

ELK GROVE

RURAL ROAD
IMPROVEMENT
POLICY

NOVEMBER 14, 2007

RURAL ROAD IMPROVEMENT POLICY

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Traffic Count and Turning Movement Count Locations

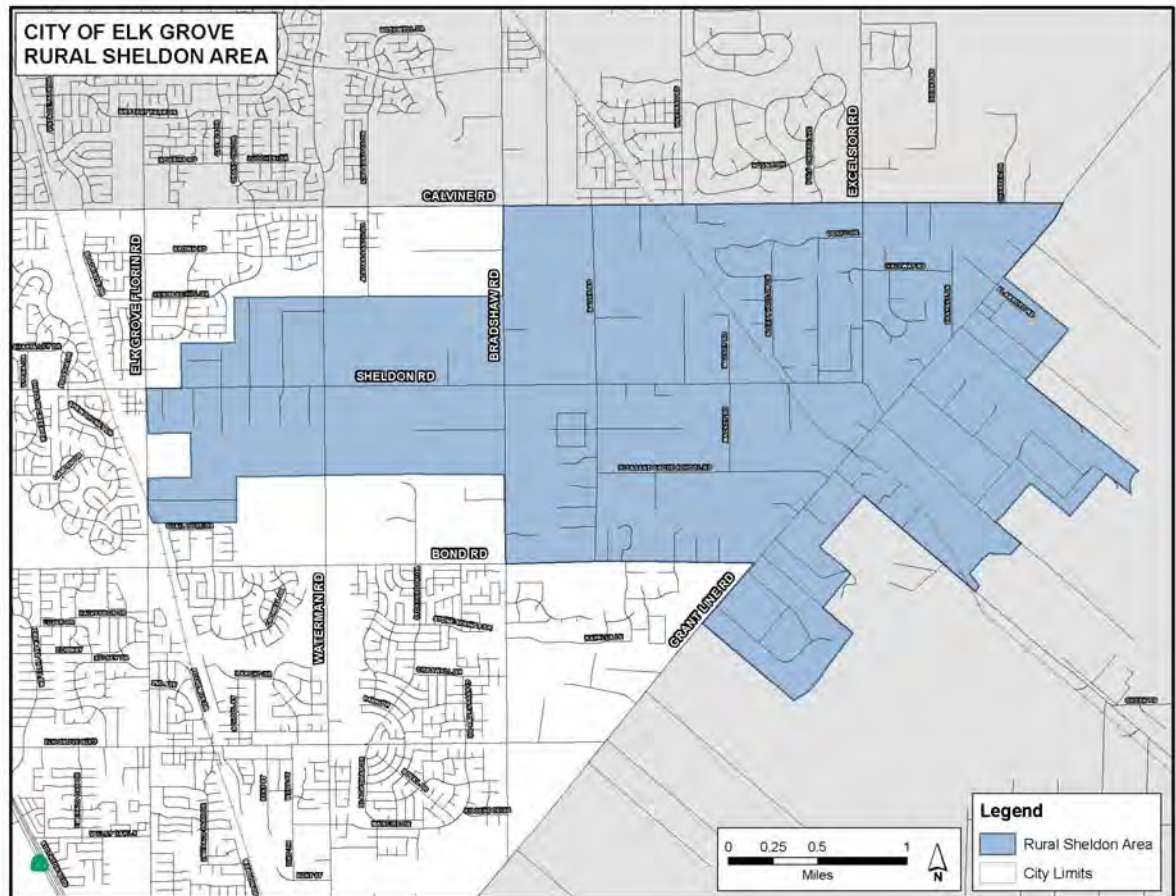
RURAL ROAD IMPROVEMENT POLICY

I. PURPOSE AND APPLICABILITY

The purpose of the Rural Road Improvement Policy is to preserve and maintain the rural roadways in the City's rural residential area. This policy establishes a value based approach for incremental (rather than ultimate) road improvements that solve specific traffic issues identified through periodic evaluations of traffic conditions. Road improvements within the City's defined rural residential area shall be implemented in response to traffic impacts.

The Rural Road Improvement Policy implements the General Plan goals, policies, and actions. Specifically, this policy implements the provisions of the Land Use and Circulation Elements regarding the preservation and maintenance of features that contribute to the rural residential character, including small local roadways with minimum paving, natural landscape, and preservation of existing mature trees.

The Rural Road Improvement Policy applies to the area defined in the General Plan as the Rural Sheldon/Rural Residential Area (hereafter Rural Residential Area) shown on the map below.



