



# CITY OF BUELLTON

## CITY COUNCIL AGENDA

**Regular Meeting of February 27, 2014 – 6:00 p.m.  
City Council Chambers, 140 West Highway 246  
Buellton, California**

Copies of staff reports or other written documentation relating to each item of business referred to on this Agenda are on file in the office of the City Clerk and are available for public inspection

### **CALL TO ORDER**

Mayor John Connolly

### **PLEDGE OF ALLEGIANCE**

Council Member Judith Dale

### **ROLL CALL**

Council Members Ed Andrisek, Judith Dale, Holly Sierra, Vice Mayor Leo Elovitz, and Mayor John Connolly

### **REORDERING OF AGENDA**

### **PUBLIC COMMENTS**

Speaker Slip to be completed and turned in to the City Clerk prior to commencement of meeting. Limited to matters not otherwise appearing on the agenda. Limited to three (3) minutes per speaker. No action will be taken at this meeting.

### **CONSENT CALENDAR**

**(ACTION)**

The following items are scheduled for consideration as a group. Any Council Member, the City Attorney, or the City Manager may request that an item be withdrawn from the Consent Agenda to allow for full discussion.

- 1. Minutes of February 13, 2014 Regular City Council Meeting**
- 2. List of Claims to be Approved/ Ratified for Payment to Date for Fiscal Year 2013-14**
- 3. Revenue and Expenditure Reports through January 31, 2014**  
❖ (Staff Contact: Finance Director Carolyn Galloway-Cooper)
- 4. Acceptance of the Waste Water Treatment Plant (WWTP) Headworks Improvements Project**  
❖ (Staff Contact: Public Works Director Rose Hess)

- 5. **Appointment of Council Member and Alternate to Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA) Board of Directors**  
❖ *(Staff Contact: City Manager Marc Bierdzinski)*
- 6. **Resolution No. 14-04 – “A Resolution of the City Council of the City of Buellton, California, Adopting the Amended and Restated Guidelines of Procedure for Council Meetings and Related Functions and Activities”**  
❖ *(Staff Contact: City Manager Marc Bierdzinski)*

**PRESENTATIONS**

**PUBLIC HEARINGS**

**COUNCIL MEMBER COMMENTS**

**COUNCIL ITEMS**

**WRITTEN COMMUNICATIONS**

Written communications are included in the agenda packets. Any Council Member, the City Manager, or City Attorney may request that a written communication be read into the record.

**COMMITTEE REPORTS**

This Agenda listing is the opportunity for Council Members to give verbal Committee Reports on any meetings recently held for which the Council Members are the City representatives thereto.

**BUSINESS ITEMS**

**(POSSIBLE ACTION)**

- 7. **Consideration of Appointment to the Parks and Recreation Commission**  
❖ *(Staff Contact: City Manager Marc Bierdzinski)*
- 8. **Presentation on the Buellton Emergency Management Plan**  
❖ *(Staff Contact: City Manager Marc Bierdzinski)*
- 9. **Discussion Regarding Speed Hump Policy on Public Roads**  
❖ *(Staff Contact: Public Works Director Rose Hess)*
- 10. **Discussion Regarding Installation of Street Lights on Industrial Way**  
❖ *(Staff Contact: Public Works Director Rose Hess)*

**CITY MANAGER’S REPORT**

**ADJOURNMENT**

The next meeting of the City Council will be held on Thursday, March 13, 2014 at 6:00 p.m.

# CITY OF BUELLTON

**CITY COUNCIL MEETING MINUTES**  
**Regular Meeting of February 13, 2014**  
**City Council Chambers, 140 West Highway 246**  
**Buellton, California**

## **CALL TO ORDER**

Mayor John Connolly called the meeting to order at 6:00 p.m.

## **PLEDGE OF ALLEGIANCE**

Council Member Holly Sierra led the Pledge of Allegiance

## **ROLL CALL**

**Present:** Council Members Ed Andrisek, Judith Dale, Holly Sierra, Vice Mayor Leo Elovitz, and Mayor John Connolly

**Staff:** City Manager Marc Bierdzinski, City Attorney Ralph Hanson, Public Works Director Rose Hess, Finance Director Carolyn Galloway-Cooper, Station Commander Lt. Shawn O'Grady, and City Clerk Linda Reid

## **REORDERING OF AGENDA**

None

## **PUBLIC COMMENTS**

Lew Adkins, Buellton, spoke about the lack of sidewalks on East Highway 246 in front of the Shell Station and stated the area is a safety hazard and a sidewalk should be installed.

John Dorwin, Buellton, stated he has a petition signed by 32 residents requesting that staff agendize the construction of sidewalks on East Highway 246 in front of the Shell Station.

Loras Bingley, Buellton, spoke about the lack of sidewalks on East Highway 246 in front of the Shell Station and stated the area is a safety hazard and a sidewalk should be installed.

Public Works Director Rose Hess provided an update regarding the proposed sidewalks on East Highway 246 and the City's ongoing negotiations with Caltrans.

Mark Preston, Buellton, provided a handout for the record regarding the Transient Occupancy Tax budget report prepared by the Buellton Visitors Bureau and stated the report needs further clarification.

Jody Knoell, representing the Buellton Chamber of Commerce and Visitors Bureau, announced upcoming events in Buellton.

## **CONSENT CALENDAR**

- 1. Minutes of January 23, 2014 Regular City Council Meeting**
- 2. List of Claims to be Approved and Ratified for Payment to Date for Fiscal Year 2013-14**

Council Member Dale thanked Finance Director Carolyn Galloway-Cooper for the detailed claims report.

### **MOTION:**

Motion by Council Member Andrisek, seconded by Council Member Sierra, approving the Consent Calendar as listed.

### **VOTE:**

Motion passed by a roll call vote of 5-0.

## **PRESENTATIONS**

None

## **PUBLIC HEARINGS**

- 3. Resolution No. 14-03 – “A Resolution of the City Council of the City of Buellton, California, Directing Staff to Authorize the County of Santa Barbara to Submit the Funding Request for Community Development Block Grant Capital Funds to the Federal Housing and Urban Development Department for the City of Buellton Library Renovation”**

### **RECOMMENDATION:**

That the City Council consider adoption of Resolution No. 14-03.

### **STAFF REPORT:**

City Manager Bierdzinski presented the staff report.

### **DOCUMENTS:**

Staff Report with attachment (Resolution No. 14-03)

**SPEAKERS/DISCUSSION:**

Mayor Connolly opened the public hearing at 6:30 p.m. There being no public comments, Mayor Connolly closed the Public Hearing at 6:31 p.m.

The City Council discussed the following issues:

- Repair questions and support for the funding request

**MOTION:**

Motion by Council Member Dale, seconded by Vice Mayor Elovitz approving and adopting Resolution No. 14-03 – "A Resolution of the City Council of the City of Buellton, California, Directing Staff to Authorize the County of Santa Barbara to Submit the Funding Request for Community Development Block Grant Capital Funds to the Federal Housing and Urban Development Department for the City of Buellton Library Renovation"

**VOTE:**

Motion passed by a roll call vote of 5-0.

**COUNCIL MEMBER COMMENTS**

Council Member Sierra stated that she and other Council Members and staff attended the League of California Cities Channel Counties Division Dinner in Pismo Beach last month and said it was a great event. She also announced that the City of Buellton will be hosting the next League Dinner on May 2 at Avant Tapas and Wine and Terravant Wine Center.

Council Member Dale stated the Botanic Garden ribbon cutting is scheduled for this Saturday at 11:00 a.m.

Mayor Connolly attended the Change of Command Ceremony at Vandenberg Air Force Base and said it was a pleasure to attend the event.

**COUNCIL ITEMS**

Council Member Sierra requested that staff prepare an ordinance modifying the Temporary Use Permit section of the City's Municipal Code to allow a "green-grocer" type of use associated with a business. The Council agreed by consensus to pursue this issue through the Planning Commission and then through City Council.

Vice Mayor Elovitz asked that staff agendaize the sidewalks on East Highway 246 if warranted.

**4. Possible Reconsideration of Resolution No. 14-01 - Ballot Measure for Elected Mayor**

The City Council discussed whether Resolution No. 14-01 should be brought back for reconsideration at a future meeting.

**MOTION:**

Motion by Council Member Dale, seconded by Council Member Sierra not to reconsider Resolution No. 14-01 – Ballot Measure for Elected Mayor.

**VOTE:**

Motion passed by a roll call vote of 3-2, with Council Member Andrisek and Mayor Connolly voting no.

**WRITTEN COMMUNICATIONS**

None

**COMMITTEE REPORTS**

Council Member Andrisek provided an oral report regarding the Special Meeting of Central Coast Water Authority Board meeting.

**BUSINESS ITEMS**

5. **Discussion and Possible Amendment to City of Buellton Guidelines of Procedure for Council Meetings and Related Functions and Activities Regarding Public Comments on Consent Calendar Items**

**RECOMMENDATION:**

That the City Council discuss the Guidelines of Procedure for Council Meetings and Related Functions and provide direction on whether to modify the Guidelines.

**STAFF REPORT:**

City Manager Bierdzinski presented the staff report.

**DOCUMENTS:**

Staff Report with attachment (Resolution No. 99-05)

**SPEAKERS/DISCUSSION:**

Mark Preston, Buellton, clarified the revised procedures and thanked staff for the detailed reports.

**DIRECTION:**

The Council agreed by consensus to bring back a resolution revising the Guidelines of Procedure for Council Meetings and Related Functions.

6. **Discussion of Sustainability – Goal 7 from Vision Plan**

**RECOMMENDATION:**

That the City Council provide direction on Action Items for sustainability and identify the next goal from the Vision Plan to review.

**STAFF REPORT:**

City Manager Bierdzinski presented the staff report.

**DOCUMENTS:**

Staff Report with attachment (Summary of Sustainability Objectives and Action Items)

**SPEAKERS/DISCUSSION:**

Larry Bishop, Buellton, spoke about the importance of sustainability and the establishment of a “green team”.

Judi Stauffer, Buellton, spoke about the sustainability goal.

Mike Hendrick, General Manager of the Santa Ynez Valley Marriott, stated that sustainability should start at City Hall to help Buellton businesses become more sustainable and ask for plumbing fixture rebates.

Ron Anderson, President of the Buellton Chamber of Commerce, stated the Chamber is using low wattage bulbs on its billboards. Mr. Anderson also spoke about the status of trails through Buellton.

The City Council discussed the following issues:

- Developing a “green team”
- Considering plumbing fixture rebates

**DIRECTION:**

The City Council requested that staff create a “green team” with regular reports to the City Council and agendaize Goal 5 regarding a Vibrant Downtown in the next few months.

**7. Discussion of a Board of Architectural Review (BAR) or Other Similar Options****RECOMMENDATION:**

That the City Council provide direction to staff regarding the architectural review of projects.

**STAFF REPORT:**

City Manager Bierdzinski presented the staff report.

**SPEAKERS/DISCUSSION:**

Peggy Brierton, Buellton, submitted a letter for the record regarding this issue and was provided to all Council Members.

John Petersen, Santa Ynez, spoke about BAR’s and expressed his dissatisfaction with this type of review board.

Ron Anderson, Buellton, stated he is a Realtor in Buellton and a BAR would hurt development in Buellton.

Jody Knoell, Buellton Chamber of Commerce and Visitors Bureau read a letter into the record against having a BAR in Buellton.

Larry Bishop, Buellton, stated that a BAR would enhance the design review process and indicated there is a real need for architectural review.

Mike Hendrick, General Manager of the Santa Ynez Valley Marriott, stated the Planning Commission does a fine job of architectural review and should be allowed to continue to do their job, rather than involving another review board.

Judi Stauffer, Buellton, stated a BAR is important and should be incorporated into the City's design process.

The City Council discussed the following issues:

- Council Member Dale provided a handout for the record supporting an Architectural Board of Review that would include design professionals
- Supporting a BAR to provide more design ideas
- More training for the Planning Commission
- Adding a professional architect to the design process

**MOTION:**

Motion by Council Member Dale, seconded by Vice Mayor Elovitz, directing staff to put together an ad-hoc committee to determine whether Buellton should have a BAR. Council Members Dale and Sierra were selected by consensus to the ad-hoc committee. The motion also included adding two Planning Commissioners, staff, and two members of the Vision Steering Committee to the ad-hoc committee.

**VOTE:**

Motion passed by a roll call vote of 4-1, with Council Member Andrisek voting no.

**CITY MANAGER'S REPORT**

City Manager Bierdzinski provided an informational report for the record.

**CLOSED SESSION ITEMS**

- 8. CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION**  
**California Government Code Section 54956.9(d)(1)**  
**City of Buellton, et al. vs. Ana J. Matosanto, et al.**  
**Sacramento Superior Court Case No. 34-2013-80001468-CU-WM-GDS**

The City Council met in closed session to discuss existing litigation. The City Council has decided to initiate an appeal with respect to the above referenced action.

**ADJOURNMENT**

Mayor Connolly adjourned the regular meeting at 9:15 p.m. The next regular meeting of the City Council will be held on Thursday, February 27, 2014 at 6:00 p.m.

---

**John Connolly**  
Mayor

**ATTEST:**

---

Linda Reid  
City Clerk

BACK-UP/SUPPORT DATA IS AVAILABLE FOR COUNCIL REVIEW IN CITY HALL

The following is a list of claims to be ratified and approved for payment by the City Council at the **February 27, 2014** Council Meeting.

Listed below is a brief summary of the attached claims:

EXHIBIT A		<u>\$ 352,533.72</u>
EXHIBIT B		<u>\$ 72,944.65</u>
Other Pay	2/4/2014	\$ 1,039.62
PAYROLL	2/14/2014	\$ 36,805.84
Other Pay	2/14/2014	<u>\$ 1,737.24</u>
<b>TOTAL AMOUNT OF CLAIMS:</b>		<u><u>\$ 465,061.07</u></u>

**AUTHORIZATION IS HEREBY GIVEN TO THE CITY TREASURER TO PAY ALL CLAIM AS REVENUES BECOME AVAILABLE**

Obligat'n Description	Vendor/ Name/ Line Nbr Description	Stage	Amount
A001-000-2306-000 - Long-Term Care Deduction 21576 2/1/14-2/15/14-M.Bierdzinski	90 CalPERS LONG-TERM CARE PROGRAM 1	Paid	84.25
A001-000-2306-000 - Long-Term Care Deduction	*** Account total ***		84.25
A001-202-2002-000 - Sales & Use Tax Payable 21505 thru 1/17/14 K. Abello	193 FIRST NATIONAL BANK OF OMAHA 5	Paid	-120.75
21507 thru 1/17/14 B. Knecht	193 FIRST NATIONAL BANK OF OMAHA 4	Paid	-19.84
21549 1/14 Flags	47 BETSY ROSS FLAG GIRLS, INC. 2	Paid	-5.28
21550 1/14 Flags	47 BETSY ROSS FLAG GIRLS, INC. 2	Paid	-7.90
A001-202-2002-000 - Sales & Use Tax Payable	*** Account total ***		-153.77
A001-202-2003-000 - SYVTBID Payable 21609 12/13 SYVTBID Fees	101 CITY OF SOLVANG 1	Paid	15,864.00
A001-202-2003-000 - SYVTBID Payable	*** Account total ***		15,864.00
A001-215-2820-000 - Bike Storage Key Deposit 21587 2/14 Bike Locker Return Key De	0 TIM HANSEN 1	Paid	25.00
A001-215-2820-000 - Bike Storage Key Deposit	*** Account total ***		25.00
A001-216-2825-000 - Developer Deposit 21563 12/13 Crossroads Ctr-Village#1	326 MNS ENGINEERS, INC. 1	Paid	6,310.00
A001-216-2825-000 - Developer Deposit	*** Account total ***		6,310.00
A001-401-5101-000 - Medical Benefit 21604 12/13 FSA Fees	782 WAGE WORKS 1	Paid	12.25
A001-401-5101-000 - Medical Benefit	*** Account total ***		12.25
A001-401-5301-000 - Office Supplies 21509 thru 1/17/14 L. Reid	193 FIRST NATIONAL BANK OF OMAHA 2	Paid	125.20
A001-401-5301-000 - Office Supplies	*** Account total ***		125.20
A001-401-5603-000 - Computer Maintenance &Software 21511 thru 1/17/14 L. Elovitz	193 FIRST NATIONAL BANK OF OMAHA 1	Paid	843.24
A001-401-5603-000 - Computer Maintenance &Software	*** Account total ***		843.24
A001-403-5101-000 - Medical Benefit 21604 12/13 FSA Fees	782 WAGE WORKS 2	Paid	6.13
A001-403-5101-000 - Medical Benefit	*** Account total ***		6.13

Obligat'n Description	Vendor/ Name/ Line Nbr Description	Stage	Amount
A001-403-6301-000 - Miscellaneous			
21567 2/14 Petty Cash Reimbursement	372 PETTY CASH 1	Paid	10.69
A001-403-6301-000 - Miscellaneous	*** Account total ***		10.69
A001-404-6204-000 - Contract Services-Legal Fees			
21606 12/13 Retainer	65 BURKE, WILLIAMS & SORENSEN, LL 1	Paid	9,750.00
21607 12/13 Community Dev/Planning	65 BURKE, WILLIAMS & SORENSEN, LL 1	Paid	49.00
21608 13/13 Dept of Finance Lawsuit	65 BURKE, WILLIAMS & SORENSEN, LL 1	Paid	955.00
A001-404-6204-000 - Contract Services-Legal Fees	*** Account total ***		10,754.00
A001-410-5301-000 - Office Supplies			
21521 1/14 Misc Maint Items	110 CVS PHARMACY 1	Paid	57.52
21525 1/14 Supplies #7001052336	469 STAPLES CONTRACT & COMMERCIAL, 1	Paid	83.98
21526 12/13 Supplies #7000898001	469 STAPLES CONTRACT & COMMERCIAL, 3	Paid	44.81
21528 1/14 Supplies #7001024373	469 STAPLES CONTRACT & COMMERCIAL, 2	Paid	117.66
21529 1/14 Supplies #7001013840	469 STAPLES CONTRACT & COMMERCIAL, 2	Paid	30.22
21532 1/14 Contract Overage - CH	118 COASTAL COPY, LP 1	Paid	166.63
21533 1/14 Contract Overage - Linda	118 COASTAL COPY, LP 1	Paid	14.72
A001-410-5301-000 - Office Supplies	*** Account total ***		515.54
A001-410-5305-000 - Equipment Rental			
21571 2/27/14-5/26/14 Pstg Mtr Lease	700 MAILFINANCE, INC. 1	Paid	1,163.16
A001-410-5305-000 - Equipment Rental	*** Account total ***		1,163.16
A001-410-5402-000 - Travel & Training			
21547 2/19/14 Solvang-State City Lun	464 SOLVANG CHAMBER OF COMMERCE 1	Paid	150.00
A001-410-5402-000 - Travel & Training	*** Account total ***		150.00
A001-410-5602-000 - Internet Access/ Website Maint			
21548 1/19/14-2/18/14 Summary Billin	555 VERIZON CALIFORNIA 1	Paid	169.99
A001-410-5602-000 - Internet Access/ Website Maint	*** Account total ***		169.99
A001-410-5603-000 - Computer Maintenance &Software			
21506 thru 1/17/14 M. Bierdzinski	193 FIRST NATIONAL BANK OF OMAHA 3	Paid	100.00
21601 12/13 Comp Maint-Tom/PW/Fin	655 COAST NETWORX, INC. 1	Paid	190.00
A001-410-5603-000 - Computer Maintenance &Software	*** Account total ***		290.00

