grant
		Project Total	1,613,914	
		Bond Total	1,500,000	

Old Nolanville Road Safe Routes to School, TxDOT Grant completed Summer 2018 – 10 ft. Shared use path, 3” overlay and point repairs.

Main Street Livability, TxDOT Grant completed April 2019
10 ft Shared use path on both sides of the Street, Street Lights, Bus Stops and Curbing.

March 31, 2017 \$500,000 Tax Note Issued for the Following Projects:

PROJECT INFORMATION: Project was awarded in September 2017 and added reconstruction of West Dogwood to enhance drainage improvements along the west side of the Plaza.

Item	Description	Cost	Status
Elm Street	Drainage and Road Reconstruction	\$250,000	Complete
Park Road Extension	New Construction, Secondary Exit	\$150,000	Complete
Red Leaf Drainage	French Drain or Low Water Crossing	\$80,000	Complete