Once adopted by the City Council, the Rural Road Improvement Policy shall apply to all future road improvement planning within the Rural Residential Area. This policy may also apply to previously

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approved road improvement projects not yet constructed as determined by the City Council on a case-by-case basis.

The Rural Road Improvement Policy works in conjunction with the Rural Road Improvement Standards. The policy identifies when the improvement will take place and the standards determine what the improvements shall look like.

II. ROADWAY PHASING/IMPROVEMENT CONCEPT

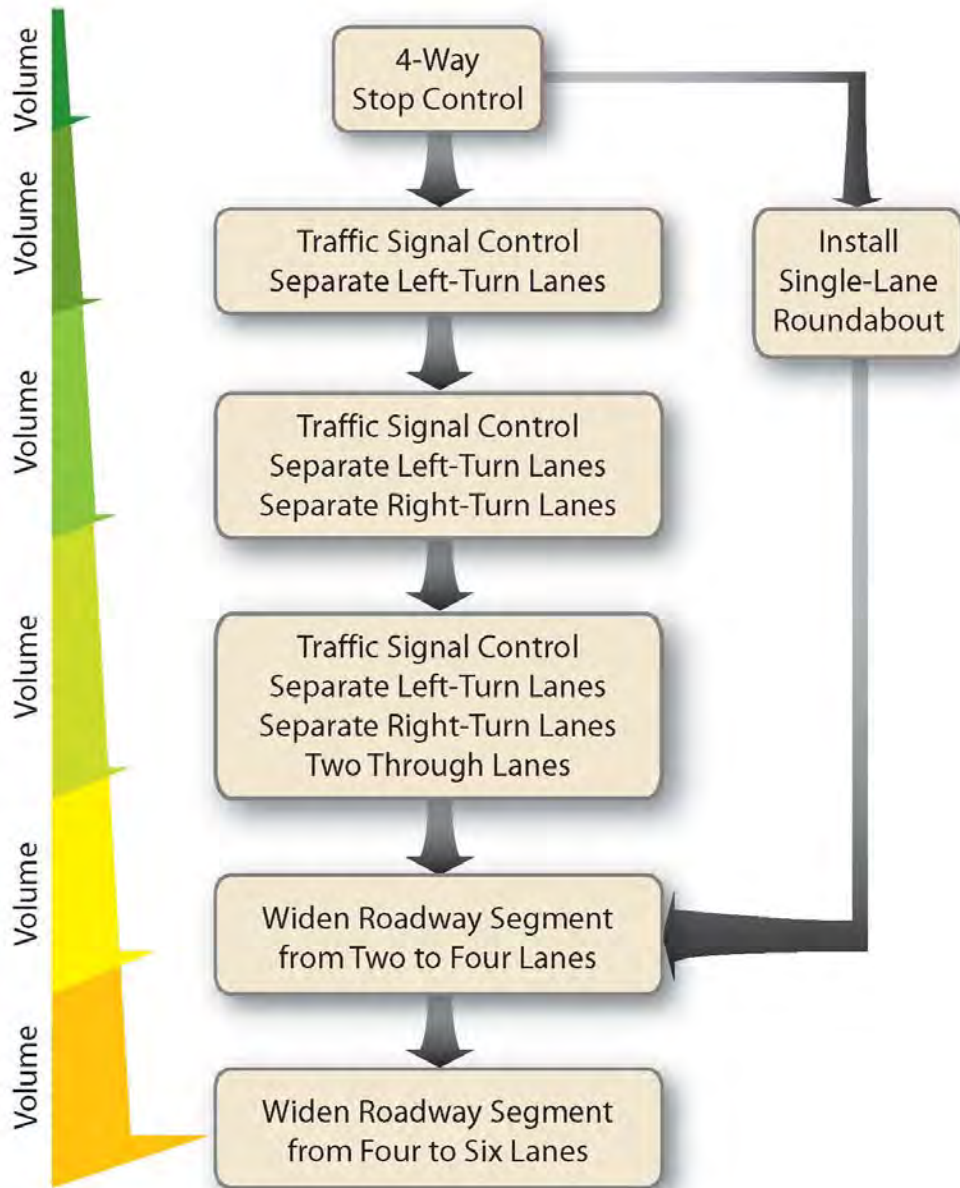
Within the City's Rural Residential Area, roadway and intersection improvements shall be implemented in response to traffic impact and not as a result of forecasted travel demand. The phasing of improvements is based on periodic evaluations of traffic conditions through regular traffic counts, safety criteria, and tolerance for delay (level of service). Improvements will only be planned and constructed when the actual need exists. This need will be evaluated by taking traffic counts at regular intervals, when a roadway project of citywide significance is completed, or as needed to address safety (based on accident data). Daily roadway traffic counts will be taken at the following locations with other locations counted as needed:

- Sheldon Road between Waterman Road to Rubia Drive
- Sheldon Road between Waterman Road and Bradshaw Road
- Sheldon Road between Waterman Road and Bader Road
- Sheldon Road between Bader Road and Mackey Road
- Waterman Road between Sheldon Road and Rubia Drive
- Waterman Road between Sheldon Road and Bond Road
- Wilton Road east of Grant Line Road
- Excelsior Road between Calvine Road and Sheldon Road
- Grant Line Road between Calvine Road and Sheldon Road
- Grant Line Road between Bond Road and Wilton Road
- Grant Line Road between Bond Road and Elk Grove Florin Road
- Bradshaw Road between Sheldon Road and Norman Lane
- Bradshaw Road between Sheldon Road and Bond Road
- Bradshaw Road between Bond Road and Silvergate Lane
- Bond Road between Bradshaw Road and Salmon Creek Drive
- Bond Road between Bradshaw Road and Bader Road
- Bond Road between Bader Road and Grant Line Road
- Bader Road between Sheldon Road and Pleasant Grove School Road
- Bader Road between Bond Road and Pleasant Grove School Road
- Bader Road between Sheldon Road and Mix Lane

The City of Elk Grove recognizes that investing in intersection improvements can delay or eliminate the need for widening adjoining roadway segment. Thus, the roadway phasing concept targets incremental improvements to intersections to solve current traffic problems. Roadway and intersection improvements must be implemented as needed to improve demonstrated safety needs regardless of traffic levels. Periodic monitoring of traffic volumes and accidents will be needed to effectively implement this policy.

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Volume Thresholds – How it Works



III. ROADWAY PHASING/IMPROVEMENT CRITERIA

To implement the Rural Road Improvement Policy, the City developed phasing/improvement criteria based on traffic volumes thresholds, safety, and tolerance for delay. This policy establishes incremental road segment and intersection improvements that solve specific traffic issues identified through periodic evaluations of traffic conditions. The roadway phasing criteria were developed using the following methodology

- STEP 1: Conducted intersection and roadway traffic counts at locations throughout the study area.
- STEP 2: Compared the roadway and intersection counts throughout the project area.
- STEP 3: Analyzed intersection traffic operations at each intersection using the updated traffic counts.
- STEP 4: Identified traffic volumes at each intersection that would result in congested (i.e., stop-and-go) operations based on the current intersection turn lanes and traffic control, which included stop sign control and one lane on each approach.
- STEP 5: Converted the intersection volumes from Step 4 to equivalent roadway volumes using the comparison from Step 2. This was done for each leg of each intersection and averaged.
- STEP 6: The roadway volumes at each intersection from Step 5 were averaged to develop the roadway volume threshold for the improvement step.
- STEP 7: Steps 4, 5 and 6 were repeated for each remaining improvement step until widening the adjoining roadway segment was needed.

Improvements will only be planned and constructed when it is determined through the criteria below that an improvement is required.

VOLUME THRESHOLDS/CRITERIA

The City has established daily traffic volume thresholds for intersection operations to identify when an intersection would need to be evaluated for particular improvements. Traffic counts will be done every 3 years to determine if any intersections in the project area meet the volume thresholds. If one or more intersections meet the volume thresholds, the process will commence to identify needed improvements. Improvements will only be planned and constructed when it is determined through the criteria below that the need exists.

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Intersection Volume Thresholds Table (1)

Improvement Step	Configuration	Daily Volume Threshold
1	All-way stop control	≤ 8,000
2	Traffic signal control Separate left turn lanes or Single-Lane roundabout	8,000-15,000
3	Traffic signal control Separate left turn lanes Separate right turn lanes or Single-Lane roundabout	15,001-18,000
4	Traffic signal control Separate left turn lanes Separate right turn lanes Two through lanes	18,001-24,000
5	Widen roadway segment from 2 lanes to 4 lanes	>24,001 – 36,000
6	Widen roadway segment from 4 lanes to 6 lanes	>36,001

(1) Center turn lanes may be considered for implementation at any time to improve safety and convenience independent of intersection improvements. The need for center turn lanes will be determined on a case-by-case basis. This improvement does not increase roadway capacity, but does improve the flow.

SAFETY CRITERIA

While volume thresholds are a key indicator or trigger for determining needed improvements, roadway and intersection improvements must be implemented as needed to improve demonstrated safety needs regardless of traffic levels based on Federal and State guidelines specifically for rural areas.