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A001-410-5701-000	- Telephone				
	21548 1/19/14-2/18/14 Summary Billin	555	VERIZON CALIFORNIA		
		2		Paid	327.22
A001-410-5701-000	- Telephone		*** Account total ***		327.22
A001-410-5702-000	- Utilities - Gas				
	21578 12/27/13-1/29/14 CH Gas Chgs	507	THE GAS COMPANY		
		1		Paid	94.08
A001-410-5702-000	- Utilities - Gas		*** Account total ***		94.08
A001-410-5805-000	- Visitors Bureau				
	21610 12/13 TOT Allocation	121	COC/BBA/VISITORS INFORMATION		
		1		Paid	20,759.18
A001-410-5805-000	- Visitors Bureau		*** Account total ***		20,759.18
A001-410-5808-000	- Misc Recognition Items				
	21509 thru 1/17/14 L. Reid	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	215.50
A001-410-5808-000	- Misc Recognition Items		*** Account total ***		215.50
A001-410-6301-000	- Miscellaneous				
	21508 thru 1/17/14 R. Hess	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	322.06
	21509 thru 1/17/14 L. Reid	193	FIRST NATIONAL BANK OF OMAHA		
		3		Paid	23.96
	21567 2/14 Petty Cash Reimbursement	372	PETTY CASH		
		2		Paid	39.31
	21569 12/13 Credit Card Proc Fee	529	TRANSFIRST HEALTH & GOVERNMENT		
		1		Paid	306.79
	21572 1/14 Misc Maint Items	387	ALBERTSONS, LLC.		
		1		Paid	79.14
	21586 1/14 Misc Supplies	438	SANTA YNEZ VALLEY HARDWARE		
		5		Paid	7.01
	21602 1/14 Misc Maint/Repair Items	76	CAL-COAST IRRIGATION, INC.		
		2		Paid	1.56
A001-410-6301-000	- Miscellaneous		*** Account total ***		779.83
A001-420-5101-000	- Medical Benefit				
	21604 12/13 FSA Fees	782	WAGE WORKS		
		3		Paid	18.36
A001-420-5101-000	- Medical Benefit		*** Account total ***		18.36
A001-420-5301-000	- Office Supplies				
	21506 thru 1/17/14 M. Bierzinski	193	FIRST NATIONAL BANK OF OMAHA		
		4		Paid	38.33
	21525 1/14 Supplies #7001052336	469	STAPLES CONTRACT & COMMERCIAL,		
		2		Paid	89.35
	21528 1/14 Supplies #7001024373	469	STAPLES CONTRACT & COMMERCIAL,		
		1		Paid	15.54
	21530 1/14 Supplies #7001013847	469	STAPLES CONTRACT & COMMERCIAL,		
		1		Paid	9.17
A001-420-5301-000	- Office Supplies		*** Account total ***		152.39

Obligat'n Description	Vendor/ Name/ Line Nbr Description	Stage	Amount
A001-420-6201-000 - Contract Services			
21523 FY13-14 3rd Qtr Sales Tax Audi	227 HINDERLITER, DE LLAMAS & ASSOC		
	1	Paid	1,188.05
A001-420-6201-000 - Contract Services	*** Account total ***		1,188.05
A001-420-6301-000 - Miscellaneous			
21567 2/14 Petty Cash Reimbursement	372 PETTY CASH		
	3	Paid	12.35
A001-420-6301-000 - Miscellaneous	*** Account total ***		12.35
A001-501-6201-000 - Contract Services			
21583 2/14 Contract Svcs	450 SB CO SHERIFF'S DEPARTMENT		
	1	Paid	140,204.33
21584 1/14 Overtime Chgs	450 SB CO SHERIFF'S DEPARTMENT		
	1	Paid	341.03
A001-501-6201-000 - Contract Services	*** Account total ***		140,545.36
A001-501-6208-000 - Contract Services - Fire Dept			
21512 1/14-3/14 Firefighter/Paramedi	448 SB CO FIRE DEPARTMENT		
	1	Paid	47,058.00
A001-501-6208-000 - Contract Services - Fire Dept	*** Account total ***		47,058.00
A001-501-6210-000 - Contract Svcs - Police -CA IGG			
21513 12/13 Motorcycle Maint #5520	450 SB CO SHERIFF'S DEPARTMENT		
	1	Paid	64.51
A001-501-6210-000 - Contract Svcs - Police -CA IGG	*** Account total ***		64.51
A001-510-5702-000 - Utilities - Gas			
21579 12/27/13-1/29/14 Lib/CC Gas Ch	507 THE GAS COMPANY		
	1	Paid	111.95
21581 1/14 Lib/CC Drinking Water	32 NESTLE WATERS NORTH AMERICA db		
	1	Paid	34.21
A001-510-5702-000 - Utilities - Gas	*** Account total ***		146.16
A001-511-5101-000 - Medical Benefit			
21604 12/13 FSA Fees	782 WAGE WORKS		
	4	Paid	18.38
A001-511-5101-000 - Medical Benefit	*** Account total ***		18.38
A001-511-5301-000 - Office Supplies			
21525 1/14 Supplies #7001052336	469 STAPLES CONTRACT & COMMERCIAL,		
	5	Paid	28.38
21528 1/14 Supplies #7001024373	469 STAPLES CONTRACT & COMMERCIAL,		
	3	Paid	14.02
21534 1/14 Contract Overage - Rec Ct	118 COASTAL COPY, LP		
	1	Paid	132.79
21567 2/14 Petty Cash Reimbursement	372 PETTY CASH		
	4	Paid	6.48
A001-511-5301-000 - Office Supplies	*** Account total ***		181.67

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A001-511-5306-000	- Advertising				
	21524 1/14 Rec Ctr Ads	280	LEE CENTRAL COAST NEWSPAPERS		
		1		Paid	641.55
A001-511-5306-000	- Advertising		*** Account total ***		641.55
A001-511-5506-000	- Fuel-Vehicles				
	21507 thru 1/17/14 B. Knecht	193	FIRST NATIONAL BANK OF OMAHA		
		3		Paid	58.08
	21585 1/14 Fuel Charges	768	WEX BANK		
		4		Paid	87.10
A001-511-5506-000	- Fuel-Vehicles		*** Account total ***		145.18
A001-511-5509-000	- Maintenance/Repair				
	21505 thru 1/17/14 K. Abello	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	294.85
	21507 thru 1/17/14 B. Knecht	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	284.23
	21586 1/14 Misc Supplies	438	SANTA YNEZ VALLEY HARDWARE		
		4		Paid	28.37
A001-511-5509-000	- Maintenance/Repair		*** Account total ***		607.45
A001-511-5509-001	- Maintenance/Repair-Joint Use				
	21549 1/14 Flags	47	BETSY ROSS FLAG GIRLS, INC.		
		1		Paid	71.28
	21550 1/14 Flags	47	BETSY ROSS FLAG GIRLS, INC.		
		1		Paid	106.70
	21551 1/14 Flag Return CM	47	BETSY ROSS FLAG GIRLS, INC.		
		1		Paid	-35.10
A001-511-5509-001	- Maintenance/Repair-Joint Use		*** Account total ***		142.88
A001-511-5603-000	- Computer Maint & Software				
	21505 thru 1/17/14 K. Abello	193	FIRST NATIONAL BANK OF OMAHA		
		2		Paid	57.45
A001-511-5603-000	- Computer Maint & Software		*** Account total ***		57.45
A001-511-5701-000	- Telephone/Internet				
	21570 1/25/14-2/24/14 Phone/Int-Rec	122	COMCAST CABLE		
		1		Paid	163.92
	21573 12/26/13-1/25/14 Abello Cell P	473	SPRINT SPECTRUM, L.P. dba		
		1		Paid	33.94
A001-511-5701-000	- Telephone/Internet		*** Account total ***		197.86
A001-511-5801-000	- Buellton Recreation Program				
	21505 thru 1/17/14 K. Abello	193	FIRST NATIONAL BANK OF OMAHA		
		3		Paid	996.56
	21510 thru 1/17/14 P. Smith	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	66.75
	21565 1/14 Reimb Zone Movie Night Ex	0	HENRY ALVARADO		
		1		Paid	79.13
	21567 2/14 Petty Cash Reimbursement	372	PETTY CASH		
		5		Paid	8.54
A001-511-5801-000	- Buellton Recreation Program		*** Account total ***		1,150.98

Obligat'n Description	Vendor/ Name/ Line Nbr Description	Stage	Amount
A001-511-5801-001 - Recreation Program 50/50 21505 thru 1/17/14 K. Abello	193 FIRST NATIONAL BANK OF OMAHA 4	Paid	750.37
A001-511-5801-001 - Recreation Program 50/50	*** Account total ***		750.37
A001-511-5802-000 - Buellton Rec Program Trips 21507 thru 1/17/14 B. Knecht	193 FIRST NATIONAL BANK OF OMAHA 2	Paid	-292.30
21546 2/14 Refund-Trampoline Trip	0 LIZ CLARK 1	Paid	25.00
21567 2/14 Petty Cash Reimbursement	372 PETTY CASH 6	Paid	29.00
A001-511-5802-000 - Buellton Rec Program Trips	*** Account total ***		-238.30
A001-511-6201-000 - Contract Services 21539 1/14 Install Computer - P&R	655 COAST NETWORKX, INC. 1	Paid	475.00
21540 1/14 Desktop Computer - P&R	655 COAST NETWORKX, INC. 1	Paid	862.92
A001-511-6201-000 - Contract Services	*** Account total ***		1,337.92
A001-551-6201-000 - Contract Services 21555 12/13 Storm Water Mgmt Plan	326 MNS ENGINEERS, INC. 1	Paid	17,760.00
A001-551-6201-000 - Contract Services	*** Account total ***		17,760.00
A001-552-5509-001 - Maintenance/Repair-Riverview 21514 1/14 Misc Maint Items & Unifor	187 FARM SUPPLY COMPANY 2	Paid	129.44
21516 1/14 Misc Maint/Repair Items	342 NIELSEN BUILDING MATERIALS, INC 2	Paid	116.64
21605 1/14 Misc Maint/Repair Items	521 TODD PIPE & SUPPLY 1	Paid	243.88
A001-552-5509-001 - Maintenance/Repair-Riverview	*** Account total ***		489.96
A001-552-5704-000 - Utilities - Water 21574 1/13 Irrig-Oak Valley Elem/Par	105 CITY OF BUELLTON 1	Paid	678.57
A001-552-5704-000 - Utilities - Water	*** Account total ***		678.57
A001-552-6201-000 - Contract Services 21520 10/13 Irrig Labor-Riverview-Oa	781 VALLEY CREST LANDSCAPE MAINT, 1	Paid	880.00
21594 2/14 Landscape Maint	781 VALLEY CREST LANDSCAPE MAINT, 2	Paid	2,720.00
21595 1/24/14 Pest Control-Various	3 804 ANIMAL & INSECT PEST MANAGEMEN 1	Paid	1,277.00
A001-552-6201-000 - Contract Services	*** Account total ***		149.50
			5,026.50

Obligat'n Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A001-556-6201-000 - Contract Services				
21594 2/14 Landscape Maint	781	VALLEY CREST LANDSCAPE MAINT.		
	1		Paid	4,675.00
A001-556-6201-000 - Contract Services		*** Account total ***		4,675.00
A001-557-6101-000 - Development Permit Processing				
21562 12/13 Small Permits	326	MNS ENGINEERS, INC.		
	1		Paid	520.00
A001-557-6101-000 - Development Permit Processing		*** Account total ***		520.00
A001-557-6201-000 - Contract Services				
21552 12/13 City Engineer/Public Wor	326	MNS ENGINEERS, INC.		
	1		Paid	4,578.75
A001-557-6201-000 - Contract Services		*** Account total ***		4,578.75
A001-558-5101-000 - Medical Benefit				
21604 12/13 FSA Fees	782	WAGE WORKS		
	5		Paid	9.80
A001-558-5101-000 - Medical Benefit		*** Account total ***		9.80
A001-558-5301-000 - Office Supplies				
21508 thru 1/17/14 R. Hess	193	FIRST NATIONAL BANK OF OMAHA		
	2		Paid	32.27
21525 1/14 Supplies #7001052336	469	STAPLES CONTRACT & COMMERCIAL,		
	3		Paid	24.38
21526 12/13 Supplies #7000898001	469	STAPLES CONTRACT & COMMERCIAL,		
	2		Paid	13.06
21527 12/13 Supplies #7000898059	469	STAPLES CONTRACT & COMMERCIAL,		
	1		Paid	25.37
21529 1/14 Supplies #7001013840	469	STAPLES CONTRACT & COMMERCIAL,		
	3		Paid	22.42
21531 1/14 Supplies #7001024374	469	STAPLES CONTRACT & COMMERCIAL,		
	1		Paid	50.96
A001-558-5301-000 - Office Supplies		*** Account total ***		168.46
A001-558-5402-000 - Travel & Training				
21508 thru 1/17/14 R. Hess	193	FIRST NATIONAL BANK OF OMAHA		
	3		Paid	48.31
A001-558-5402-000 - Travel & Training		*** Account total ***		48.31
A001-558-5501-000 - Operational Supplies				
21586 1/14 Misc Supplies	438	SANTA YNEZ VALLEY HARDWARE		
	1		Paid	23.72
A001-558-5501-000 - Operational Supplies		*** Account total ***		23.72
A001-558-5503-000 - Tools				
21544 2/14 Reimb-Phone Case	396	RAY OCHOA		
	1		Paid	21.59
21545 2/14 Reimb-Phone Case	255	JOE MEEHAN		
	1		Paid	21.59

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A001-558-5503-000	- Tools		*** Continued ***		
	21586 1/14 Misc Supplies	438	SANTA YNEZ VALLEY HARDWARE		
		3		Paid	67.21
A001-558-5503-000	- Tools		*** Account total ***		110.39
A001-558-5504-000	- Laundry / Uniforms				
	21514 1/14 Misc Maint Items & Unifor	187	FARM SUPPLY COMPANY		
		1		Paid	43.14
A001-558-5504-000	- Laundry / Uniforms		*** Account total ***		43.14
A001-558-5506-000	- Fuel - Vehicles				
	21585 1/14 Fuel Charges	768	WEX BANK		
		1		Paid	510.31
A001-558-5506-000	- Fuel - Vehicles		*** Account total ***		510.31
A001-558-5507-000	- Maintenance - Vehicles				
	21518 1/14 Misc Maint/Repair Items	59	MOTOR PRODUCTS INC. dba		
		1		Paid	18.17
	21537 1/14 Battery Replace-2007 Satu	765	VICTOR RODRIGUEZ dba		
		1		Paid	67.20
	21541 1/14 New Seat-2000 Ford Truck	350	OLIVERA'S REPAIR, INC		
		1		Paid	111.00
A001-558-5507-000	- Maintenance - Vehicles		*** Account total ***		196.37
A001-558-5509-000	- Maintenance / Repair				
	21516 1/14 Misc Maint/Repair Items	342	NIELSEN BUILDING MATERIALS, INC		
		3		Paid	30.99
	21564 12/13 Install Baby Chnge Stati	294	LOMPOC PUBLIC LIBRARY		
		1		Paid	204.96
	21586 1/14 Misc Supplies	438	SANTA YNEZ VALLEY HARDWARE		
		2		Paid	46.27
	21590 1/14 Plumbing Repair-Lib/CC	791	FRED H. BELEN JR. dba		
		1		Paid	568.75
	21599 1/14 Gate Code Change-WTP	778	KELCOLE MANUFACTURING CORP. db		
		1		Paid	118.50
	21605 1/14 Misc Maint/Repair Items	521	TODD PIPE & SUPPLY		
		2		Paid	84.08
A001-558-5509-000	- Maintenance / Repair		*** Account total ***		1,053.55
A001-558-5603-000	- Computer Maintenance &Software				
	21538 1/14 Operator Desk Computer	655	COAST NETWORKX, INC.		
		3		Paid	287.64
A001-558-5603-000	- Computer Maintenance &Software		*** Account total ***		287.64
A001-558-6201-000	- Contract Services				
	21561 12/13 AOF-Oak Valley-Traffic S	326	MNS ENGINEERS, INC.		
		1		Paid	9,325.00
	21575 1/14 Svcs. - 2/14 Msgs.	172	ECHO COMMUNICATIONS		
		1		Paid	24.20
	21580 1/14 CH Drinking Water	32	NESTLE WATERS NORTH AMERICA db		
		3	Surplus	Paid	25.06

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A001-558-6201-000	- Contract Services		*** Continued ***		
	21582 1/14 Plng Drinking Water	32	NESTLE WATERS NORTH AMERICA db		
		1		Paid	7.14
	21589 1/14 Mat & Towel Svcs	28	ARAMARK UNIFORM SERVICES		
		2	Surplus	Paid	280.86
	21592 2/14 Rodent Cntrl/Post Office	669	HYDREX PEST CONTROL		
		1		Paid	105.00
	21593 1/14 Christmas Tree Mulching	781	VALLEY CREST LANDSCAPE MAINT.		
		1		Paid	1,000.00
	21596 2/14 Street Sweeping Svcs	465	SP MAINTENANCE SERVICES, INC.		
		1		Paid	2,821.00
	21598 1/14 CH/Plng/CC/Lib Janitorial	142	DANIEL FITZGERALD dba		
		1	Surplus	Paid	1,010.00
A001-558-6201-000	- Contract Services		*** Account total ***		14,598.26
A001-565-5101-000	- Medical Benefit				
	21604 12/13 FSA Fees	782	WAGE WORKS		
		6		Paid	18.38
A001-565-5101-000	- Medical Benefit		*** Account total ***		18.38
A001-565-5301-000	- Office Supplies				
	21506 thru 1/17/14 M. Bierdzinski	193	FIRST NATIONAL BANK OF OMAHA		
		5		Paid	38.34
	21525 1/14 Supplies #7001052336	469	STAPLES CONTRACT & COMMERCIAL,		
		4		Paid	53.99
	21526 12/13 Supplies #7000898001	469	STAPLES CONTRACT & COMMERCIAL,		
		1		Paid	17.36
	21529 1/14 Supplies #7001013840	469	STAPLES CONTRACT & COMMERCIAL,		
		1		Paid	59.05
A001-565-5301-000	- Office Supplies		*** Account total ***		168.74
A001-565-5305-000	- Equipment Rental				
	21535 1/21/14-2/20/14 Plng Copier Le	744	GE CAPITAL INFO TECH SOLUTIONS		
		1		Paid	500.05
A001-565-5305-000	- Equipment Rental		*** Account total ***		500.05
A001-565-5401-000	- Membership & Publications				
	21506 thru 1/17/14 M. Bierdzinski	193	FIRST NATIONAL BANK OF OMAHA		
		2		Paid	550.00
A001-565-5401-000	- Membership & Publications		*** Account total ***		550.00
A001-565-5402-000	- Travel & Training				
	21506 thru 1/17/14 M. Bierdzinski	193	FIRST NATIONAL BANK OF OMAHA		
		1		Paid	625.00
	21567 2/14 Petty Cash Reimbursement	372	PETTY CASH		
		7		Paid	27.00
A001-565-5402-000	- Travel & Training		*** Account total ***		652.00
A001-565-5701-000	- Telephone				
	21548 1/19/14-2/18/14 Summary Billin	555	VERIZON CALIFORNIA		
		3		Paid	387.41
A001-565-5701-000	- Telephone		*** Account total ***		387.41

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A005-701-5101-000	- Medical Benefit				
	21604 12/13 FSA Fees	782	WAGE WORKS		
		7		Paid	7.35
A005-701-5101-000	- Medical Benefit		*** Account total ***		7.35
A005-701-5303-000	- Postage				
	21566 2/14 Postage Water-Sewer Bill	379	POSTMASTER		
		1		Paid	330.00
	21567 2/14 Petty Cash Reimbursement	372	PETTY CASH		
		8		Paid	11.42
A005-701-5303-000	- Postage		*** Account total ***		341.42
A005-701-5501-000	- Operational Supplies				
	21521 1/14 Misc Maint Items	110	CVS PHARMACY		
		2		Paid	11.86
A005-701-5501-000	- Operational Supplies		*** Account total ***		11.86
A005-701-5502-000	- Chemicals / Analysis				
	21515 1/14 Parts Washer/Maint Items	429	SAFETY-KLEEN CORP.		
		1		Paid	311.17
	21542 1/14 Two 55 Gal Drums-Hydroflo	27	AQUA BEN CORPORATION		
		1		Paid	1,244.16
	21543 1/14 Cylinder Rental	380	PRAXAIR DISTRIBUTION, INC.		
		1		Paid	67.36
	21603 1/14 Chemicals/Analysis	5	ABALONE COAST ANALYTICAL, INC.		
		1		Paid	497.50
A005-701-5502-000	- Chemicals / Analysis		*** Account total ***		2,120.19
A005-701-5503-000	- Tools				
	21514 1/14 Misc Maint Items & Unifor	187	FARM SUPPLY COMPANY		
		3		Paid	10.78
A005-701-5503-000	- Tools		*** Account total ***		10.78
A005-701-5504-000	- Laundry / Uniforms				
	21514 1/14 Misc Maint Items & Unifor	187	FARM SUPPLY COMPANY		
		4		Paid	43.15
A005-701-5504-000	- Laundry / Uniforms		*** Account total ***		43.15
A005-701-5506-000	- Fuel - Vehicles				
	21585 1/14 Fuel Charges	768	WEX BANK		
		2		Paid	510.31
A005-701-5506-000	- Fuel - Vehicles		*** Account total ***		510.31
A005-701-5507-000	- Maintenance - Vehicles				
	21537 1/14 Battery Replace-2007 Satu	765	VICTOR RODRIGUEZ dba		
		2		Paid	67.20
	21541 1/14 New Seat-2000 Ford Truck	350	OLIVERA'S REPAIR, INC		
		2		Paid	111.00
A005-701-5507-000	- Maintenance - Vehicles		*** Account total ***		178.20

Obligat'n	Description	Vendor/ Name/ Line Nbr Description	Stage	Amount
A005-701-5509-000	- Maintenance / Repair			
	21518 1/14 Misc Maint/Repair Items	59 MOTOR PRODUCTS INC. dba 2	Paid	4.44
	21588 1/14 Excavator Rental-WTP Repa	551 VALLEY TOOL RENTALS 1	Paid	558.00
	21599 1/14 Gate Code Change-WTP	778 KELCOLE MANUFACTURING CORP. db 2	Paid	118.50
	21602 1/14 Misc Maint/Repair Items	76 CAL-COAST IRRIGATION, INC. 1	Paid	108.96
	21605 1/14 Misc Maint/Repair Items	521 TODD PIPE & SUPPLY 3	Paid	502.86
A005-701-5509-000	- Maintenance / Repair	*** Account total ***		1,292.76
A005-701-5603-000	- Computer Maintenance &Software			
	21538 1/14 Operator Desk Computer	655 COAST NETWORK, INC. 2	Paid	287.64
A005-701-5603-000	- Computer Maintenance &Software	*** Account total ***		287.64
A005-701-5701-000	- Telephone			
	21548 1/19/14-2/18/14 Summary Billin	555 VERIZON CALIFORNIA 4	Paid	586.48
A005-701-5701-000	- Telephone	*** Account total ***		586.48
A005-701-6201-000	- Contract Services			
	21519 1/14 Dig Alert Tickets	535 UNDERGROUND SERVICE ALERT 1	Paid	15.75
	21575 1/14 Svcs. - 2/14 Msgs.	172 ECHO COMMUNICATIONS 2	Paid	24.20
	21580 1/14 CH Drinking Water	32 NESTLE WATERS NORTH AMERICA db 1 CITY HALL DRINKING WATER	Paid	8.35
	21589 1/14 Mat & Towel Svcs	28 ARAMARK UNIFORM SERVICES 1 MAT & TOWEL SVCS	Paid	70.21
	21591 1/14 Sludge Disposal Svcs	598 ENGEL & GRAY, INC. 1	Paid	4,729.79
	21597 2/14 WWTP/Wtr Sample Deliverie	679 COURIER SYSTEMS 1	Paid	68.85
A005-701-6201-000	- Contract Services	*** Account total ***		4,917.15
A005-701-6202-000	- Contract Services-Engineering			
	21554 12/13 Sewer Network	326 MNS ENGINEERS, INC. 1	Paid	110.00
A005-701-6202-000	- Contract Services-Engineering	*** Account total ***		110.00
A005-701-6508-000	- Equipment			
	21600 1/14 Purge/Sampling Pump	543 USA BLUEBOOK 1	Paid	147.55
A005-701-6508-000	- Equipment	*** Account total ***		147.55
A020-601-5101-000	- Medical Benefit			
	21604 12/13 FSA Fees	782 WAGE WORKS 8	Paid	7.35
A020-601-5101-000	- Medical Benefit	*** Account total ***		7.35

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A020-601-5303-000	- Postage				
	21566 2/14 Postage Water-Sewer Billi	379	POSTMASTER		
		2		Paid	330.00
	21567 2/14 Petty Cash Reimbursement	372	PETTY CASH		
		9		Paid	11.42
A020-601-5303-000	- Postage		*** Account total ***		341.42
A020-601-5501-000	- Operational Supplies				
	21517 1/14 Quinplex White Oil	281	LUBRICATION ENGINEERS, INC.		
		1		Paid	488.27
A020-601-5501-000	- Operational Supplies		*** Account total ***		488.27
A020-601-5502-000	- Chemicals / Analysis				
	21543 1/14 Cylinder Rental	380	PRAXAIR DISTRIBUTION, INC.		
		2		Paid	67.36
	21603 1/14 Chemicals/Analysis	5	ABALONE COAST ANALYTICAL, INC.		
		2		Paid	875.00
A020-601-5502-000	- Chemicals / Analysis		*** Account total ***		942.36
A020-601-5504-000	- Laundry / Uniforms				
	21514 1/14 Misc Maint Items & Unifor	187	FARM SUPPLY COMPANY		
		5		Paid	43.15
A020-601-5504-000	- Laundry / Uniforms		*** Account total ***		43.15
A020-601-5506-000	- Fuel - Vehicles				
	21585 1/14 Fuel Charges	768	WEX BANK		
		3		Paid	510.31
A020-601-5506-000	- Fuel - Vehicles		*** Account total ***		510.31
A020-601-5507-000	- Maintenance - Vehicles				
	21537 1/14 Battery Replace-2007 Satu	765	VICTOR RODRIGUEZ dba		
		3		Paid	67.20
	21541 1/14 New Seat-2000 Ford Truck	350	OLIVERA'S REPAIR, INC		
		3		Paid	111.00
A020-601-5507-000	- Maintenance - Vehicles		*** Account total ***		178.20
A020-601-5509-000	- Maintenance / Repair				
	21605 1/14 Misc Maint/Repair Items	521	TODD PIPE & SUPPLY		
		4		Paid	45.38
A020-601-5509-000	- Maintenance / Repair		*** Account total ***		45.38
A020-601-5603-000	- Computer Maintenance &Software				
	21538 1/14 Operator Desk Computer	655	COAST NETWORK, INC.		
		1		Paid	287.64
A020-601-5603-000	- Computer Maintenance &Software		*** Account total ***		287.64
A020-601-5701-000	- Telephone				
	21548 1/19/14-2/18/14 Summary Billin	555	VERIZON CALIFORNIA		
		5		Paid	839.08
A020-601-5701-000	- Telephone		*** Account total ***		839.08

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount	
A020-601-6201-000 - Contract Services						
21519	1/14 Dig Alert Tickets	535	UNDERGROUND SERVICE ALERT			
		2		Paid	15.75	
21536	1/14 consult-Rebuild Backwash	718	AUTOSYS, INC.			
		1		Paid	960.00	
21575	1/14 Svcs. - 2/14 Msgs.	172	ECHO COMMUNICATIONS			
		3		Paid	24.20	
21580	1/14 CH Drinking Water	32	NESTLE WATERS NORTH AMERICA db			
		2	CITY HALL DRINKING WATER	Paid	8.35	
21597	2/14 WWTP/Wtr Sample Deliverie	679	COURIER SYSTEMS			
		2		Paid	68.85	
A020-601-6201-000 - Contract Services					*** Account total ***	1,077.15
A027-559-6212-000 - Lompoc- Wine Country Express						
21568	02/14 Transit Svcs	107	CITY OF LOMPOC			
		1		Paid	1,666.66	
A027-559-6212-000 - Lompoc- Wine Country Express					*** Account total ***	1,666.66
A029-557-6201-000 - Contract Services						
21553	12/13 Transportation Planning	326	MNS ENGINEERS, INC.			
		1		Paid	1,815.00	
A029-557-6201-000 - Contract Services					*** Account total ***	1,815.00
A051-566-5509-000 - Maintenance / Repair						
21522	2/14 HOA Dues- Unit 101 (Chamb	582	VINTAGE WALK, LLC OWNERS ASSOC			
		1		Paid	104.00	
A051-566-5509-000 - Maintenance / Repair					*** Account total ***	104.00
A051-566-5702-000 - Utilities - Gas						
21577	12/26/13-1/28/14 COC Gas Chgs	507	THE GAS COMPANY			
		1		Paid	63.78	
A051-566-5702-000 - Utilities - Gas					*** Account total ***	63.78
A092-301-6507-000 - Improvements						
21560	12/13 2012-13 Road Maint Proje	326	MNS ENGINEERS, INC.			
		1		Paid	1,230.00	
A092-301-6507-000 - Improvements					*** Account total ***	1,230.00
A092-303-6507-000 - Improvements						
21516	1/14 Misc Maint/Repair Items	342	NIELSEN BUILDING MATERIALS, INC			
		1		Paid	1,049.76	
A092-303-6507-000 - Improvements					*** Account total ***	1,049.76
A092-306-6507-000 - Improvements						
21556	12/13 Ped Safety Impr-246/Syca	326	MNS ENGINEERS, INC.			
		1		Paid	8,227.50	
A092-306-6507-000 - Improvements					*** Account total ***	8,227.50
A092-602-6507-000 - Improvements						
21558	12/13 Reservoir 1&2 Roof Repai	326	MNS ENGINEERS, INC.			
		1		Paid	1,705.00	
A092-602-6507-000 - Improvements					*** Account total ***	1,705.00

Obligat'n	Description	Vendor/ Line Nbr	Name/ Description	Stage	Amount
A092-704-6507-000 - Improvements	21559 12/13 Sewerline Replce-Flying	326	MNS ENGINEERS, INC.		
		1		Paid	7,032.50
A092-704-6507-000 - Improvements			*** Account total ***		7,032.50
A092-705-6507-000 - Improvements	21557 12/13 WWTP Headworks Impr	326	MNS ENGINEERS, INC.		
		1		Paid	8,735.00
A092-705-6507-000 - Improvements			*** Account total ***		8,735.00
* Report total *			*** Total ***		352,533.72

Payments via Electronic Fund Transfer (EFT):

FSA-Staff	2/3/14	687.46
Health Premium	2/4/14	15,779.86
Deferred Compensation Plan	2/4/14	14,178.04
Staff Payroll Taxes	2/4/14	10,442.80
Other Payroll Taxes	2/6/14	41.56
Retirement Contribution	2/6/14	20,424.52
Aflac Sup Ins	2/6/14	826.03
Feb Life Ins Prem-Staff	2/7/14	442.38
Staff Payroll Taxes	2/19/14	10,017.38
Other Payroll Taxes	2/19/14	104.62
<b>Total</b>		<b>\$ 72,944.65</b>

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 3

To: The Honorable Mayor and City Council

From: Carolyn Galloway-Cooper, Finance Director

Meeting Date: February 27, 2014

Subject: Revenue and Expenditure Reports through January 31, 2014

---

**BACKGROUND**

Council directed staff to provide monthly Revenue and Expenditure Reports beginning in January 2014. The attached report compares month-to-month data covering the period July through January 31, 2014. Staff will submit this report to Council on the second Council meeting of each month and post to the City's website.

**FISCAL IMPACT**

The Revenue and Expenditure report provides the community with an understanding of the financial activity of the City's funds on a monthly basis.

**RECOMMENDATION**

That the City Council receives and files this report for information purposes.

**ATTACHMENT**

Attachment 1 - Revenue and Expenditure Reports through January 31, 2014

# ATTACHMENT 1

City of Buellton  
 General Fund - Monthly Revenue (unaudited)  
 FY: 2013-14

cgc: 2 12 14

58%
2014

2013

Account Number	Description	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FY: 2013-14
001-301-4001-000	Property Tax - Secured			-	50,539		340,834							391,373
001-302-4002-000	Property Tax - Unsecured			-	35,901									35,901
001-309-4007-000	Homeowners Exemptions				-		1,048							1,048
001-310-4101-000	Franchise Fees	5,303	10,922	10,260	11,069	5,308	10,945							53,807
001-311-4102-000	Sales Tax	137,505	97,900	130,500	135,611	92,000								593,516
001-311-4115-000	Sales Tax Compensation	-	-	-	-	-								-
001-312-4103-000	Transient Occupancy Tax (TOT)	179,303	185,789	129,511	124,927	115,010	99,660							834,200
001-320-5801-000	Buellton Recreation Program	16,342	7,423	4,895	5,358	3,729	4,894	5,761						48,402
001-320-5801-001	Recreation Program (50/50)	8,752	3,478	4	843	-	4,335							17,412
001-320-5802-000	Buellton Rec Pgm Trips	2,934	3,033	4,088	7,850	1,866	2,615	2,872						25,258
001-321-4106-000	Property Transfer Tax	-	1,612	1,510	1,833	3,258	791	1,261						10,265
001-322-4107-000	Motor Vehicle in Lieu Tax			2,069	-									2,069
001-322-4116-000	MV License Fee			-	-									-
001-325-5814-000	Park Reservation Fees	240	2,520	600	440	400		440						4,640
001-333-4506-000	CA Indian Gaming Grant			-										-
001-333-4508-000	COPS Grant			-										-
001-340-4401-000	Criminal Fines and Penalties	-	-	4,556	-	6,878	2,603	3,000						17,037
001-342-4402-000	Fines and Fees		460	627				590						1,677
001-345-4904-000	Interest	-	-	5,949	-	-	4,922	955						11,826
001-346-4905-000	Rent	4,489	5,739	5,739	5,739	1,250	10,228	5,739						38,923
001-347-4801-000	Law Enforcement Cost Recovery	10	-	19	10		38	10						87
001-348-4403-000	Event Applic Fee/Temp Use	200	155	100	200			100						755
001-357-4802-000	Zoning Clearance	180	180	45	90	45	115							655
001-357-4803-000	Document Sales	260	65	-	-	600								925
001-357-4806-000	Time Extension Fees							390						390
001-357-4801-110	Crossroads at the Village		-		-									-
001-357-4808-000	Code Enforcement Fines				100									100
001-376-4908-000	CA Prop 1B Revenue				-									-
001-378-4205-000	Small Permits	1,500	750	200	1,000	500	1,000							4,950
001-390-4917-000	Miscellaneous		3,810		-	9		250						4,069
001-390-4918-000	Cost Reimbursement	2,741			-									2,741
001-395-4921-000	Transfer from Water & Sewer				-			29,000						29,000
<b>TOTAL REVENUE (Actual through January):</b>		<b>359,759</b>	<b>323,836</b>	<b>300,672</b>	<b>381,510</b>	<b>230,853</b>	<b>484,028</b>	<b>50,368</b>						<b>2,131,026</b>

Percentage Received: 38%  
 Budget: 5,625,065

City of Buellton  
 General Fund Monthly Expenditures ( Unaudited)  
 FY: 2013-14

cgc: 2 12 14

58%  
 2014

2013

Department No.	Description	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	FY: 2013-14
001-401	City Council	6,744	12,191	11,602	8,262	10,538	9,532	7,904						66,773
001-402	City Manager	11,627	16,330	16,822	16,902	18,102	16,498	16,669						112,950
001-403	City Clerk	5,250	8,967	8,133	7,810	12,164	9,971	7,899						60,194
001-404	City Attorney	-	30,732	-	31,346	31,100	9,873	103,051						206,102
001-410	Non-Departmental	36,890	3,655	46,815	50,210	34,538	34,538	67,645						274,291
001-420	Finance	19,512	29,260	57,405	49,292	35,514	31,507	14,979						237,469
001-501	Police and Fire	-	141,699	140,476	143,803	141,992	376,968	140,542						1,085,480
001-510	Library	-	342	372	355	328	87,529	306						89,232
001-511	Recreation	26,268	46,971	35,709	30,689	38,678	42,504	54,740						275,559
001-550	Street Lights	-	4,378	4,397	4,506	4,511	4,452	4,377						26,621
001-551	Storm Water	-	4,864	13,037	-	4,964	6,872	49,670						79,407
001-552	Public Works - Parks	13,972	9,115	11,141	8,976	3,762	7,496	10,549						65,011
001-556	Public Works - Landscape	5,000	5,814	6,257	10,220	1,343	5,571	9,949						44,154
001-557	Public Works - Engineering	-	5,453	13,380	-	-	-	25,901						44,734
001-558	Public Works - General	28,102	36,076	37,421	39,543	37,393	36,607	43,234						258,376
001-565	Planning/Community Dev	19,736	12,874	42,995	30,459	14,590	15,446	21,730						157,830
	Transfer to CIP fund 92	-	-	-	-	-	-	-						-
	<b>TOTAL EXPENDITURES (ACTUAL THROUGH JANUARY):</b>	<b>173,101</b>	<b>368,721</b>	<b>445,962</b>	<b>432,373</b>	<b>389,517</b>	<b>695,364</b>	<b>579,145</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>3,084,183</b>

Percentage spent:	59%
Budget	5,017,791
Amendments (1/23/14)	<u>200,900</u>
Amended Budget	<u><u>5,218,691</u></u>

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 4

To: The Honorable Mayor and City Council

From: Rose Hess, Public Works Director/City Engineer

Meeting Date: February 27, 2014

Subject: Acceptance of the Waste Water Treatment Plant (WWTP)  
Headworks Improvements Project

---

**BACKGROUND**

On May 23, 2013, the City Council awarded a contract to Fluid Resource Management in the amount of \$85,284.46 with an approved contingency of 10% for a total amount not to exceed \$93,812.91 for the WWTP Headworks Improvements Project. The project was substantially completed end of December 2013. This includes the installation of a spiral “Auger Monster” trash/debris removal and rinsing system with control panels and sensors. The installation involved construction of diverter channels to funnel flow to the auger and the necessary electrical and water supply trenching, conduit, wires, and connections. Staff has inspected the construction and is satisfied that the project plans and specifications have been met.

**FISCAL IMPACT**

The final construction cost of the project, including change orders, was \$85,326.53. Funding for the construction of the project was allocated from the Sewer Enterprise Fund.

**RECOMMENDATION**

That the City Council accept the WWTP Headworks Improvements Project and instruct the City Clerk to file the attached Notice of Completion.

**ATTACHMENT**

Attachment 1 - Notice of Completion

**NOTICE OF COMPLETION**

Notice is hereby given that:

1. The undersigned is the owner or corporate officer of the interest or estate hereinafter described:
  
2. The full name of the owner is: City of Buellton
  
3. The full address of the owner is: 107 West Highway 246  
P.O. Box 1819  
Buellton, California 93427
  
4. The nature of the interest or estate of the owner is "in fee"
  
5. A work of improvement on the property hereinafter was completed on December 31, 2013. The work done was the installation of a spiral "Auger Monster" trash/debris removal and rinsing system with control panels and sensors including construction of diverter channels to funnel flow to the auger and the necessary electrical and water supply trenching, conduit, wires, and connections.
  
6. The name of the contractor, if any, for such work of improvement was Fluid Resource Management.
  
7. The property on which said work of improvement was completed is 79 Industrial Way in the City of Buellton, County of Santa Barbara, State of California, and is described as the City Waste Water Treatment Plant.

Dated: \_\_\_\_\_  
Linda Reid, City Clerk

---

**VERIFICATION**

I, the undersigned, declare that I am the City Engineer of the declarant of the foregoing Notice of Completion. I have read said Notice of Completion and know the contents thereof and the same is true of my own knowledge. I declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, 2014, at \_\_\_\_\_,  
(Date of Signature) (City where signed)  
California.

---

Rose M. Hess, Public Works Director/City Engineer

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 5

To: The Honorable Mayor and City Council  
From: Marc Bierdzinski, City Manager  
Meeting Date: February 27, 2014  
Subject: Appointment of Council Member and Alternate to Association of California Water Agencies Joint Powers Insurance Authority (ACWA/JPIA) Board of Directors

---

**BACKGROUND**

In January, 2014, the City of Buellton became a member of ACWA/JPIA in order to enroll in their dental and vision programs. JPIA is governed by a Board of Directors composed of one representative and one alternate from each Member agency. Each Director or alternate representing a Member agency shall have one vote and shall serve until a successor is appointed and shall serve at the pleasure of the Member agency by which he or she has been appointed.

Because Council Member Andrisek currently serves on the Board of Directors for California Joint Powers Insurance Authority and Central Coast Water Authority, it seems appropriate that he be appointed to the JPIA Board of Directors. City Manager Marc Bierdzinski would serve as the alternate Member.

Staff has checked with JPIA and the appointed Member is not required to attend the annual Board meeting but will be invited to attend the ACWA Annual Conference and the JPIA Board meeting coincides with that event on May 5 in Monterey.

**FISCAL IMPACT**

There is no fiscal impact to the City, with the exception of travel expenses if the Member wants to attend the ACWA/JPIA annual conference.

**RECOMMENDATION**

That the City Council appoint Council Member Ed Andrisek as a representative of JPIA's Board of Directors and City Manager Marc Bierdzinski as the alternate representative.

**ATTACHMENT**

Attachment 1 – JPIA Board of Directors Member/Alternate Form

**JPIA Board of Directors - Member/Alternate**

An excerpt from the JPIA Agreement:

"Article 7 - Board of Directors"

- (a) The Authority shall be governed by the Board of Directors which is hereby established and which shall be composed of one representative from each Member, who shall be a Member director selected by the governing board of that Member. Each Member, in addition to appointing its member of the Board, shall appoint at least one alternate who shall be an officer, member of the governing board, or employee of that Member. The alternate appointed by a Member shall have the authority to attend and participate in any meeting of the Board when the regular member for whom he or she is an alternate is absent from said meeting.
- (b) Each Director or alternate of the Board shall serve until a successor is appointed. Each Director or alternate shall serve at the pleasure of the Member by which he or she has been appointed.
- (c) Each Director representing a Member, or his or her alternate, shall have one vote.

Please have you agency's Board of Directors designate a JPIA Director Representative and Alternate Representative.

Member Agency: City of Buellton

**JPIA Director Representative:** Council Member Ed Andrisek

Must be a member of the agency's board of directors.