TOLERANCE FOR DELAY

Related to the volume threshold is tolerance for delay. This is a human measure of acceptance for certain traffic conditions.

There may be indirect impacts to residents in the Rural Residential Area that need to be addressed. For example, if a resident is unable to access their driveway for several minutes because of queuing at an intersection, that may be an unacceptable delay. Similarly, if a resident cannot safely turn out of a driveway with a horse trailer for several minutes, that may be an unacceptable delay. As identified in the Intersection Volume Threshold Table above, center turn lanes may be considered to improve safety, convenience, and traffic flow where these types of impacts are identified. Tolerance for delay by residents of the Rural Residential Area will be considered during the process of determining specific improvements and may need to be evaluated separately based on resident input.

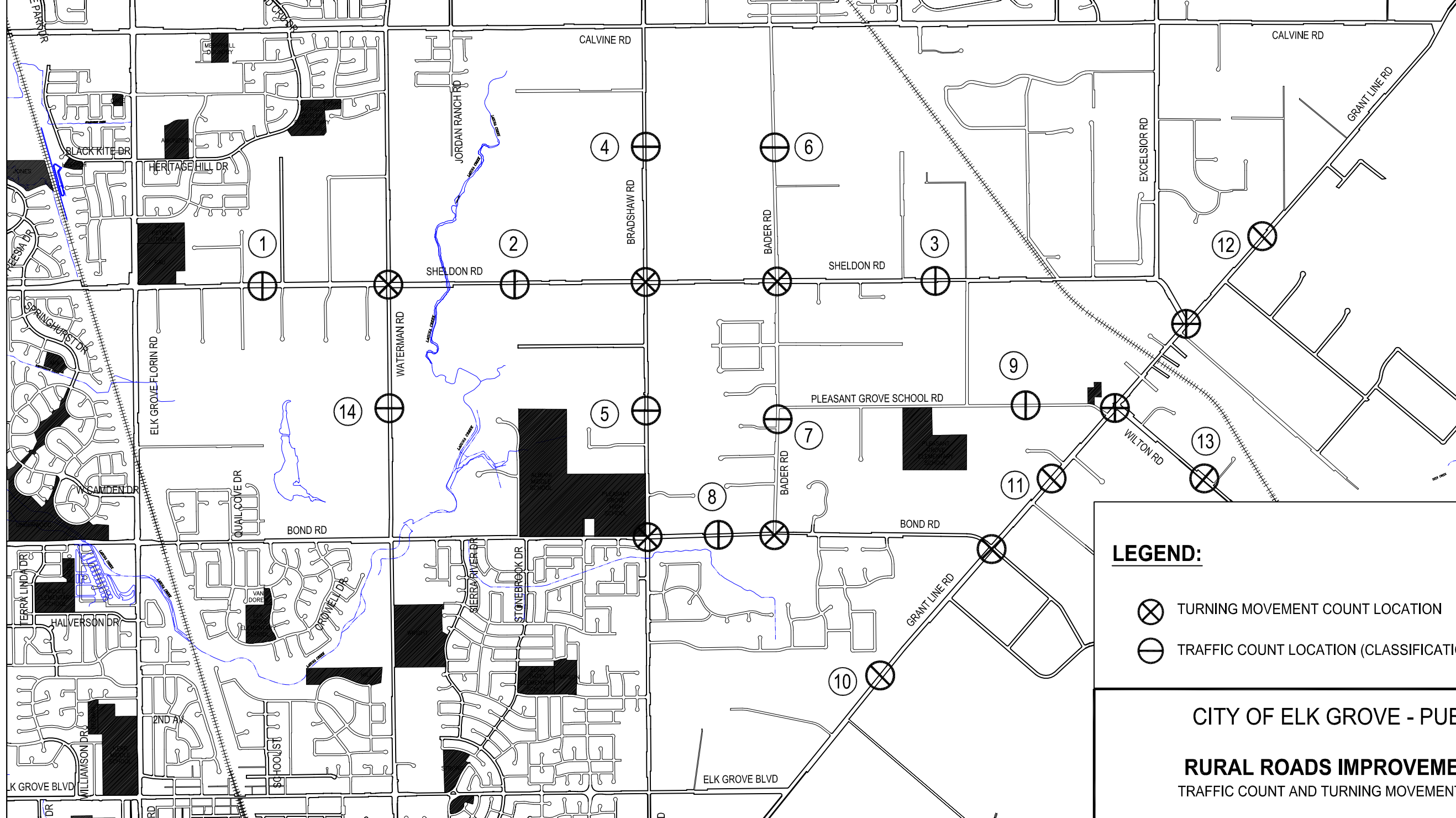
IV. IMPLEMENTATION PROCESS

The implementation process for the Rural Road Improvement Policy is as follows:

- 1) The City shall monitor/measure daily traffic (two-way total) volumes every three years or as needed to measure the effect of a significant roadway project (e.g. interchange upgrade) or large development that may alter traffic volumes and/or travel patterns in the study area. Traffic counts will be done using the same methodology as the baseline counts for this policy (see details in appendix).
- 2) The City shall compare measured daily traffic volumes to the improvement thresholds. The threshold is satisfied if the daily traffic (two-way total) volume on any leg of the intersection meets or exceeds the lower volume threshold for identified improvement step.
- 3) When the next improvement threshold is satisfied, the City will commence a more detailed traffic analysis to identify specific (i.e., minimum) improvements required to alleviate actual traffic impacts. Exceptions include an improvement that is needed to improve demonstrated safety impacts of a roadway or intersection.
- 4) The City shall host at least one public workshop with the residents in the Rural Residential Area to present the traffic data, threshold analysis, and range of alternative improvements to address the traffic impact. Notices for the workshop(s) shall be mailed to all property owners of record within the Rural Residential Area as defined herein. Input from that workshop will be presented to the City Council for direction to proceed with the Capital Improvement process.

APPENDIX

	SHELDON RD									BRADSHAW RD						BADER RD						BOND RD			PLEASANT GROVE SCHOOL RD			GRANT LINE RD									WILTON RD			WATERMAN RD		
	①			②			③			④			⑤			⑥			⑦			⑧			⑨			⑩			⑪			⑫			⑬			⑭		
	EB	WB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL	NB	SB	TOTAL	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL	NB	SB	TOTAL	NB	SB	TOTAL	EB	WB	TOTAL	NB	SB	TOTAL
MON	4246	4472	8718	3230	3495	6725	2287	2539	4826	4321	4315	8636	3502	4037	7539	1519	1352	2871	1668	1525	3193	4315	4297	8612	614	503	1117	4525	4393	8918	7157	6893	14050	5481	5628	11109	5249	5152	10401	4041	4149	8190
TUE	4469	4587	9056	3283	3656	6939	2260	2674	4934	4622	4661	9283	3843	4430	8273	1636	1440	3076	1713	1636	3349	4426	4568	8994	685	583	1268	4627	4487	9114	7505	7015	14520	5634	5898	11532	5351	5237	10588	4149	4250	8399
WED	4265	4748	9013	3367	3722	7089	2317	2702	5019	4527	4747	9274	3484	4556	8040	1702	1508	3210	1788	1626	3414	4423	4468	8891	653	531	1184	4852	4673	9525	7322	7305	14627	5865	6018	11883	5456	5507	10963	3982	4002	7984
THU	4444	4718	9162	3406	3647	7053	2420	2688	5108	4590	4667	9257	3574	4535	8109	1879	1317	3196	1858	1626	3484	4849	4600	9449	666	589	1255	4820	4715	9535	7515	7355	14870	6156	6155	12311	5598	5510	11108	4137	4324	8461
FRI	4645	4759	9404	3487	3683	7170	2396	2720	5116	4881	4991	9872	3389	4764	8153	1718	1441	3159	1847	1681	3528	4831	4709	9540	664	538	1202	5173	5039	10212	8130	7724	15854	6254	6303	12557	5723	5707	11430	4306	4456	8762
SAT	3220	3760	6980	2770	2851	5621	1898	2086	3984	2798	3060	5858	2180	2952	5132	1435	1103	2538	1436	1182	2618	3688	3499	7187	453	430	883	3854	3782	7636	5494	5807	11301	4166	3984	8150	4613	4520	9133	2803	2922	5725
SUN	3145	3285	6430	2508	2545	5053	1701	1779	3480	2608	2841	5449	1734	2483	4217	1163	916	2079	1086	902	1988	2883	2785	5668	368	353	721	3226	3230	6456	4725	4808	9529	3447	3361	6808	3707	3587	7294	2668	2803	5471



LEGEND:

- ⊗ TURNING MOVEMENT COUNT LOCATION
- ⊕ TRAFFIC COUNT LOCATION (CLASSIFICATION)

CITY OF ELK GROVE - PUBLIC WORKS

RURAL ROADS IMPROVEMENT PROJECT

TRAFFIC COUNT AND TURNING MOVEMENT COUNT LOCATIONS

NOT TO SCALE