Preferred mailing address: P.O. Box 1819  
Buellton, CA 93427

E-mail address: eda@cityofbuellton.com

Phone number: 805-688-5177

**JPIA Alternate Representative:** City Manager Marc Bierdzinski

Preferred mailing address: P.O. Box 1819  
Buellton, CA 93427

E-mail address: marcb@cityofbuellton.com

Phone number: (805) 688-5177

---

Please mail this form to: ACWA/JPIA, P.O. Box 619082, Roseville, CA 95661-9082

or FAX to: (916) 774-7040

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 6

To: The Honorable Mayor and City Council

From: Marc P. Bierdzinski, City Manager

Meeting Date: February 27, 2014

Subject: Resolution No. 14-04 – “A Resolution of the City Council of the City of Buellton, California, Adopting the Amended and Restated Guidelines of Procedure for Council Meetings and Related Functions and Activities”

---

**BACKGROUND**

At the City Council meeting of February 13, 2014, the City Council directed staff to prepare a resolution to consider clarifying the language of Section 2.6, Public Comments, and Section 2.7, Consent Calendar Agenda of the Guidelines of Procedure for Council Meetings and Related Functions and Activities (the “Guidelines”). The purpose of the revisions is to identify the method of public comment on Consent Calendar Agenda items.

The Guidelines were originally adopted in February of 1999 and, to date, there have been two (2) amendments to the Guidelines. To avoid any confusion with the multiple amendments to the Guidelines, the attached Resolution No. 14-04 readopts the entirety of the Guidelines to include the prior amendments, together with the above referenced amendments for the methods for public comment on the Consent Calendar (Exhibit A to Resolution No. 14-04).

**FISCAL IMPACT**

This agenda item will not have any fiscal impact on the City.

**RECOMMENDATION**

That the City Council consider approval of Resolution No. 14-04 – “A Resolution of the City Council of the City of Buellton, California, Adopting the Amended and Restated Guidelines of Procedure for Council Meetings and Related Functions and Activities”

**ATTACHMENT**

Resolution No. 14-04

**RESOLUTION NO. 14-04**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BUELLTON, CALIFORNIA, ADOPTING THE AMENDED AND RESTATED GUIDELINES OF PROCEDURE FOR COUNCIL MEETINGS AND RELATED FUNCTIONS AND ACTIVITIES**

**WHEREAS**, Section 2.04.040 of the Buellton Municipal Code requires that the City Council adopt guidelines of procedure to govern the conduct of its meetings and any of its other functions and activities, and regulations pertaining thereto; and

**WHEREAS**, California Government Code Section 65804 requires all cities and counties to have adopted procedures for the conduct of zoning hearings; and

**WHEREAS**, the City Council desires to have uniform procedures for the conduct of hearings at City Council meetings so that all individuals and persons appearing before the City Council are treated fairly and equally; and

**WHEREAS**, on February 25, 1999, the City Council adopted its Resolution No. 99-05 setting forth the "City of Buellton Guidelines of Procedure for Council Meetings and Related Functions and Activities" (the "Guidelines"). On May 9, 2002, the City Council adopted its Resolution No. 02-11 for Amendment No. 1 to the Guidelines. On August 9, 2012, the City Council adopted its Resolution No. 12-22 for Amendment No. 3 to the Guidelines (proposed Amendment No. 2 failed to be adopted); and

**WHEREAS**, it is the desire of the City Council to further amend the Guidelines to clarify the public comment procedures on Consent Agenda items.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Buellton does hereby resolve, determine, and order as follows:

**SECTION 1.** The City Council hereby finds that the above recitations are true and correct and, accordingly, are incorporated as a material part of this Resolution.

**SECTION 2.** The City Council hereby adopts the amended and restated City of Buellton Guidelines of Procedure for Council Meetings and Related Functions and Activities attached hereto, marked as **Exhibit A**, and incorporated herein by this reference.

**SECTION 3.** Upon the effective date of this Resolution, Resolution Nos. 99-05, 02-11 and 12-22 are hereby repealed.

**SECTION 4.** The City Clerk shall certify to the adoption of this Resolution.

**PASSED, APPROVED and ADOPTED** this 27th day of February 2014.

---

John Connolly  
Mayor

ATTEST:

---

Linda Reid  
City Clerk

EXHIBIT "A"

CITY OF BUELLTON GUIDELINES OF  
PROCEDURE FOR COUNCIL MEETINGS AND  
RELATED FUNCTIONS AND ACTIVITIES

City Council Resolution No. 14-04  
February 27, 2014

**PURPOSE:** The purpose and intent of the City Council in adopting the within guidelines shall be to provide directory guidelines relating to the conduct of the public business by or on behalf of the City Council. In the event of any noncompliance with or violation of any provision herein, such will not be deemed to affect the validity of any action taken, unless otherwise specifically provided by law.

**1. MEETINGS**

**1.1 REGULAR MEETING:**

The City Council of the City of Buellton shall normally hold regular meetings in the Council Chambers on the second and fourth Thursday of each month beginning at 6:00 p.m. When the day for a regular meeting of the Council falls on a legal holiday, no meeting shall be held on such holiday, but a special meeting in lieu of said regular meeting may be called at the discretion of the City Council.

**1.2 ADJOURNED MEETINGS:**

Unless determined to the contrary by a super majority vote of all Council Members in attendance, the City Council shall conduct meetings so as to adjourn at 10:00 p.m. with the remaining agenda items being considered at (i) a reconvened meeting, or (ii) the next regularly scheduled meeting, or (iii) a duly noticed special meeting.

**1.3 SPECIAL MEETINGS:**

Special Meetings may be called by the Mayor or majority of Councilmembers on 24-hour notice, as set forth in Section 54956 of the Government Code of the State of California. Only matters contained in the notice may be considered and no ordinances (other than urgency ordinances) may be adopted. Emergency Meetings may be called in emergency situations as provided in Section 54956.5 of the Government Code.

#### 1.4 WORKSHOPS:

Members of the Council may meet in a workshop to study and obtain information concerning specific topics or issues. Such sessions may be called by the Mayor or by majority of the Councilmembers and shall be subject to the notice requirements of special meetings.

#### 1.5 NOTICE OF MEETINGS:

Notice of regular meetings is not required. Mailed or personally delivered notice is required of special meetings. Mailed and posted notice is required of meetings adjourned by the City Clerk. Posted notice is required of all other adjourned meetings. (Section 54955 Government Code).

#### 1.6 QUORUM:

Unless otherwise provided for in the Municipal Code, a majority of the Council shall be sufficient to do business. However, passage of motions shall require three affirmative votes.

##### 1.6.1 Legally Required Participation:

If a majority of the Council shall be disqualified to vote on a matter by reason of actual or apparent conflict of interest, the Council shall select by lot or other means of random selection, or by such other impartial and equitable means as the Council shall determine, that number of its disqualified members which, when added to the members eligible to vote, shall constitute a quorum.

#### 1.7 MEETINGS TO BE PUBLIC:

Workshops and all regular, adjourned or special meetings of the City Council shall be open to the public, provided, however, the Council may hold closed sessions from which the public may be excluded for the consideration of the following subjects:

##### 1.7.1 Personnel Matters:

To consider appointment, employment, or dismissal of a public employee unless such employee requests a public hearing. The Council may exclude from any such closed session during the examination of a witness any or all other witnesses in the matter being investigated.

##### 1.7.2 Attorney-Client Matters:

To consider possible or pending litigation in which the City is or could be a party.

1.7.3 Other:

As otherwise permitted by law.

## **2. ORDER OF BUSINESS**

### **2.1 AGENDA:**

2.1.1 The Order of Business of each meeting shall be as contained in the Agenda prepared by the City Clerk. The Agenda shall be a listing by topic of the subjects which shall generally be taken up for consideration in the following order:

**Call to Order**  
**Pledge of Allegiance**  
**Roll Call**  
**Reordering of Agenda**  
**Public Comments on Items Not Appearing on the Agenda**  
**Consent Calendar**  
**Special Presentations**  
**Public Hearings**  
**Council Member Comments**  
**Council Items**  
**Written Communications**  
**Committee Reports**  
**City Manager Items**  
**City Attorney Items**  
**Closed Session Agenda**  
**Closed Sessions**  
**Report on Closed Session Announcements**  
**Announcements**  
**Time, Date and Place of Next City Council Meeting**  
**Closing Announcements**  
**Adjournment**

2.1.2 In respect to Councilmember Comments, each Councilmember is expected to limit her/his comments thereunder to a total of three minutes.

2.1.3 Except as specifically noticed for a different time, the first public hearing on the agenda at a regular meeting of the City Council shall commence at 6:00 p.m., or as soon thereafter as the City Council may conveniently hear the matter.

2.1.4 Except with majority consent of the Council, items may not be taken out of the order prescribed above.

2.1.5 No matters other than those on the agenda shall be finally acted upon by the Council; provided, however, that the Council may take action on items of business which do not appear on the posted agenda under any of the following conditions or circumstances:

1. Upon a determination by a majority vote of the Council that an emergency situation exists, as defined in Section 54956.5 of the California Government Code;
2. Upon a determination by a two-thirds vote of the members of the Council present at the meeting or, if less than two-thirds of the members are present, a unanimous vote of those members present that an immediate need to take action arose subsequent to the agenda having been posted (Government Code Section 54954.2);
3. The item was posted for a prior meeting of the Council occurring not more than five (5) calendar days prior to the date action is taken on the item, and at the prior meeting the item was continued to the meeting at which action is being taken (Government Code Section 54954.2).

## 2.2 AVAILABILITY OF AGENDA:

Barring unreasonable difficulties, the Agenda for each regular meeting of the Council, and reports and other documentation related thereto, shall be made available to the Members of the Council and made available to the public not later than the Friday preceding the Thursday meeting to which it pertains. In respect to every regular meeting, the Agenda shall conform to Section 54954.2 of the California Government Code and shall be posted at least seventy two (72) hours prior to the time scheduled for the meeting. Agendas shall be posted on the bulletin board outside the administrative offices of the City and at such other places within the City as the Council has designated for posting notices of Council meetings.

## 2.3 ROLL CALL:

Before proceeding with the business of the Council, the City Clerk shall call the roll of the Councilmembers and the names of those present shall be entered in the minutes. The order of roll call shall be alphabetical with the Vice Mayor called next to last and Mayor called last.

## 2.4 APPROVAL OF MINUTES:

Unless requested by a majority of the City Council, minutes of the previous meeting may be approved without public reading if the Clerk has previously furnished each Councilmember with a copy thereof.

## 2.5 PUBLIC HEARING:

2.5.1 Generally, public hearings, other than those of a quasi-judicial nature, shall be conducted in the following order:

Staff review  
Questions of Staff by Council  
Hearing Opened by Mayor  
If desired, hearing closed  
Questions by Council  
Discussion by Council  
Action by Council

Questions or comments from the public shall be limited to the subject under consideration. Depending upon the extent of the Agenda, and the number of persons desiring to speak on an issue, the Mayor may at the beginning of the hearing limit testimony, but in no event to less than five (5) minutes per individual. Any person may speak for a longer period of time, upon approval of the City Council, when this is deemed necessary in such cases as when a person is speaking as a representative of a group or has graphic or slide presentations requiring more time.

Quasi-judicial hearings shall be conducted in accordance with the principles of due process, and the City Attorney shall advise the City Council in this regard.

At any public hearing before the City Council, testimony of witnesses under oath may be requested by the Council.

2.5.2 Zoning Hearings Process and Procedures. The City Council shall conduct public zoning hearings on applications, projects and other matters as required to meet due process of law and the following steps will be taken:

1. Staff will review the application/project/matter, prepare a staff report, and may make a recommendation or propose alternatives to the City Council prior to the public hearing.
2. When required by law, a notice of the public hearing will be published in the local newspaper and mailed to all property owners within 300 feet of the project and to all others who so request notice. (For applications/projects involving specific properties)

3. The Members of the City Council will receive the staff report for the application/project/matter in their agenda packet prior to the meeting. This provides the individual Members of the Council with an opportunity to study the staff report which will become part of the hearing record, and also to become familiar with the project prior to the public hearing.
4. When the public hearing is called, the City staff will summarize the application/project/matter as contained in the staff report, or request a continuance to a future meeting. Individual Members of the Council may ask questions of clarification during this time.
5. Once the public hearing is opened, the applicant/proponent is entitled to present his/her application/project/matter in person or through a representative.
6. Following this presentation, all other proponents/supporters of the application/project/matter are provided the opportunity to speak.
7. After the proponents finish, the Mayor will ask for any opponents or other concerned citizens to come forward to speak.
8. Once all opponents or concerned citizens have spoken, the applicant will be provided an opportunity to rebut any testimony or evidence provided by opponents or by staff.
9. Following rebuttal, the item is then before the City Council for discussion and clarification.
10. Any Member of the Council may then make a motion to:
  - A. Continue the Public Hearing to a date certain to allow for further study/discussion; or
  - B. Close the public hearing and do one of the following:
    - (1) Approve the application/project/matter as submitted.
    - (2) Conditionally approve the application/project/matter with certain revisions.
    - (3) Deny the application/project/matter.

- (4) Deny the application/project/matter without prejudice (this action will allow applicant to refile without waiting a specified time period and will permit the waiver of the required fees).

**2.6 PUBLIC COMMENTS:**

Any person may address the Council on any subject pertaining to City business, including all items on the Agenda not listed as a Public Hearing, including the Consent Agenda and Closed Session. If the item is listed on the Agenda as a Public Hearing, the comment shall be made at the time of the Public Hearing item is brought up for consideration by the Council; however, comments on the Public Hearing item may be permitted by the Council during the Public Comment period if the person requests this timing for personal reasons. A limitation of three (3) minutes may be imposed upon each person so desiring to address.

**2.7 CONSENT AGENDA:**

Items of routine nature, and non-controversial, shall be placed on the Consent Agenda. All items may be approved by one blanket motion upon unanimous consent. Prior to, or following review of, the Consent Agenda by the City Manager, any Council Member may request that any item be withdrawn from the Consent Agenda for separate consideration. However, any Council Member may abstain from voting on any Consent Agenda item without requesting its removal from the Consent Agenda, and the City Clerk shall be instructed to record such abstentions in the minutes. Members of the public may speak on Consent Agenda items during the Public Comment period.

**2.8 PRESENTATION BY MEMBERS OF THE COUNCIL:**

The Mayor or any Councilmember may bring before the Council any new business under the Council Items portion of the Agenda, but formal action on such matter shall be deferred until a subsequent Council meeting unless deemed to be of an urgent nature.

No City Council additions to the Agenda shall be made after 12:00 noon on the Wednesday of the week preceding the related Council meeting.

**3. PRESIDING OFFICER**

**3.1 PRESIDING OFFICER:**

The Mayor shall be the Presiding Officer at all meetings of the Council. In the absence of the Mayor, the Vice Mayor shall preside. In the absence of both the Mayor and the Vice Mayor, the Council shall elect a temporary presiding officer to serve until the arrival of the Mayor or Vice Mayor or until adjournment.

In accordance with Government Code Section 36801, the Council shall meet on the Tuesday after each general municipal election and choose one of its members as Mayor and one as Vice Mayor. Each selection shall be by three (3) or more affirmative votes, and a failure to achieve such total of affirmative votes shall be deemed a selection of the incumbent (s) to remain in office. Each person so selected shall serve until a successor is chosen by three (3) or more affirmative votes, provided that the election shall occur at the first regular meeting following the regular municipal election and at the first regular meeting that falls no less than one (1) year after that date. Notwithstanding the selection procedure set forth above, the Council, by a vote of at least three (3) Members, may replace the Mayor and/or the Vice Mayor at any time during a regular meeting or meeting called for that purpose.

### 3.2 CALL TO ORDER:

The meeting of the Council shall be called to order by the Mayor or, in his absence, by the Vice Mayor. In the absence of both the Mayor and the Vice Mayor, the meeting shall be called to order by the City Clerk, whereupon the City Clerk shall immediately call for the selection of a temporary Presiding Officer.

### 3.3 PARTICIPATION OF PRESIDING OFFICER:

The Presiding Officer may move, second, and debate from the Chair, subject only to such limitations of debate as are imposed on all Councilmembers, and he/she shall not be deprived of any of the rights and privileges of a Councilmember by reason of his/her acting as Presiding Officer. However, the Presiding Officer is primarily responsible for the conduct of the meeting. If he/she desires to personally engage in extended debate on questions before the Council, he/she should consider turning the Chair over to another Member.

### 3.4 QUESTIONS TO BE STATED:

The Presiding Officer shall verbally restate each question immediately prior to calling for the vote. Following the vote, the Presiding Officer shall verbally announce whether the question carried or was defeated. The Presiding Officer may also publicly state the effect of the vote for the benefit of the audience before proceeding to the next item of business.

### 3.5 SIGNING OF DOCUMENTS:

The Mayor, or Vice Mayor, in the absence of the Mayor, shall sign Ordinances adopted by the City Council. The City Clerk, or Deputy City Clerk, shall attest to the signature of the Mayor or Vice Mayor.

### 3.6 MAINTENANCE OF ORDER:

The Mayor or Presiding Officer is responsible for the maintenance of order and decorum at all times. No person is allowed to speak who has not first been recognized by the Chair. All questions and remarks shall be addressed to the Chair.

## 4. RULES, DECORUM, AND ORDER:

### 4.1 POINTS OF ORDER:

The Presiding Officer shall determine all Points of Order subject to the right of any Member to appeal to the Council. If any appeal is taken, the question shall be, "Shall the decision of the Presiding Officer be sustained?" in which event a majority vote shall govern and conclusively determine such question of order.

### 4.2 DECORUM AND ORDER - COUNCILMEMBERS:

1. Any Councilmember desiring to speak shall address the Chair and, upon recognition by the Presiding Officer, shall confine himself/herself to the question under debate.
2. A Councilmember desiring to question the staff shall address his/her question to the City Manager or City Attorney, in appropriate cases, who shall be entitled either to answer the inquiry himself/herself or designate some member of his/her staff for that purpose.
3. A Councilmember, once recognized, shall not be interrupted while speaking unless called to order by the Presiding Officer; unless a Point of Order is raised by another Councilmember; or unless the speaker chooses to yield to questions from another Councilmember.
4. Any Councilmember called to order while he/she is speaking shall cease speaking immediately until the question of order is determined. If ruled to be in order, he/she shall be permitted to proceed. If ruled to be not in order, he/she shall remain silent or shall alter his/her remarks so as to comply with the guidelines of the Council.
5. Councilmembers shall accord the utmost courtesy to each other, to City employees, and to the public appearing before the Council and shall refrain at all times from rude and derogatory remarks, reflections as to integrity, abusive comments and statements as to motives and personalities.

6. Any Councilmember may move to require the Presiding Officer to enforce the guidelines and the affirmative vote of a majority of the Council shall require him/her to so act.

#### 4.3 DECORUM AND ORDER - EMPLOYEES:

Members of the administrative staff and employees of the City shall observe the same rules of procedure and decorum applicable to Members of the Council. The City Manager shall insure that all City employees observe such decorum. Any staff members, including the City Manager, desiring to address the Council or members of the public shall first be recognized by the Chair. All remarks shall be addressed to the Chair and not to any one individual Councilmember or member of the public.

#### 4.4 DECORUM AND ORDER - PUBLIC:

Members of the public attending Council meetings shall observe the same rules of order and decorum applicable to the Council. Any person making impertinent and slanderous remarks or who becomes boisterous while addressing the Council or while attending the Council meeting shall be removed from the room if the sergeant at arms is so directed by the Presiding Officer, and such person may be barred from further audience before the Council. Unauthorized remarks from the audience, stamping of feet, whistles, yells and similar demonstrations shall not be permitted by the Presiding Officer, who may direct the sergeant at arms to remove such offenders from the room. Aggravated cases shall be prosecuted on appropriate complaint signed by the Presiding Officer.

#### 4.5 ENFORCEMENT OF DECORUM:

The head of the City's police agency or his/her designee shall be ex-officio sergeant at arms of the Council. He/she shall carry out all orders and instructions given to him/her by the Presiding Officer for the purpose of maintaining order and decorum in the Council Chambers. Upon instructions from the Presiding Officer, it shall be the duty of the sergeant at arms or his/her representative to eject any person from the Council Chambers or place him/her under arrest or both.

As set forth in Government Code Section 54957.9, in the event that any meeting is willfully interrupted by a group or groups of persons so as to render the orderly conduct of such meeting unfeasible and order cannot be restored by the removal of individuals who are willfully interrupting the meeting, the Members of the Council may order the meeting room cleared and continue in session. Only matters appearing on the Agenda may be considered in such a session. Duly accredited representatives of the press or other news media, except those participating in the disturbance, shall be allowed to attend any session held pursuant to this Section. Nothing in this Section shall prohibit the Council from establishing a procedure for readmitting an individual or individuals not responsible for willfully disturbing the orderly conduct of the meeting.

#### 4.6 PERSONAL PRIVILEGE:

The right of a member to address the Council on a question of personal privilege shall be limited to cases in which his/her integrity, character, or motives are assailed, questioned, or impugned.

#### 4.7 CONFLICT OF INTEREST:

All Councilmembers are subject to the provisions of California law, including, but not limited to, Chapter 7, Title 9, of the California Government Code, relative to conflicts of interest, and to conflicts of interest codes adopted by the Council. Any Councilmember prevented from voting because of a conflict of interest shall refrain from debate and voting. Such Councilmember may choose to leave the Council Chambers during debate and voting on the issue.

#### 4.8 LIMITATION OF DEBATE:

A Councilmember normally should speak no more than once upon any one subject until every other Member choosing to speak thereon has spoken. No Member shall speak for longer time than five (5) minutes each time he has the floor, without the approval of a majority vote of the Council.

#### 4.9 DISSENTS, PROTESTS, AND COMMENTS:

Any Member shall have the right to express dissent from or protest to or comment upon any action of the Council and have the reason entered in the minutes. If such dissent, protest or comment is desired to be entered in the minutes, this should be made clear by language such as, "I would like the minutes to show that I am opposed to this action for the following reasons...."

#### 4.10 PROCEDURES IN ABSENCE OF GUIDELINES:

In the absence of a guideline herein to govern a point or procedure, Robert's Rules of Order, Newly Revised, shall be used as a guide.

#### 4.11 RULING OF CHAIR FINAL UNLESS OVERRULED:

In presiding over Council meetings, the Mayor, Vice Mayor or temporary Presiding Officer shall decide all questions of interpretation of these guidelines, points of order or other questions of procedure requiring rulings. Any such decision or ruling shall be final unless overridden or suspended by a majority vote of the Councilmembers present and voting, and shall be binding and legally effective (even though clearly erroneous) for purposes of the matter under consideration.

4.12 ACTIONS NOT INVALIDATED:

Failure to strictly comply with these Guidelines of Procedure shall not necessarily invalidate any action taken by the City Council.

**5. ADDRESSING THE COUNCIL**

5.1 MANNER OF ADDRESSING THE COUNCIL:

Any member of the public desiring to address the Council shall proceed to the podium and wait to be recognized by the Presiding Officer. After being recognized he/she shall state his/her name and address for the record.

All remarks and questions shall be addressed to the Chair and not to any individual Councilmember, staff member or other person. During a public hearing, all remarks shall be limited to the subject under consideration. No person shall enter into any discussion without being recognized by the Presiding Officer.

5.2 TIME LIMITATION:

Any member of the public desiring to address the Council shall limit his/her address to five (5) minutes unless further time has been granted by the Presiding Officer in the individual case, or in accordance with Section 2.5.

5.2.1 Exception:

A limit of three (3) minutes may be imposed during the Public Comments portion of the Agenda (see Section 2.6).

5.3 ADDRESSING THE COUNCIL AFTER THE MOTION IS MADE:

After a motion has been made, or after a public hearing has been closed, no member of the public shall address the Council without first securing permission by a majority vote of the Council.

#### 5.4 LIMITATIONS REGARDING PUBLIC COMMENTS AND REPORTS:

The making of oral communications to the Council by any member of the public during the "Public Comments" portion of the Agenda shall be subject to the following limitations:

5.4.1 At any time, before or after the oral communication is commenced, the Presiding Officer may, if he/she deems it preferable, direct that the communications be made instead either to the City Manager or other appropriate staff member during regular business hours, or in writing for subsequent submittal to Councilmembers, pursuant to Section 5.5.

5.4.2 No speaker shall be permitted to address the Council on a topic which is currently before or about to be submitted for consideration by a City commission, board or other agency before which the speaker should make his presentation, until that latter body has completed its deliberations and taken its final action. In case the speaker should have followed an otherwise available appeal procedure, the Presiding Officer shall not allow oral communication to the Council outside that procedure.

5.4.3 The Presiding Officer may limit the number of speakers heard on non-agenda topics at any single meeting. Those whose presentations are postponed shall be given priority at the next meeting (during the "Public Comments" portion of the Agenda).

5.4.4 If it appears that several speakers desire to speak regarding a single topic, the Presiding Officer may reasonably limit the number speaking as to each side of an issue. In this regard, preference may be given to speakers who represent groups or persons who have designated a spokesperson.

5.4.5 No oral communication shall be allowed to include charges or complaints against any employee of the City, regardless of whether such employee is identified in the presentation by name or by any other reference which tends to identify him/her. All charges or complaints against employees shall be submitted to the City Manager for appropriate action, and may also be submitted to Members of the Council by written communication.

#### 5.5 WRITTEN CORRESPONDENCE:

The City Manager is authorized to receive and open all mail addressed to the Council as a whole and give it immediate attention to the end that all administrative business referred to in said communications, and not necessarily requiring Council action, may be disposed of between Council meetings. A copy of such communication shall be sent to each Councilmember.

Any communication relating to a matter pending, or to be brought before the City Council shall be included in the Agenda packet for the meeting at which such item is to be considered.

Letters of appeal from administrative or commission decisions shall be processed under applicable provisions of the Municipal Code, or other Ordinances.

Copies of all other communications sent to the Council will be transmitted to them.

**5.6 PERSONS AUTHORIZED TO BE WITHIN PLATFORM:**

No person except City officials shall be permitted within the platform area in front of the Council table without the invitation or consent of the Presiding Officer.

**6. MOTIONS**

**6.1 PROCESSING OF MOTIONS:**

When a motion is made and seconded, it shall be stated by the Presiding Officer before debate. A motion so stated shall not be withdrawn by the mover without the consent of the person seconding it.

**6.2 MOTIONS OUT OF ORDER:**

The Presiding Officer may at any time, by majority consent of the Council, permit a Member to introduce an Ordinance, Resolution, or motion out of the regular Agenda order.

**6.3 DIVISION OF QUESTION:**

If the question contains two or more divisionable propositions, the Presiding Officer may, and upon request of a Member shall, divide the same.

**6.4 PRECEDENCE OF MOTIONS:**

When a motion is before the Council, no motion shall be entertained except the following, which shall have precedence in the following order:

1. Adjourn
2. Fix hour of adjournment
3. Table
4. Limit or terminate discussion
5. Amend
6. Postpone

#### 6.5 MOTION AND ADJOURN: (not debatable)

A motion to adjourn shall be in order at any time except as follows:

1. When repeated without intervening business or discussion.
2. When made as an interruption of a Member while speaking.
3. When discussion has been ended, and vote on motion is pending, and
4. While a vote is being taken.

A motion to adjourn "to another time" shall be debatable only as to the time to which the meeting is adjourned.

#### 6.6 MOTION TO FIX HOUR OF ADJOURNMENT:

Such a motion shall be to set a definite time at which to adjourn and shall be undebatable and shall be unamendable except by unanimous vote.

#### 6.7 MOTION TO TABLE:

A motion to table shall be used to temporarily by-pass the subject. A motion to table shall be undebatable and shall preclude all amendments or debate of the subject under consideration. If the motion shall prevail, the matter may be "taken from the table" at any time prior to the end of the next regular meeting.

#### 6.8 MOTION TO LIMIT OR TERMINATE DISCUSSION:

Such a motion shall be used to limit or close debate on, or further amendment to, the main motion and shall be undebatable. If the motion fails, debate shall be reopened; if the motion passes, a vote shall be taken on the main motion.

#### 6.9 MOTION TO AMEND:

A motion to amend shall be debatable only as to the amendment. A motion to amend an amendment shall be in order, but a motion to amend an amendment to an amendment shall not be in order. An amendment modifying the intention of a motion shall be in order, but an amendment relating to a different matter shall not be in order. A substitute motion on the same subject shall be acceptable, and voted on before a vote on the amendment. Amendments shall be voted first, then the main motion as amended.

#### 6.10 MOTION TO CONTINUE:

Motions to continue to a definite time shall be amendable and debatable as to propriety of postponement and time set.

## **7. VOTING PROCEDURE:**

### **7.1 VOTING PROCEDURE:**

In acting upon every motion, the vote shall be taken by voice or roll call or any other method by which the vote of each Councilmember present can be clearly ascertained. The vote on each motion shall then be entered in full upon the record. The order of voting shall be alphabetical with the Councilmember making the motion voting first, the Councilmember seconding the motion voting next; and, unless he/she has made or seconded the motion, the Vice Mayor shall vote next to last, and the Mayor voting last. The City Clerk shall call the names of all Members seated when a roll call vote is ordered or required. Members shall respond "aye," "no" or "abstain" provided that when a vote is collectively taken by voice or roll call is used, any Councilmember not audibly and clearly responding "no" or "abstain" or otherwise registering an objection shall have his vote recorded as "aye."

### **7.2 ROLL CALL VOTING:**

Every Ordinance, Resolution, and Motion or orders for franchises or payments of money shall require (3) affirmative votes. A roll call vote shall be used for these changes. Any other question before the Council shall not require a roll call vote unless demanded by any member. It shall not be in order for Members to explain their vote during roll call. Any Member may change his/her vote before the next order of business.

### **7.3 FAILURE TO VOTE:**

Every Councilmember should vote unless disqualified for cause. A Councilmember who abstains shall, for purpose of the time under consideration, be considered as if absent.

### **7.4 RECONSIDERATION:**

Any Councilmember who voted with the majority may move a reconsideration of any action at the same or next meeting. After a motion for reconsideration has once been acted upon, no other motion for a reconsideration thereof shall be made without unanimous consent of the Council.

### **7.5 TIE VOTES:**

Tie votes shall be lost motions. When all Councilmembers are present, a tie vote on whether to grant an appeal from official action shall be considered a denial of such appeal, unless the Council takes other action to further consider the matter. If a tie vote results at a time when less than all Members of the Council are present, the matter shall automatically be continued to the Agenda of the next regular meeting of the Council, unless otherwise ordered by the Council.

## **8. RESOLUTIONS**

### **8.1 DEFINITIONS:**

As a rule of thumb, it can be said the legislative acts of the City Council (usually a role of public conduct for long-term application) are taken by ordinance, whereas, more routine business and administrative matters (usually more temporary and transitory in nature) are accomplished by "resolution." The term "resolution" in its general sense will denote any action taken affirmatively via a vote of the Council, other than one taken by ordinance. As used in this City, however, three (3) terms are in general use to denote such (non-ordinance) actions: "resolution," "minute order," and "motion" (thereafter recorded by minute entry). Technically, all three are equally as legally effective and binding; they just vary in the formality of respective memorialization. The most formal is referred to locally as a "resolution." This, in addition to being referenced in the minutes, will be recorded by a separate document, numbered in sequence and preserved in a separate set of books. Such "resolutions" are used in this City for various reasons, such as when specifically required by law, when needed as a separate evidentiary document to be transmitted to another governmental agency, or where the frequency of future reference back to its contents warrants a separate document (with the additional "whereas" explanatory material it often recites) to facilitate such future reference and research.

A "minute order" as used locally denotes a separate document which is also maintained in a separate set of books, under a system of sequential numbering, and is referenced in the minutes; however, the "minute order" is drafted far more briefly than a "resolution" and is distinguished from a mere minute entry only by the need, in general, to have a separate document to facilitate certain administrative processes to which it pertains.

The "motion" (assuming it was one which passed) is a Council action which is recorded simply by an item entry in the minutes of the meeting at which it was accomplished, and no separate document is made to memorialize it.

### **8.2 RESOLUTIONS PREPARED IN ADVANCE:**

Where a Resolution has been prepared in advance, the procedure shall be: Motion, second, discussion, vote pursuant to methods prescribed in Section 7.1, and result declared. It shall not be necessary to read a resolution in full or by title except to identify it. Any Member may require that the Resolution be read in full.

### **8.3 RESOLUTIONS NOT PREPARED IN ADVANCE:**

Where a Resolution has not been prepared in advance, the procedure shall be to instruct the City Manager or City Attorney to prepare a Resolution for presentation at the next Council meeting.

#### 8.4 URGENCY RESOLUTIONS:

In matters of urgency, a Resolution may be presented verbally in motion form together with instructions for written preparation for later execution. After the Resolution has been verbally stated, the voting procedure in 8.2 above shall be followed.

Urgency Resolutions shall be avoided except when absolutely necessary; and shall be avoided entirely when Resolutions are required by law, in improvement acts, zoning matters, or force account work on public projects. Where the Resolution has been drafted in written form, either before or during the meeting, this paragraph shall not be deemed applicable.

### 9. ORDINANCES

#### 9.1 INTRODUCTION AND ADOPTION OF ORDINANCES:

Ordinances shall not be passed within five (5) days of their introduction, nor at other than a regular meeting or at an adjourned regular meeting. However, an urgency ordinance may be passed immediately upon introduction and either at a regular or special meeting. Except when, after reading the title, further reading is waived by regular motion adopted by unanimous vote of the Councilmembers present, all ordinances shall be read in full either at the time of introduction or at the time of passage. When ordinances, other than urgency ordinances, are altered after introduction, they shall be passed only at a regular or at an adjourned regular meeting held at least five (5) days after alteration.

Corrections of typographical or clerical errors are not alterations within the meaning of this Section.

#### 9.2 EFFECTIVE DATE:

All ordinances, except as provided in Section 36937 of the Government Code, shall take effect thirty (30) days after adoption, but may be made operative at such later date as may be designated in the ordinance.

#### 9.3 PUBLISHING:

It shall be the duty of the City Clerk to post or publish all ordinances in accordance with Government Code Section 36933 within fifteen (15) days after adoption.

#### 9.4 URGENCY ORDINANCES:

All urgency ordinances must receive four (4) affirmative votes to be adopted and to become effective immediately. If such an ordinance fails to receive a four-fifths (4/5ths) majority, it may thereafter be considered and passed in the same manner as regular ordinances.

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 7

To: The Honorable Mayor and City Council

From: Marc Bierdzinski, City Manager

Meeting Date: February 27, 2014

Subject: Consideration of Appointment to the Parks and Recreation Commission

---

**BACKGROUND**

On January 9, 2014, Marie Chavis resigned her position on the Parks and Recreation Commission. Since then, staff has advertised the open position and received one application from Kelley Carter (Attachment 1). The term of this seat expires December 2014.

Attachment 2 defines Buellton Municipal Code Section 2.32, Parks & Recreation Commission.

In view of the current vacancy, it would be appropriate for the City Council to conduct the interview and consider appointment to the Commission.

**A. Interview and Appointment of Applicant**

The City has advertised through the Santa Ynez Valley News and has posted in public places in the community a notice soliciting letters of interest pertaining to the open position on the Parks and Recreation Commission.

The normal procedure for appointment to commission is a two-step process wherein applicants are invited to a Council meeting to be interviewed and then the appointment is made at the following meeting. However, since only one application was received, the applicant has been invited to the Council meeting of February 27 to be interviewed and possibly appointed.

**FISCAL IMPACT**

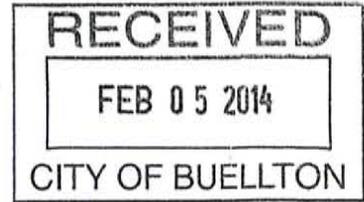
The appointment to the Parks and Recreation Commission should not have any fiscal impact to the City.

**RECOMMENDATION**

That the City Council interview the applicant and consider appointment to the Parks & Recreation Commission with term of office expiring December 2014.

**ATTACHMENTS**

- Attachment 1 - Application form submitted by Kelley Carter
- Attachment 2 - Buellton Municipal Code Chapter 2.32: "Parks and Recreation Commission"



APPLICATION FOR APPOINTMENT TO PARKS & RECREATION COMMISSION

Name: Kelley Carter

Address: 446 Scandia Drive, Buellton, Ca 93427

Phone Number(s): 805-320-4183

Email Address: kelnc805@hotmail.com

Employer: Buellton Union School District

Occupation: Teacher

How long have you been a resident of the City of Buellton? 1 month (previously I lived in Buellton for 3 years)

Have you worked for the City of Buellton or are you related to any City Employee or City Official? If so, please explain: No

Are you a registered voter in the City of Buellton? Yes

Please provide education, work experience, community activities, and personal interests:

Education: BS in Kinesiology, Masters in Education, Admin Credential Tier I

Work Experience: Ten years teaching from Pre-school to 12<sup>th</sup> grade

Personal Activities: Basketball, tennis, reading, traveling, and being a mom of 3.

Please indicate your interest in serving on the Parks & Recreation Commission. (Attach additional sheets if necessary):

I am interested in serving as a community member on the Parks & Rec commission to be educated and involved in supporting the development and maintenance of our city parks and recreation activities/areas.

Kelley Carter  
Signature of Applicant

2/5/14  
Date

For more information regarding the Parks & Recreation Commission, please reference Buellton Municipal Code Chapter 2.32. Parks & Recreation Commission Meetings are held on the fourth Monday of the month beginning at 6:00 p.m. in the City Council Chambers. City of Buellton employees are not eligible for appointment

**ATTACHMENT 2**

## Buellton Municipal Code

[Up](#)[Previous](#)[Next](#)[Main](#)[Collapse](#)[Search](#)[Print](#)[No Frames](#)[Title 2 ADMINISTRATION AND PERSONNEL](#)**Chapter 2.32 PARKS AND RECREATION COMMISSION**

---

**2.32.010 Park and recreation commission—Created.**

---

Pursuant to Section 2.28.010 of this code, there is created an advisory commission to the city council which shall be known as the Buellton parks and recreation commission. (Ord. 04-01 § 1, 2004: prior code § 13.01.001)

**2.32.020 Commission composition and membership.**

---

The parks and recreation commission shall consist of five members. The city council shall appoint, by majority vote of the city council, each parks and recreation commissioner who shall be a qualified elector of the city. No officers or employees of the city or persons under an employment contract subject to the jurisdiction of the city council shall be members of such commission. (Ord. 05-04 § 2, 2005: Ord. 04-01 § 2, 2004: prior code § 13.01.002)

**2.32.030 Oath of office.**

---

All members of the parks and recreation commission shall be required to take an oath of office, as approved by the city council, prior to commencing their term of office. (Prior code § 13.01.003)

**2.32.040 Term of office.**

---

The term of each parks and recreation commissioner shall be four years, commencing in December of even-numbered years, with staggered terms as provided in Section 2.28.060. (Ord. 05-04 § 3, 2005: Ord. 04-01 § 3, 2004: prior code § 13.01.004)

**2.32.050 Staff assistance.**

---

The city manager shall ensure that adequate staff will be allocated to provide necessary technical and clerical assistance to the commission. (Prior code § 13.01.005)

**2.32.060 Time and place of meetings—Rules of procedure.**

---

The parks and recreation commission shall establish a regular date, time, and place of commission meetings, which shall be open to the public. The meetings shall occur no less frequently than once a month. Special meetings may be called by the chair or a majority of the commission, provided public notice has been given at least twenty-four (24) hours prior to the meeting. A majority of commissioners shall constitute a quorum. (Ord. 04-01 § 4, 2004: prior code § 13.01.006)

**2.32.070 Duties.**

---

The parks and recreation commission shall advise the city council on all matters subject to the jurisdiction of the council pertaining to the acquisition, development, and maintenance of public parks and recreational facilities. The commission shall also review and advise the council regarding the financing of and budgeting for such functions, including but not limited to, the financing and budgeting for parks and recreation services in the

city. The commission shall also advise the parks and recreation director from time to time. (Prior code § 13.01.007)

### **2.32.080 Public hearings—Procedure.**

---

Whenever the commission determines, by a two-thirds majority of those members present, that its deliberations with respect to a particular matter or matters would be substantially aided by the presentation of testimony from the citizens of the city, or of a certain area of the city, the commission may direct a public hearing be held concerning such matter or matters. Notice of such a hearing shall be provided by publication in a newspaper of general circulation published in the city, and/or by posting the same in at least three public places, not later than seven days prior to the date of the hearing. Such hearings shall be conducted in accordance with the rules established for the conduct of hearings before the city council unless the council, by resolution, shall otherwise provide. (Prior code § 13.01.008)

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 8

To: The Honorable Mayor and City Council

From: Marc Bierdzinski, City Manager

Meeting Date: February 27, 2014

Subject: Presentation on the Buellton Emergency Management Plan

---

**BACKGROUND**

City staff and Richard Abrams of the Santa Barbara County Office of Emergency Management will present an overview of how a jurisdiction functions under the procedures contained in the City's adopted Emergency Management Plan (EMP). Attachment 1 is the PowerPoint presentation.

This is a basic, brief overview of the EMP. The information contained in the EMP is something that takes days to cover in a classroom setting. After the presentation both staff and Mr. Abrams will be available to answer questions on the EMP and emergency procedures.

The City Council adopted the City's EMP in November 2013. That document can be found on the City's website and a CD version was provided to the Council last year.

**ATTACHMENT**

Attachment 1 – PowerPoint Presentation

# Emergency Operations Plan





# Buellton Emergency Management Plan

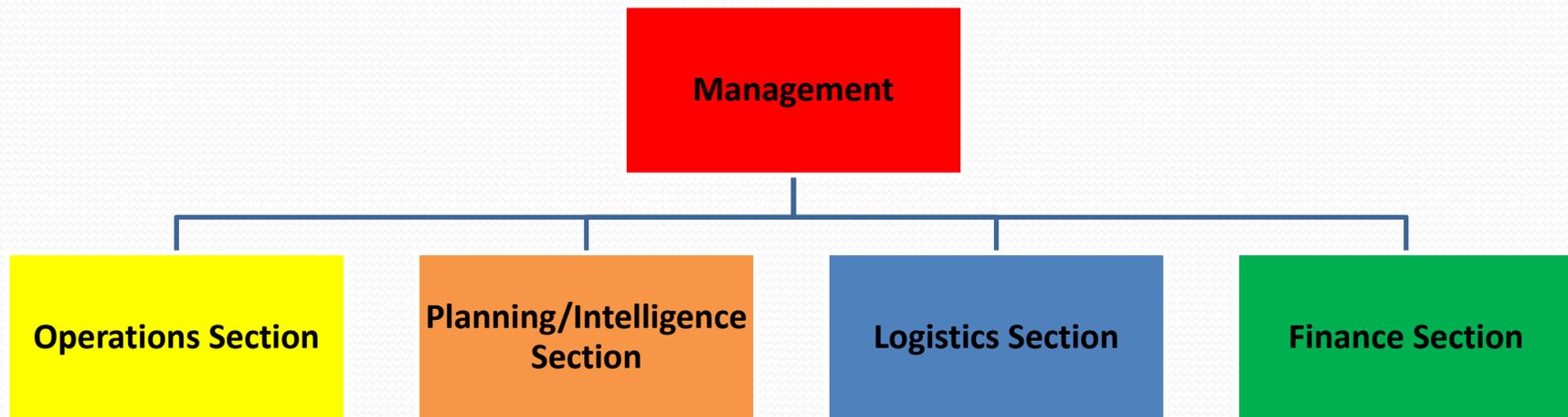
- The preservation of life, property, and the environment is the inherent responsibility of local, state, and federal government
- The purpose of the Buellton Emergency Management Plan is to ensure the most effective and economical allocation of resources for protection of people and property in a time of emergency
- The primary objective of the Buellton Emergency Management Plan is to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of responding effectively to any emergency



# Buellton Emergency Management Plan

- The Buellton Emergency Management Plan is intended to facilitate multi-agency and multi-jurisdiction coordination in emergency operations, particularly between the City of Buellton, Special Districts , and the Santa Barbara County Operational Area (in coordination with the Office of Emergency Services)
- The Plan is designed to include the City as part of the following emergency response standard procedures:
  - The National Incident Management System (NIMS)
  - The California Standardized Emergency Management System (SEMS)
  - The Incident Command System (ICS)

# SEMS Functional Organization Chart





# Management

- Emergency Manager (City Manager)
- Emergency Operations Coordinator (City Clerk)
- Public Information Officer (City Clerk)
- Agency Representative Liaisons (various outside agencies)



# Operations

- Operations Coordinator (Sheriff Lieutenant)
- Fire and Rescue (Fire Prevention Captain)
- Law Enforcement (Sheriff Lieutenant)
- Animal Control (County Animal Control)
- Public Works (Public Works Director)
- Building and Safety (County Building Supervisor)
- Care and Shelter (Public Health)



# Planning/Intelligence

- Planning Coordinator (Planning Director)
- Situation Status
- Documentation
- Damage Assessment
- Advance Planning



# Logistics

- Logistics Coordinator (Recreation Coordinator)
- Communications
- Transportation
- Personnel
- Supply/Procurement
- Facilities



# Finance

- Finance Coordinator(Finance Director)
- Costs Recovery
- Time
- Purchasing
- Compensation/Claims
- Cost Analysis



# Responsibilities of City Staff

- Implementation of the Buellton Emergency Management Plan
  - Activating and running the Emergency Operations Center
  - Coordination with County OEM as needed
  - Day-to-day management of the emergency situation



# Responsibilities of the City Council

- The City Council sets policy and issues disaster proclamations and resolutions
- The City Council interacts directly with the Emergency Manager who will brief the City Council on the status of the emergency
- The City Council does not participate directly in the management and activities of the Emergency Operations Center or other aspects of the day-to-day management of the emergency



# Responsibilities of the Public

- In a major emergency, be prepared to be self sufficient for at least 3 days
  - This includes enough food and water for your family and pets
  - Services, such as fuel, groceries, and medications, will most likely not be available
- First responders will be addressing major incidents during the first days of the emergency and may not be available to respond to all calls for service
  - The public should take advantage of the Community Emergency Response Team (CERT) training provided in the valley – the next training is in Solvang this spring



# More Information

- Emergency Preparedness Section of Buellton Website
  - <http://cityofbuellton.com/Emergency-Preparedness.asp>
- County of Santa Barbara Office of Emergency Management
  - [www.countyofsb.org/emergencyinfo.aspx](http://www.countyofsb.org/emergencyinfo.aspx)
  - [www.facebook.com/SBCountyOEM](http://www.facebook.com/SBCountyOEM)
  - [www.local.nixle.com](http://www.local.nixle.com) text 888777

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 9

To: The Honorable Mayor and City Council

From: Rose Hess, Public Works Director/City Engineer

Meeting Date: February 27, 2014

Subject: Discussion Regarding Speed Hump Policy on Public Roads

---

**BACKGROUND**

At the request of City Council, staff is providing general background information regarding Speed Humps for policy consideration on public roads. The City has not installed speed humps on any public roads. There are existing speed humps in the Rancho de Maria neighborhood, which was installed prior to the City's incorporation. There is currently no written formal policy, but staff has historically replied to any inquiries that 100% of affected property owners need to sign a petition for request prior to the City initiating any studies for installation.

Within Santa Barbara County, only 2 agencies have written formal policies – County of Santa Barbara and City of Solvang. The City of Lompoc does not have a formal policy or standards and has previously installed speed humps in one residential neighborhood. However, Lompoc staff would not recommend installation again. All three agencies which have a policy or has installed, only consider speed humps (longer horizontal base – much gentler impact) as opposed to speed bumps (shorter horizontal base – and typically causes a more abrupt impact).

The County of Santa Barbara will consider traffic calming devices within a residential district based on the following criteria:

- 85<sup>th</sup> percentile speed,
- 500 < ADT > 5000,
- neighborhood review (other areas are not negatively impacted by diversion),
- required petition of 75% of affected residents (“affected” may include more than just the streets on which physical changes are proposed),
- maximum 5% street grade allowable,
- maximum 40 feet street width and no more than 1 travel lane in each direction,
- written concurrence from Emergency providers and transit agency,
- curb & gutter requirements.

In addition, there are additional design guidelines that will be required to be evaluated.

*Considerations:*

Emergency vehicle access is a main consideration for these traffic calming measures. Neither the Sherriff Department nor the Fire Department has policies for speed humps or bumps. Any type of impediment could reduce response time. However, the Fire Department would prefer the speed humps which would be the milder form.

Additional City risk and liability should also be a consideration. With any obstruction in the road, there is potential for injury or claims because of errant vehicles. It is important to note, however, that the City is not aware of any injury or claims from the speed humps in the Rancho de Maria neighborhood.

If the Council desires to adopt a Speed Hump Policy, staff would develop design guidelines that follow traffic standards from Caltrans and Institute of Transportation Engineers Handbook. Any policy developed for Speed Humps would include a 2 part process: 1. Request Procedure and 2. Evaluation Process.

The Request Procedure should outline the expectations. Some considerations for this initial screening process include:

- \*Application;
- \*Petition form to collect signatures to submit (should be property owners);
- \*Eligibility requirements:
  - \*100% of affected property owners
  - \*85% speed if applicable
  - \*posted speed limit
  - \*avg daily traffic counts
- \*Emergency (Fire and Sheriff Departments) approval

The Evaluation Process will further evaluate the merit and appropriateness of the speed hump installation. This would be the technical review that includes evaluation of traffic volumes, site analysis, speed, collisions, proximity to schools or parks, bicycle routes, drainage, road grade and width, transit routes, etc.

**FISCAL IMPACT**

Consideration of a Policy or instituting a Policy in itself would not create a fiscal impact.

**RECOMMENDATION**

That the City Council discuss the merits of formalizing a Speed Hump Policy and provide direction to staff.

**CITY OF BUELLTON**  
City Council Agenda Staff Report

City Manager Review: MPB  
Council Agenda Item No.: 10

To: The Honorable Mayor and City Council

From: Rose Hess, Public Works Director/City Engineer

Meeting Date: February 27, 2014

Subject: Discussion Regarding Installation of Street Lights on Industrial Way

---

**BACKGROUND**

At the request of City Council, staff is providing general information regarding potential installation of street lights along Industrial Way. Currently, there are no street lights serving this area. Industrial Way itself is a public road dedicated by a Public Road and Utilities Easement. It is approximately a 2500 foot long road. Using a conventional 300 foot spacing of lights, it is estimated that approximately 16 street lights (8 on each side) would be needed if the entire street is requested to be serviced.

Historically, public activity on Industrial Way was limited to the daytime and business hours, being primarily office and industrial businesses. However, in recent years, public activity has increased due to the development of more “commercial” type facilities such as Avant, Figueroa Mountain Brewery, Industrial Eats and the proposed Bowling Alley. In addition, with the dedication of trail easements at the end of Industrial Way and the southern access of the Ranch Club Mobile Home Park, there is an increase frequency of pedestrian traffic in addition to the vehicular activity in the evenings to/from these businesses.

Attachment 1 contains photographs of Industrial Way during the evening. The street is relatively dark, even with the vehicle headlights. In discussion with our Sheriff Department, there is a safety benefit for street lights, including lighting the area for surveillance systems, help law enforcement see when crimes have occurred and to help locate suspects and evidence and allows victims to get a look at criminals. There are mixed reviews as to whether street lights deter crime or not. Attachment 2/3 contains two different studies regarding street lights. One is from the Community Oriented Policing (COPS) office put out by the US Department of Justice (Attachment 2). The other is from the Swedish National Council for Crime Prevention (Attachment 3).

### *PG&E Information*

Typically, street lights in the city are all owned and maintained by PG&E. Only the antique decorative lights are owned and maintained by the City. It is anticipated that installation of new street lights would be owned and maintained by PG&E, however the cost for design and construction would be borne by the City.

Proposed lights would be similar to the overhead cobra that is typical throughout the city, except the Staff recommends that the new lights be LED or Induction



PG&E is aware about the sensitivities of light pollution and believes that outdoor lighting should promote energy conservation, address safety needs, and preserve the natural night environment. Their lighting products are designed to meet this multiple goals. Staff recommends that “Full Cutoff” style lamps be utilized, which is the most sensitive to preserve the dark skies. This style ensures that no light is directed at or above the horizontal plane and there is little or no light at angles typically associated with glare.



### **FISCAL IMPACT**

Addition of new street lights will impact the budget through capital and operational costs. Capital cost expenditures are unknown at this time. Based on other city projects in which a new service is requested, the base deposit for initiating a project is \$15,000. A starting range is estimated to be \$95,000 (\$15,000 base cost plus \$5000 per light) to \$255,000 (\$15,000 base cost plus \$15,000 per light). PG&E cannot provide a cost estimate as they need to evaluate the location and available/accessible services. Costs can be further outlined by PG&E once a scope is completed.

Operational costs are estimated to be an additional monthly charge of \$5-\$20/lamp per month. Sixteen new lights would incur approximately \$80 - \$160/month.

**RECOMMENDATION**

That the City Council discuss the need for street lights on Industrial Way and provide staff with direction.

**ATTACHMENTS**

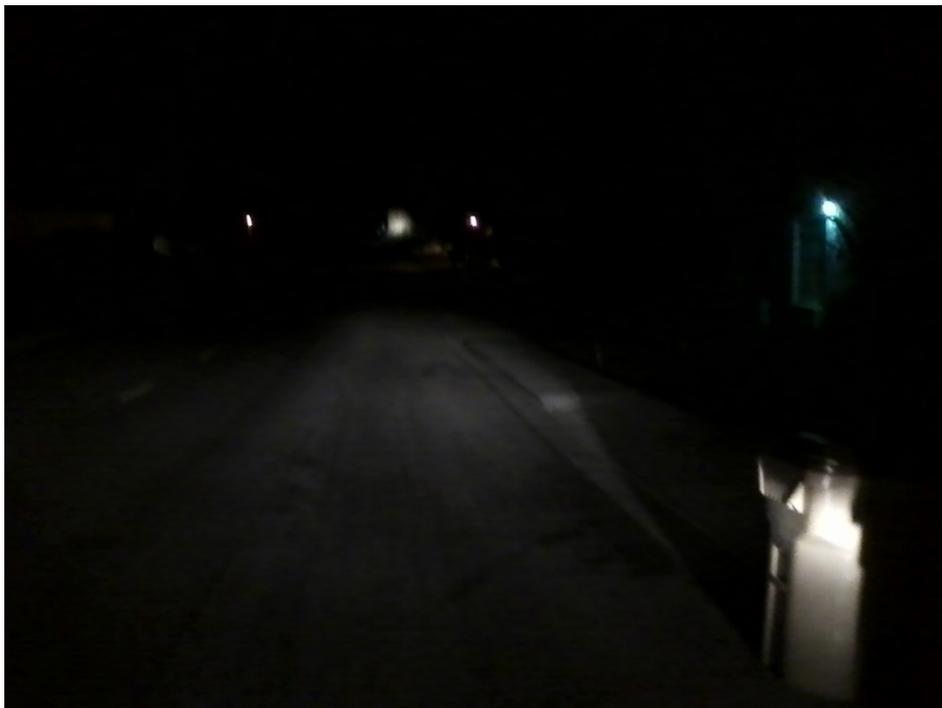
- Attachment 1 – Site Pictures
- Attachment 2 – COPS Report
- Attachment 3 – Swedish National Council Report

# Attachment 1

## Industrial Way facing South at Highway 246



## Industrial Way facing south by Verizon



# Attachment 1

Industrial Way facing south at Cul-de-sac



# Attachment 1

## Industrial Way facing North from Cul-de-sac



# Attachment 1





# ATTACHMENT 2

U.S. Department of Justice  
Office of Community Oriented Policing Services

Problem-Oriented Guides for Police  
Response Guides Series  
No. 8



## Improving Street Lighting to Reduce Crime in Residential Areas

Ronald V. Clarke

[www.cops.usdoj.gov](http://www.cops.usdoj.gov)



Center for  
Problem-Oriented Policing

Page 22 of 179



**Problem-Oriented Guides for Police  
Response Guides Series  
Guide No. 8**

# Improving Street Lighting to Reduce Crime in Residential Areas

Ronald V. Clarke

This project was supported by Cooperative Agreement Number 2006-CK-WX-K003 by the Office of Community Oriented Policing Services, U.S. Department of Justice. The opinions contained herein are those of the author and do not necessarily represent the official position of the U.S. Department of Justice. References to specific agencies, companies, products, or services should not be considered an endorsement by the author or the U.S. Department of Justice. Rather, the references are illustrations to supplement discussion of the issues.

The Internet references cited in this publication were valid as of December 2008. Given that URLs and web sites are in constant flux, neither the author nor the COPS Office can vouch for their current validity.

©2008 Center for Problem-Oriented Policing, Inc. The U.S. Department of Justice reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, or otherwise use, and authorize others to use, this publication for federal government purposes. This publication may be freely distributed and used for noncommercial and educational purposes.

[www.cops.usdoj.gov](http://www.cops.usdoj.gov)

ISBN: 1-932582-91-6

December 2008





## About the Response Guide Series

The *Response Guides* are one of three in the series of *Problem-Oriented Guides for Police*. The other two are the *Problem-Specific Guides* and *Problem-Solving Tools*.

*Problem-Oriented Guides for Police* summarize knowledge about how police can reduce the harm caused by specific crime and disorder problems by preventing problems and improving overall incident response. They are not guides to investigating offenses or handling specific incidents. Neither do they cover the technical details about how to implement specific responses. The guides are written for police—of whatever rank or assignment—who must address the specific problems the guides cover. The guides will be most useful to officers who are capable of the following:

- They understand basic problem-oriented policing principles and methods.
- They can look at problems in-depth.
- They are willing to consider new ways of doing police business.
- They understand the value and the limits of research knowledge.
- They are willing to work with other community agencies to find effective solutions to problems.

Publications in the Response Guide Series summarize knowledge about whether police should use certain responses to address various crime and disorder problems, and about what effects they might expect. Each guide offers the following:

- Describes the response
- Discusses the various ways police might apply the response
- Explains how the response is designed to reduce crime and disorder
- Examines the research knowledge about the response
- Addresses potential criticisms and negative consequences that might flow from use of the response
- Describes how police have applied the response to specific crime and disorder problems, and with what effect.



The *Response Guides* are used differently than the Problem-Specific Guides. Ideally, police should begin all strategic decision-making by first analyzing the specific crime and disorder problems they are confronting, then using the analysis results to devise particular responses. Certain responses are so commonly considered and have such potential to help address a range of specific crime and disorder problems that it makes sense for police to learn more about what results they might expect from them.

Readers are cautioned that the *Response Guides* are designed to *supplement* problem analysis, not to *replace* it. Police should analyze all crime and disorder problems in their local context before implementing responses. Even if research knowledge suggests that a particular response has proved effective elsewhere, that does not mean the response will be effective *everywhere*. Local factors matter in choosing which responses to use.

Research and practice have further demonstrated that, in most cases, the most effective overall approach to a problem is one that incorporates several different responses. A single response guide is unlikely to provide sufficient information on which to base a coherent plan for addressing crime and disorder problems. Some combinations of responses work better than others. How effective a particular response is depends partly on what other responses police use to address the problem.

The *Response Guides* emphasize effectiveness and fairness as the main considerations police should take into account when choosing responses, but recognize that they are not the only considerations. Police use particular responses for reasons other than, or in addition to, whether they will work or will not work, and whether they are deemed fair or not fair. Community attitudes and values, and the personalities of key decision-makers, sometimes mandate different approaches to addressing crime and disorder problems. Some communities and individuals prefer enforcement-oriented responses, whereas others prefer collaborative, community-oriented, or harm-reduction approaches. These guides will not necessarily alter those preferences, but are intended to better inform them.



The COPS Office defines community policing as “a philosophy that promotes organizational strategies, which support the systematic use of partnerships and problem-solving techniques, to proactively address the immediate conditions that give rise to public safety issues such as crime, social disorder, and fear of crime.” These guides emphasize problem-solving and police-community partnerships in the context of addressing specific public safety problems. For the most part, the organizational strategies that can facilitate problem-solving and police-community partnerships vary considerably and discussion of them is beyond the scope of these guides.

The guides in the *Response Guides Series* have drawn on research findings and police practices in the United States, the United Kingdom, Canada, Australia, New Zealand, the Netherlands, and Scandinavia. Even though laws, customs and police practices vary from country to country, it is apparent that the police everywhere experience common problems. In a world that is becoming increasingly interconnected, it is important that police be aware of research and successful practices beyond the borders of their own countries.

Each guide is informed by a thorough review of the research literature and reported police practice, and each guide is peer-reviewed anonymously by a line police officer, a police executive, and a researcher before publication. The review process is managed independently by the COPS Office, which solicits the reviews.

The COPS Office and the authors encourage you to provide feedback on this guide and to report on your own agency’s experiences dealing with a similar problem. Your agency may have addressed a problem effectively using responses not considered in these guides and your experiences and knowledge could benefit others. This information will be used to update the guides. If you wish to provide feedback and share your experiences, e-mail the information to [askCOPSRC@usdoj.gov](mailto:askCOPSRC@usdoj.gov).



For more information about problem-oriented policing, visit the Center for Problem-Oriented Policing online at [www.popcenter.org](http://www.popcenter.org). The web site offers free online access to the following:

- The *Response Guides Series*
- The companion *Problem-Specific Guides* and *Problem-Solving Tools Series*
- Special publications on crime analysis and on policing terrorism
- Instructional information about problem-oriented policing and related topics
- An interactive problem-oriented policing training exercise
- An interactive *Problem Analysis Module*
- Online access to important police research and practices
- Information about problem-oriented policing conferences and award programs.



## Acknowledgments

The *Response Guides* for Police are produced by the Center for Problem-Oriented Policing, whose officers are Michael S. Scott (Director), Ronald V. Clarke (Associate Director), and Graeme R. Newman (Associate Director). While each guide has a primary author, other project team members, COPS Office staff, and anonymous peer reviewers contributed to each guide by proposing text, recommending research, and offering suggestions on matters of format and style.

The project team that developed the guide series comprised Herman Goldstein (University of Wisconsin Law School), Ronald V. Clarke (Rutgers University), John E. Eck (University of Cincinnati), Michael S. Scott (University of Wisconsin Law School), Rana Sampson (Police Consultant), and Deborah Lamm Weisel (North Carolina State University).

Members of the San Diego; National City, California; and Savannah, Georgia police departments provided feedback on the guides' format and style in the early stages of the project.

Debra Cohen, Ph.D. and Cynthia Pappas oversaw the project for the COPS Office and research for the guides was conducted at the Criminal Justice Library at Rutgers University by Phyllis Schultze. Stephen Lynch edited this guide.

The author also wishes to thank Patrick Baldrey for help with technical lighting terms.





# Contents

About the Response Guides Series . . . . .	i
Acknowledgments . . . . .	v
Introduction . . . . .	1
Scope of the Guide . . . . .	2
How Might Improved Lighting Affect Crime? . . . . .	5
Will Improved Lighting Displace Crime to Nearby Areas? . . . . .	8
What Do Scientific Evaluations Show? . . . . .	11
What Use Have Police Made of Improved Street Lighting? . . . . .	15
Projects Focused on Crime and Disorder in Deprived, Rundown Neighborhoods . . . . .	15
Projects Whose Main Objective Was to Improve Street Lighting . . . . .	18
Summing Up . . . . .	19
What Are the Practicalities of Improving Lighting? . . . . .	21
How Much Will It Cost and Who Will Pay? . . . . .	21
Selecting Appropriate Lighting . . . . .	23
Dealing with Objections Raised by Residents and Others . . . . .	28
Your Checklist of Tasks . . . . .	31
Analyzing the Problem . . . . .	31
Formulating a Plan . . . . .	32
Getting Support . . . . .	33
Implementing the Plan . . . . .	33
Assessing Effectiveness . . . . .	34
Conclusions . . . . .	35
Endnotes . . . . .	37
References . . . . .	39
About the Author . . . . .	41
Other Problem-Oriented Guides for Police . . . . .	43





## Introduction

Improved street lighting is widely thought to be an effective means of preventing crime, second in importance only to increased police presence. Indeed, residents in crime-ridden neighborhoods often demand that the lighting be improved, and recent research generally bears out their expectation that improved lighting does reduce crime.

This guide is written to help community policing officers decide whether improved lighting is an appropriate response to a crime or disorder problem that might be confronting a particular neighborhood or community. It assumes that a detailed problem analysis has been conducted and that police, community and business leaders, and other stakeholders are exploring ameliorative responses, particularly improved street lighting. It explains why better street lighting can help reduce fear, crime, and disorder, and summarizes the literature on the effectiveness of better lighting. It discusses the considerations that should be weighed in pursuing this approach, suggests questions that should be asked, and lists the steps that should be followed in improving lighting. Finally, it suggests measures that can be used to assess the effectiveness of the lighting solutions that have been implemented.

Improved street lighting is much less controversial than some other responses to street crime discussed in this series of problem-oriented policing guides, including street closures<sup>§</sup> and video surveillance.<sup>§§</sup> Even so, it does have some potential costs (apart from monetary costs) and, as will be discussed elsewhere in the guide, its relationship to crime is not as straightforward as is usually assumed.

§Problem-Oriented Guides for Police, Response Guides Series No. 2, *Closing Streets and Alleys to Reduce Crime*

§§Problem-Oriented Guides for Police, Response Guides Series No. 4, *Video Surveillance of Public Places*



§Problem-Oriented Guides  
for Police, Tools Guides Series  
No. 8 *Using Crime Prevention  
Through Environmental  
Design in Problem Solving.*

## Scope of the guide

This guide deals with lighting improvements intended to reduce crime in public streets and alleys in residential neighborhoods. It does not discuss the following:

1. The lighting of new residential neighborhoods, subdivisions, or gated communities.
2. Improved lighting of parking lots, shopping malls, campuses, hospitals, or other public and private facilities.
3. Security lighting for private residences.
4. Lighting and road safety.

As explained below, problem-oriented policing projects to reduce crime in residential neighborhoods have usually made other environmental changes in conjunction with improvements in street lighting. In some of these projects extensive use has been made of the principles of Crime Prevention through Environmental Design (CPTED). These principles have been explained in another guide in this series<sup>§</sup> and will not be repeated here. This guide focuses solely on street lighting improvements, whether or not made in the context of broader environmental changes.

Although led by police, all successful problem-oriented policing projects in crime-ridden neighborhoods depend upon a partnership among police, local residents, community leaders, elected officials, and municipal officers. Police leading the project must invest a considerable amount of time in making these partnerships work. This guide does not attempt to discuss the nuances of managing these partnerships, but it does discuss ways of dealing with concerns that might be expressed about proposed street lighting improvements.



Because of the lack of relevant research, this guide says little about the effects of improved lighting on fear. Although there is little doubt that improved lighting reduces fear, in most cases this is merely an added benefit from the reduction in crime. Reducing unwarranted fear is a legitimate objective of lighting improvements in settings such as college campuses or municipal parking lots. However, it would be difficult to persuade public officials to spend taxpayer money to improve lighting without the expectation that both the fear and incidence of crime would be reduced. In fact, according to research quoted in the New York State Energy Research and Development Authority *How-to Guide to Effective Energy-Efficient Street Lighting for Municipal Elected/Appointed Officials*,<sup>1</sup> simply increasing light levels beyond a certain point will neither make an area seem safer nor increase perceptions of safety. That is, glare and high light levels that make it harder for people to see can increase fear, whereas uniform lighting that eliminates both glare and dark shadows can lead to increased feelings of security.

Again, because of the lack of relevant research, this guide says little about the cost benefits of improved lighting. It is relatively easy to estimate the costs of relighting projects, but calculating the benefits is much more difficult. This involves estimating the numbers of different types of crime prevented by the improved lighting and putting a cost to these crimes—not just cost to the victim but also to the police, the municipality, and the criminal justice system. It also involves calculating the benefits of reduced fear, increased freedom of movement, and related factors. Unsurprisingly, no existing research has undertaken these calculations.



Finally, this guide provides only a brief introduction to the practicalities of selecting and installing improved lighting. Street lighting improvements entail many considerations, both in the level and quality of lighting desired and how these are to be achieved. You can expect the local utility company or municipal officials to make many of these decisions, but if you have a basic logistical understanding of the issues you will be able to provide useful input regarding the needs of your particular neighborhood. And although experts will commission and supervise the work, you can help by acting as a liaison between the municipality, the local community, and contractors. You might also find it necessary to “progress-chase” the work to ensure that installation does not lag.



## **How Might Improved Lighting Affect Crime?**

In most people's minds, there is a simple and direct relationship between lighting and crime: better lighting will deter offenders who benefit from the cover of darkness. Improved lighting means that offenders are more likely to be seen by someone who might intervene, call the police, or recognize the offender. Even if this does not happen, some offenders who fear that it might would be deterred from crime.

Things are rarely as simple as they first appear. Professor Ken Pease,<sup>2</sup> a crime-prevention expert, has explained how improved lighting can have a variety of different effects on crime. In particular, not only can it sometimes increase crime, but it can also affect not just nighttime crime, but daylight crime as well. Familiarize yourself with all the possible effects he discusses, which are summarized in Box 1 and Box 2.



**Box 1: How Improved Lighting Could  
REDUCE Crime (adapted from Pease 1999).**

**In Darkness**

1. Improved lighting deters potential offenders by increasing the risk that they will be seen or recognized when committing crimes.
2. Police become more visible, thus leading to a decision to desist from crime.
3. If improved lighting leads to the arrest and imprisonment of repeat offenders they can no longer commit crimes in the area.
4. New lighting can encourage residents to spend more time on their stoops or in their front yards in the evenings and thus increase informal surveillance.
5. Improved lighting can encourage more people to walk at night, which would increase informal surveillance.

**In Daylight**

1. New lighting shows that city government and the police are determined to control crime. As a result, potential offenders might no longer see the neighborhood as affording easy pickings. In addition, citizens might be motivated to pass on information about offenders.
2. Better lighting can increase community pride and cohesiveness, leading to a greater willingness to intervene in crime and to report it.
3. If offenders commit crime in both light and darkness, nighttime arrests and subsequent imprisonment would reduce both daytime and nighttime crime.



**Box 2: How Improved Lighting Could INCREASE Crime (adapted from Pease 1999).**

**In Darkness**

1. Increased social activity outside the home in the evenings can increase the number of unoccupied homes available for burglary.
2. Increased visibility of potential victims allows better assessment of their vulnerability and the value of what they carry. Offenders might more easily be able to see if parked cars contain valuable items.
3. Increased visibility allows better judgment of the proximity of “capable guardians” who might intervene in crime.
4. Better lighting might facilitate activities like drug dealing and prostitution.
5. Better lit streets might attract disorderly youths from nearby areas.
6. Improved lighting of rarely used footpaths might facilitate undesirable behavior.

**In Daylight**

1. Disorderly activities focused upon a newly illuminated area can spill over into the use of that place as a daylight meeting point.

§Described by Welsh and Farrington (2007) in a systematic review of the crime-prevention effects of improved lighting undertaken for the Swedish National Council for Crime Prevention.

Two theories underlie Professor Pease’s ideas about the crime-prevention effects of improved street lighting.<sup>§</sup>

1. Street lighting is a situational crime-prevention measure that focuses on reducing opportunity and increasing risk through modification of the physical environment.
2. Street lighting strengthens informal social control and community cohesion through the promotion of social interaction and investment in neighborhood infrastructure.



Some of the effects identified by Pease are more plausible than others, but his lists can help you in two main ways: (1) they alert you to the fact that improved lighting might not always lead just to reductions in nighttime crime, but can sometimes have other results as well and (2) they alert you to possible arguments that might be used by the supporters and opponents of improved lighting.

### **Will Improved Lighting Displace Crime to Nearby Areas?**

Pease's hypotheses concern the different ways in which improved street lighting might affect the neighborhood where it is installed. But what about nearby neighborhoods? Might not criminals simply commit their crimes where the lighting is still poor? This phenomenon, known as spatial or geographical displacement, might seem an obvious result of improved lighting, but again, matters are not so simple, as is shown by the following.

1. Research studies show that displacement occurs much less often than most people, police included, assume. For example, a review of 55 studies of displacement undertaken for the Dutch Ministry of Justice found that displacement occurred in only 22 instances. When it did occur, it was never complete, so that there was always a net benefit of the crime-prevention measure.<sup>3</sup>
2. A recent U.S. study concluded that street offenders are much more likely to adapt their methods to the new conditions or to displace their activities to a different time of the day, rather than to offend elsewhere.<sup>4</sup>



3. Rather than displacement, many recent studies have found that there is diffusion of benefits to nearby areas. This means that the crime-prevention measures have a beneficial influence beyond the places that they target, perhaps because offenders are not exactly sure where the crime-prevention measures have been introduced. Obviously, this is much more likely if offenders are not local residents.

For police officers, the main implication of this research is that although improved street lighting might displace crime into nearby neighborhoods, it is just as likely to reduce crime in these neighborhoods because of a diffusion of benefits.





## **What Do Scientific Evaluations Show?**

The discussion above shows just how complicated it can be to evaluate the effects of improved street lighting. The evaluation must consider the effects of improved lighting on crimes in daylight hours as well as in darkness. It must look for both increases and reductions in crime; and not just for the relit area, but also for a comparable control area where the lighting has not been improved. It must examine the effect of better lighting on different kinds of crime, because its effect is not consistent for all types of crime. And it must examine not just the displacement of crime to nearby areas but also the possible diffusion of benefits. Finally, the evaluation should consider other possible benefits of improved lighting, such as reduced fear.

If this were not enough, the most recent review of lighting studies<sup>5</sup> has also noted the following:

The effects of improved street lighting are likely to vary in different conditions. In particular, they are likely to be greater if the existing lighting is poor and if the improvement in lighting is considerable. They may vary according to characteristics of the area or the residents, the design of the area, the design of the lighting, and the places that are illuminated. For example, improved lighting may increase community confidence only in relatively stable homogeneous communities, not in areas with a heterogeneous population mix and high residential mobility. The effects of improved lighting may also interact with other environmental improvements, such as closed circuit television (CCTV) cameras or security patrols.



§Table adapted from Welsh and Farrington (2007).

This means that studies should clearly describe the nature and intensity of the improvements in lighting, the general neighborhood conditions, and any other contemporaneous crime-prevention measures. Indeed, a consistent finding of problem-oriented policing projects is that a smart mix of responses, tailored to the situation, produces the best results.

Few if any published studies meet all these evaluation requirements; indeed, it would be very difficult to do so. The principal question examined in most published evaluations is whether street lighting reduces crime at night. This was the focus of eight studies undertaken in the United States, seven of them during the 1970s (see Table 1).

**Table 1: Eight Street Lighting Evaluations in the United States.**<sup>§</sup>

Study	City	Intervention Area	Increase in Lighting	Other Intervention	Outcome Measure	Follow-up (months)	Effect
Atlanta Regional Com. (1974)	Atlanta, Georgia	City center	4 times	None	Crime (robbery, assault, and burglary)	12	Desirable effect; no displacement
DIFL* (1974)	Milwaukee, Wisconsin	Residential and commercial area	7 times	None	Crime (property and person categories)	12	Desirable effect; some displacement
Inskip and Goff (1974)	Portland, Oregon	Residential neighborhood (high crime)	2 times	None	Crime (robbery, assault, and burglary)	6 or 11	Null effect; no displacement or diffusion
Wright et al. (1974)	Kansas City, Missouri	Residential and commercial areas	No information	None	Crime (violent and property offenses)	12	Desirable effect (for violence); some displacement
Harrisburg P.D. (1976)	Harrisburg, Pennsylvania	Residential neighborhood	No information	None	Crime (violent and property offenses)	12	Null effect; no displacement
Sternhell (1977)	New Orleans, Louisiana	Residential and commercial areas	No information	None	Crime (burglary, vehicle theft, and assault)	29	Null effect; no displacement
Lewis and Sullivan (1979)	Fort Worth, Texas	Residential neighborhood	3 times	None	Crime (total)	12	Desirable effect; possible displacement
Ouinet and Nunn (1998)	Indianapolis, Indiana	Residential neighborhood	No information	Police initiatives	Calls for service (violent and property crime)	7 to 10	Null effect; no displacement

\* Department. of Intergovernmental Fiscal Liaison



Although four of these studies found desirable effects from improved lighting, the others did not; a review published by the U.S. Department of Justice of the seven studies undertaken in the 1970s concluded that improved lighting was not an effective means of preventing crime.<sup>§</sup> However, three more recent studies published in the United Kingdom (see Table 2) found significant reductions in crime both in daylight and at nighttime, with no apparent displacement and in one case, some diffusion of benefits.

<sup>§</sup>The report is titled *Street Lighting Projects: National Evaluation Program. Phase 1 Report* (Tien et al. 1979).

<sup>§§</sup>Washington, D.C.: U.S. Department of Justice, National Institute of Justice. Table adapted from Welsh and Farrington (2007).

**Table 2: Street Lighting Evaluations in the United Kingdom.<sup>§§</sup>**

Study	City	Place	Increase in lighting	Other Intervention	Outcome Measure	Follow-up (months)	Effect
Shaftoe (1994)	Bristol	Residential neighborhood	2 times	None	Crime (total)	12	Desirable effect; diffusion and displacement not measured
Painter and Farrington (1997)	Dudley	Local authority housing estate	2 times	None	Crime (total and types of offenses)	12	Desirable effect; no displacement
Painter and Farrington (1999)	Stoke-on-Trent	Local authority housing estate	5 times	None	Crime (total and types of offenses)	12	Desirable effect; diffusion, no displacement



<sup>§</sup>Welsh and Farrington (2007, page 8). This percentage improvement might overstate the effect of improved street lighting because their meta-analysis included two studies undertaken in the United Kingdom (not reported in Table 2) that examined the effect of improved lighting in a parking lot and a center city market.

A recent authoritative review, which used a well-established methodology to combine the results of all the studies from the United States and the United Kingdom, concluded that improved street lighting led to a “21 percent decrease in crime compared with comparable control areas.”<sup>§</sup> Reductions in crime of this amount are worthwhile but, of course, there is no guarantee that better lighting will reduce crime in your neighborhood.

The review could not determine whether these improvements were the result of situational deterrence or improved community pride and cohesion. The review concluded that improved street lighting had a larger effect on property crimes than on violent crimes, but offered no explanation for this result. More detailed research showing the effect on specific types of property crime and violent offenses is needed.



## **What Use Have Police Made of Improved Street Lighting?**

The best source of information on the use of improved street lighting by law enforcement is the collection of project reports submitted for the Goldstein and the Tilley Awards.<sup>§</sup> Although few of these projects focused specifically on improved street lighting, many projects that have attacked disorder in deprived or rundown neighborhoods have included improved street lighting in a broad package of crime-prevention measures. The packages often included both environmental improvements such as neighborhood cleanups (vandalism repair, graffiti removal, tree trimming), and efforts to improve community cohesion and function. The lighting improvements generally involved the upgrade or repair of existing lighting in particular street segments or crime hot spots.

§See [www.popcenter.org](http://www.popcenter.org) for these submissions.

### **Projects Focused on Crime and Disorder in Deprived, Rundown Neighborhoods**

Two good examples of these types of projects are the Hopwood Triangle, a finalist for the Goldstein Award in 2004,<sup>6</sup> and the New Helvetia and River Oaks Project, a 1996 Goldstein Award winner.<sup>7</sup>

The Hopwood Triangle is a development of 91 dwellings owned by the City of Preston, in Lancashire, United Kingdom. Located close to the city center and two main arterial routes, the development had seen no recent investment and had slipped into a spiral of decline, with an increase in damaged properties, burglary, prostitution, and antisocial behavior. It was proving impossible to rent the vacated dwellings. Remaining tenants were increasingly apathetic about criminal and antisocial behavior.



The Goldstein Award submission describes a multiagency project led by the police that was designed to deliver sustainable changes and improvements. In partnership with Preston City Council Central Housing Department, the Parks Department, the Millbank Court, and the local community, a range of responses were developed over a 2-year period, including the following:

- A Crime Prevention through Environmental Design survey that led to a plan for physical improvements throughout the development that included improved lighting
- Identification and eviction of problem tenants
- Targeted enforcement of offenders
- Formation of a Residents' Association and a Neighborhood Forum
- Establishment of a "local lettings policy"
- Formation of Neighborhood Watch
- Operation Curb/Safer Sex Works, targeting prostitution.

The project produced an overall decline in crime of 52 percent; in property damage and vandalism of 73 percent; in burglary of 28 percent; and in vehicle theft and vandalism of 80 percent. Calls to police declined by 38 percent, with a resultant cost saving to police of £82 (\$150) per dwelling. In addition, many physical improvements were made to the development.

The New Helvetia and River Oaks Project, undertaken in Sacramento, California, sought to rehabilitate a downtown neighborhood consisting of two adjacent public housing projects decimated by gang and narcotics problems. The population was estimated to be 40 percent juveniles, with most heads of households being single women. In 1991, there were more than 1,900 calls for service—about 2.5 calls per household—and more than 470 reported crimes, of which 57 were assaults. Sting operations, together with intensive police presence every night, produced more than 140 drug arrests in a 6-month period, but failed to have any



significant effect on the problem. In 1992, calls for service increased again, peaking at more than 2,350 for the project area. Despite these numbers, it was clear that many crimes related to drugs were never reported.

Two Neighborhood Police Officers were assigned to the project and given an office in the housing complex. They undertook an extraordinarily intensive and prolonged effort to bring about a reduction in the crime problem. They emphasized community involvement, heavy enforcement, reaching at-risk children, and forming the many partnerships necessary to gain access to both short-term and long-term resources. Two of the more significant accomplishments were the formation of the V Team, a program designed to strengthen the minds and bodies of community youth, and the elimination of the open-air narcotics market. During the first 40 days of the project, 70 arrests were made for major narcotics violations; by 1994 police had made more than 500 arrests. Officers seized several cars, thousands of dollars, electronic equipment, and jewelry as proceeds of drug transactions.

The improved lighting component included removing heavy growth from existing lighting and poles, repairing all broken lights, and installing additional sodium lights and light poles. A resident was then employed to report burned out lights because the housing authority employees were usually gone before dark.

By the end of 1995, robberies were down 73 percent, felony assaults were down 74 percent, and narcotic calls were down 94 percent. During the 4 years, all calls for service were down 64 percent—a reduction translating into 1,499 fewer calls for service in 1995 than in 1992. Also reduced were fire department calls (down 36 percent) and suspensions from the elementary school adjacent to the area (down 85 percent). By April 1994, a *Sacramento Magazine* survey of 1,000 members of the Sacramento Association of Realtors resulted in the area being voted “Most Improved Neighborhood.” A 1995 survey of residents found improved resident satisfaction, with 80 percent no longer wishing to move from the area.



## **Projects Whose Main Objective Was to Improve Street Lighting**

Isolated examples exist of problem-oriented policing projects more centrally focused on improved street lighting. One project of this kind, called Crime Watch Light Partners, was submitted for the Goldstein Award in 2001 by the Henrico County, Virginia, Division of Police. Involving only one street in Lakeside, populated by 142 homes, it was undertaken in response to resident requests for improved street lighting to deal with larcenies involving automobiles. The project was led by a community officer who spent much of his time (141 hours) working out the details of paying for the street lighting. Streetlights in Henrico County are not installed by the county authorities, but by the local power company, which at the time charged homeowners \$96 or \$144 a year per light installed (depending on lumens). Because this charge was too high for most residents, the community officer devised a plan whereby four neighbors would share the cost of one new light. He succeeded in getting 112 residents to sign up for 30 new streetlights, which were installed at a substantial saving. Before and after measurements taken with a light meter showed that street illumination was substantially improved, but no data were presented concerning the impact of the improved lighting on crime.

A second project, Gray Street Lights, was submitted for the Tilley Award in the United Kingdom in 2005. This project was undertaken in Workington, West Cumbria, and again was mounted to deal with nighttime thefts from parked cars. Analysis showed that Gray Street was the primary hot spot for thefts from cars in West Cumbria. The street is approximately 300 yards in length, with 90 small row houses on either side of the road and several small businesses at one end. During 2002, 27 thefts from vehicles parked in the street were reported with an estimated total loss of £5,000 (a little under \$9,000). Most of these thefts occurred on weekend nights. Analysis of the problem identified poor street lighting as an important contributory cause of the



thefts. Other presumed causes were the lack of private garages and off-street parking and the fact that the street was a busy pedestrian route after pub closing time.

The police established that a significant upgrading of the lights in the street would cost £14,000 (about \$24,500) and coordinated a successful bid for government funds to pay for the lights. These were installed in December 2003; in 2004, only six thefts from cars were reported in the street, at an estimated cost of £833 (about \$1,500). Clearly, this was a significant improvement from the situation in 2002, before the lights were upgraded. A survey established that residents believed the new lights had reduced crime and that they felt safer in the street.

## **Summing Up**

Improved street lighting has rarely been the main objective of a problem-oriented policing project, but where it has, it seems to have been effective. In fact, most improvements in lighting have been made in the course of projects that aimed to rehabilitate deprived and rundown neighborhoods with serious crime and disorder problems. Because the lighting improvements were usually a relatively minor part of the project, it is impossible to know what part, if any, they played in the claimed reductions in crime or improvements in community satisfaction—which were often quite spectacular.





## What Are the Practicalities of Improving Lighting?

You will face a number of difficulties in trying to improve street lighting; the more ambitious your project, the greater these difficulties will be. Trimming bushes so that lights are more efficient and replacing damaged or dysfunctional lamps will usually be straightforward, but upgrading the lighting for an entire neighborhood will entail much more difficulty. You will have to grapple with cost issues, technical issues relating to different kinds of lighting, municipal regulatory and zoning projects, and various objections raised by residents.

§A variety of state and federal programs exist that provide funds for qualifying street lighting projects within cities and municipalities, especially for projects that improve energy efficiency (see NYSERDA, 2002). Your help in identifying these sources might be needed.

### How Much Will It Cost and Who Will Pay?

Cost issues will depend upon who has the responsibility for installing, maintaining, and paying for lighting in the area. Many or most municipalities are responsible for street lighting, which is expected to meet citywide standards in different neighborhoods or districts. In these cases, you will be relieved of the need to understand most of the complex technical, financial, and logistical issues of upgrading the lighting. The same is likely to be true if your area is a public housing project, because physical conditions for U.S. Housing and Urban Development properties must comply with state and local codes.

Whatever the regulations governing street lighting, you will still need to work closely with city officials and engineers to persuade them of the need to upgrade the lighting in your neighborhood, or at least to accord priority to the neighborhood. You will need to advise the engineers of the particular places that need special lighting or lighting of a particular kind, although you will need to recognize that—even with the best will in the world—engineers will be limited by lighting standards and budgets<sup>§</sup> in what they can do: they have a delicate balancing act to perform in providing adequate lighting at minimum financial and social cost. Financial decisions must weigh the costs of installation, maintenance, and electricity.



The long-term costs of electricity are especially important at a time when some smaller towns are reportedly dimming sections of their streetlights in the face of rising costs and the pressure to be energy efficient.<sup>8</sup> Social costs include the unwelcome effects of glare, light trespass, and light pollution, which vary with different kinds of lighting (see below).

You will also have to play a part in keeping the project on track. You should monitor progress closely during the approval and implementation stages, remembering that you can play an important role as liaison between the municipality and the utility company to ensure that unnecessary delays are avoided. However hard you work, you should be prepared for many months to elapse before the project is complete.

The problems might be different, but equally difficult, if your area is located in a suburban or predominantly rural area. In these areas, utility companies sometimes own and maintain the street lighting and under certain budgetary conditions might pay the initial cost of renewal or improvement of the street lighting. In some cases, they might be able to recover the cost from the municipality, but in others they might have to charge residents. This was the case in the Crime Light Partners project described earlier. As in that project, the main difficulty lies in obtaining the agreement of residents to pay for the improved lighting—a difficulty that can be particularly acute in deprived and rundown neighborhoods where lighting has never been adequate or where it has severely deteriorated.



## Selecting Appropriate Lighting

As a police officer, you cannot be expected to know what specific type of lighting improvements are needed, nor can you be expected to know all the various standards and requirements of street lighting. But you will be able to communicate better with utility companies and the local engineering department if you have some basic understanding of lighting types and their properties. These are described here.

§For fuller information on lamp types, see NYSERDA (2002b).

1. **Lamp types or bulbs:** There are six main kinds of lamps (see Table 3), which vary in their initial costs, how long they last, how energy efficient they are, and how well they render color (i.e., the effect of the light produced by the lamp on the perceived color of objects being viewed).<sup>§</sup> Your local utility companies might not supply all these types of bulbs.

**Table 3: Common Street Lighting Lamp Types.**

Lamp type	Properties
Incandescent (bulbs)	Very energy inefficient, short life
Mercury Vapor (MV)	Energy inefficient, longer life
High-Pressure Sodium (HPS)	Energy efficient but virtually no color rendering (orange glow)
Low-Pressure Sodium (LPS)	Very energy efficient, but only limited color rendering
Metal Halide	Energy efficient and good color rendering, especially pulse start or ceramic metal types
Fluorescent	Energy efficient and good color quality, but poor optical control

Source: Adapted from NYSERDA (2002a)



2. **Color rendering:** Color rendering refers to the effect of light on the perceived color of objects. Good color rendering means that most colors are easily distinguishable and is particularly important when color video cameras are in use. Color rendering should be distinguished from color appearance, which refers to the color of the lamp itself.
3. **Optical control or lighting cut-offs:** Optical control refers to the light distribution of different lighting fixtures, of which there are four main types.
  - **Noncutoff** optics, typically globes, allow light to be emitted in all directions. Many decorative fixtures are of this type. They are effective at throwing light up into trees, not onto the ground, and they create a large amount of light pollution and glare.
  - **Semicutoff** optics are commonly used in cobra-head style street lighting. They allow most of the light to shine on the ground, but some light is thrown upwards. There is significant glare from these fixtures, but they are often mounted on taller poles to reduce the ill effects of glare.
  - **Cutoff** optics are typically rectangular in shape and produce more controlled lighting than semicutoff: less than 2.5 percent of the light is allowed to escape upwards. They offer a wider spread of light than a fullcutoff and are commonly used in parking lots where greater spacing between poles is desirable.
  - **Full cutoff** optics put light on the ground in a defined, tight pattern; they do not emit any light upwards. To achieve uniformity of lighting, more of these fixtures must be used, or they must be mounted higher off the ground.



4. **Brightness of lighting:** Lighting engineers measure either the brightness (luminance) or quantity (illuminance) of light at the illuminated object (e.g., the ground) and also the light emitted from the source (i.e., the lamp).
  - **Candlepower** is the luminous intensity of a source of light in a given direction. Now expressed in candelas, it was formerly measured in terms of the international candle.
  - **Lumens** are the metric unit of luminous flux, i.e., the time rate of flow of light from a lamp.
  - **Foot-candles** are a measurement of the light falling on a specified surface (e.g., the ground). This is illuminance in lumens per square foot.
  - **Lux** is the metric equivalent of foot-candles: lumens per square meter.
  - **Candelas** (per square foot or per square meter) is a measurement of brightness or luminance.
5. **Pole spacing and height of lights:** It should be clear from the above that the cutoff properties of different light fixtures will partly determine the number and height of street lighting poles that are needed to illuminate a given area. This in turn has implications for costs and for glare, light trespass, and light pollution (see below).
6. **Vertical illumination:** Vertical illumination is the measure of light delivered at a sufficient height from the ground so that people can see the faces of other pedestrians. Areas suffering from high levels of street crime and robbery benefit from high values of vertical illuminance.



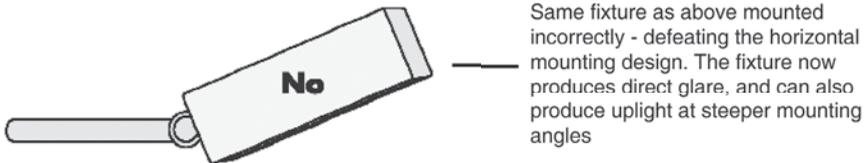
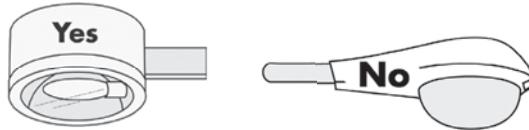
7. ***Glare, light trespass, and light pollution:*** Glare, trespass, and pollution are potential dangers from increased lighting. Careful selection and design of street lighting can minimize their effects.
- **Glare:** A well-designed street lighting system directs light to the road surface and pedestrian areas, but not into the eyes of motorists and pedestrians. Glare can be minimized through proper fixture selection, pole placement, and light source selection.
  - **Light trespass:** Unwanted trespass of light falling onto adjacent properties can lead to complaints from residents. An effective system limits streetlights from shining light where it is unwanted, such as into windows on private property.
  - **Light pollution:** Light pollution is defined as unwanted light in the atmosphere that contributes to sky glow. Many localities and states have passed laws to minimize light pollution, and many more laws are pending. Full cutoff fixtures that only direct light downwards to the ground have become popular, although careful design is required to minimize the amount of light reflected off the ground and into the sky (see box).



## What is a True “Full Cutoff” Outdoor Lighting Fixture?



Flat glass lens, eliminates or minimizes direct glare, no upward throw of light. The housing for these fixtures is available in many styles.



Known as just “Cutoff”. Center “drop” or “sag” lens with or without exposed bulb, produces direct glare.



Forward-Throw Style. Exposed bulb in the forward direction produces some direct glare.

Source: International Dark-Sky Association (IDA Inc.), [www.darksky.org](http://www.darksky.org).  
Reproduced with the permission of IDA Inc. and Bob Crelin.



## Dealing with Objections Raised by Residents and Others

§In some instances, new lights are shot out by drug dealers or vandals. Shields to guard lights from gunshots can be purchased.

Improvements in street lighting are much less controversial than some other crime-prevention measures covered in the *Response Guides* series, such as street closures<sup>9</sup> or the installation of video surveillance cameras or CCTV.<sup>10</sup> It is a fact of human nature that we resist change, and thus even improvements in street lighting—which carry many benefits—will be resisted by some community members and public officials.

*Residents in your neighborhood.* You should expect some neighborhood residents to oppose proposed improvements to street lighting, especially if they are expected to contribute to the cost. But you can also expect a variety of other objections. Some residents might be concerned about glare, light trespass, and light pollution, particularly if a streetlight is to be installed close to their homes. Some might be concerned about the disruption, dirt, and inconvenience that will result from the installation. Others might complain that improvements in lighting are being used as an unsatisfactory alternative to increased police patrols. Yet others might see the improved lighting as a stigmatization of their neighborhood. Finally, some residents involved in street drug dealing might regard the lighting improvements as an effort by officials to disrupt their livelihood.<sup>§</sup> For obvious reasons, this concern will not be voiced, but it might underlie opposition based on other grounds.

Dealing with these and other resident concerns is an essential part of consensus building and an essential aspect of your community policing role. You can try to do this through town meetings, one-on-one discussions with residents, meetings with local elected officials, and interviews with the media. Even if the worries seem exaggerated, you must take them seriously and address them directly. You can be helped in this by the neighborhood residents' association



(if one exists), but expect the process to be time-consuming. You might need to meet many times with the association leaders and other community leaders. These and other meetings should be open to all residents.

Without a residents' association, obtaining a general agreement can be even more difficult, as there is likely to be no one group or person who is empowered to make community decisions. You might find local elected politicians helpful, but beware of self-appointed community leaders who might simply be pursuing their own agendas.

It is essential that you are well-prepared for meetings. You should present data showing the proportions of crimes of different types committed by day and by night and be prepared to discuss the limitations of alternative ways (such as increased patrols) of dealing with these problems. You will need large maps showing where new lights are needed and where lighting upgrades are required. You should bring pictures of the types of lights you are planning to install. Finally, you will need to be familiar with the research studies on the effectiveness of improved street lighting and the findings on displacement and diffusion.

Each meeting should have a written agenda and should conclude with a review of the proceedings, including what actions have been agreed on and who is responsible for implementing them. If possible, you should set the time and place for the next meeting while everyone is still present. Communicating a sense of urgency to all the participants is critical to keeping up project momentum.



You must be very open and clear in your approach. At all costs, avoid giving the impression that all the important decisions have already been made and that consultation is merely a formality. Be open to alternative ideas about the placement of new lights or the type of lights to be installed. Engage stakeholders who are reluctant to participate in the discussions and consider the needs of resident groups such as children and teenagers, who might not be adequately represented at the meetings. Finally, it is very important that you persuade your superiors to let you remain at your post until negotiations are concluded and an agreement has been reached. The success of such a process depends on the trust developed between you and the other stakeholders. Nothing is more fatal to a problem-oriented project than a change of police leadership at a crucial point.

*Nearby neighborhoods.* Complaints from residents of nearby neighborhoods are like to be of two main types. First, residents will wonder why the lighting in their neighborhoods is not being improved. Second, residents will express concern that crime and hooliganism will be displaced into their neighborhoods. These concerns might be publicized by the local media and echoed by local elected officials. Again, you should meet with residents and local elected officials to find ways of allaying these concerns. In dealing with the media, try to involve local elected officials, provided that they support your proposals. You can be sure that they will welcome the chance to appear on television or in the newspaper.

*City officials.* Local officials will need to be satisfied that your proposals to improve street lighting are grounded in data showing that the neighborhood has unusually high rates of crime that can be reduced by improved lighting. Your task will be much more difficult if you do not have the support of local elected officials; thus, you will need to plan carefully to engage their interest and assistance.



## Your Checklist of Tasks

There is no published step-by-step guide on how to improve street lighting to reduce crime and, in any case, every problem-oriented project is unique. You will have to tailor general guidelines to your own situation to produce an action plan. Answering the questions below will help you do this.

The amount of work you will need to do to personally to ensure the project's completion will depend crucially on whether the local government supplies a project coordinator: you should do your best to persuade the responsible officials that a project coordinator is vital. Impress upon them the need for government oversight and accountability. You can then work with whoever is appointed, knowing that the responsibility does not rest entirely on your shoulders.

### Analyzing the Problem

- Have you clearly defined the neighborhood boundaries?
- Have you collected reliable data about the types of crime and disorder that are the focus of concern?
- Do you know the proportion of crimes committed by day and by night?
- Do you know whether these crimes are committed by local residents or outsiders?
- If outsiders, do you know whether they go to the neighborhood specifically to commit crimes, or whether they do so when visiting or passing through?
- Can you document that the lighting in the neighborhood is seriously deficient?
- Have you estimated how much crime improved lighting will prevent?



- Have you clear expectations about how improved lighting can reduce crime? For example, by enabling witnesses to see offenders and report incidents to the police? Or by raising the fear in the minds of offenders that this will happen?
- Have you explored alternatives to improved lighting, e.g., video surveillance, neighborhood watch, crackdowns, crime-prevention advice?
- Can you explain why these alternatives cannot adequately substitute for improved lighting?

### **Formulating a Plan**

- How many new lights are needed?
- How many existing lights must be upgraded?
- What type of lights will be installed?
- Where will the lights be located?
- If video cameras are in use in the neighborhood, will the improved lighting affect the quality of their operation?
- Might improved lighting in some places encourage undesirable behavior? For example, might lighting a rarely used footpath increase opportunities for victimization?
- Will the lighting selected produce adequate levels of vertical illumination so that people can see the faces of others clearly?
- How much will the new lighting cost?
- Have you obtained the agreement of any residents who will be required to pay for the improvements?
- How long will it take to install the new lighting once agreement has been reached?
- Who will install the new lighting?
- Is there a detailed plan showing which trees and bushes need to be trimmed?
- Who is responsible for trimming the shrubbery?



## Getting Support

- Do you have support from police district commanders, the chief, and other key city officials, such as the lighting engineer?
- Do you have a clear mandate from residents and elected representatives?
- Are residents content with the appearance and location of the new lights?
- Have you dealt adequately with individual concerns about light trespass?
- Can you answer any worries about light pollution?
- Have you allayed resident concerns about neighborhood stigmatization?
- Have you dealt with the worries of nearby communities about displaced crime?
- Have you briefed the local media about the need for improved lighting?
- Have you dealt satisfactorily with public opposition?

## Implementing the Plan

- Has a municipal project coordinator been appointed?
- Have you constructed a detailed timeline showing when each element of the improved lighting program will be started and completed?
- Does this plan include both approvals and actions?
- Are all parties informed about and in agreement with this timetable?



<sup>§</sup>See Eck (2002) for help with assessing effectiveness.

### **Assessing Effectiveness<sup>§</sup>**

- Are you prepared—do you have the necessary data—to be able to compare neighborhood crime or disorder before and after the lighting has been improved?
- Will the before and after periods be directly comparable? For example, will you be able to control for time of year?
- Will you be able to compare the proportions of crime committed by day and by night?
- Will you be able to compare before and after crime trends in your neighborhood with those in nearby neighborhoods?
- Will you examine possible displacement and diffusion?
- Will you try to estimate if improved street lighting is cost effective?



## Conclusions

It is clear that reductions in crime can be achieved by improvements in street lighting and that these reductions will be most worthwhile in high-crime neighborhoods. It is also clear that improved lighting can reduce crime during the day and at night. This suggests that improvements to lighting not only act as a situational deterrent to crime, but can also improve local community cohesion and pride, which in turn increases the willingness of residents to intervene in crime or cooperate with the police. Improved lighting will also send a message to potential offenders that the neighborhood no longer offers easy opportunities for crime.

Unfortunately, the available research does not answer every question a police officer will confront in a project designed to improve lighting. There is still a considerable need for the exercise of professional judgment at all stages of such a project, but submissions for the Goldstein and Tilley awards include many success stories where police have worked with communities and local officials to improve lighting.<sup>11</sup> Altogether, it can be concluded that when used judiciously “improved street lighting has few negative effects and clear benefits for law-abiding citizens.”<sup>12</sup>





## Endnotes

<sup>1</sup>NYSERDA (2002a).

<sup>2</sup>Pease (1999).

<sup>3</sup>Hesseling (1994).

<sup>4</sup>Weisburd et al. (2006).

<sup>5</sup>Welsh and Farrington (2007, page 11).

<sup>6</sup>Lancashire Constabulary, United Kingdom (2004).

<sup>7</sup>Sacramento Police Department, California. (1996).

<sup>8</sup>[www.boston.com/news/local/breaking\\_news/2008/07/nh\\_town\\_may\\_dim.html](http://www.boston.com/news/local/breaking_news/2008/07/nh_town_may_dim.html)

<sup>9</sup>Clarke (2004).

<sup>10</sup>Ratcliffe (2007).

<sup>11</sup>[www.popcenter.org](http://www.popcenter.org)

<sup>12</sup>Welsh and Farrington (2007, page 28).





## References

- Clarke, R. V. *Closing Streets and Alleys to Reduce Crime, Response Guides Series No 2*. Problem-Oriented Guides for Police Series. Washington, D.C.: U.S. Department of Justice Office of Community Oriented Policing Services, 2004.
- Eck, J. *Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers*. Problem-Oriented Guides for Police Series. Washington, D.C.: U.S. Department of Justice Office of Community Oriented Policing Services, 2002.
- Felson, M., and R. Clarke. *Opportunity Makes the Thief: Practical Theory for Crime Prevention*. Police Research Series, Paper 98. London: Home Office, 1998.
- Hesseling, R. "Displacement: A Review of the Empirical Literature." *Crime Prevention Studies*, Volume 3. Monsey, New York: Criminal Justice Press, 1994. [www.popcenter.org](http://www.popcenter.org)
- Lancashire Constabulary, United Kingdom. "The Hopwood Triangle: Revitalizing a Depressed Neighborhood in Lancashire." Submission for the Herman Goldstein Award for Excellence in Problem-Oriented Policing, 2004. [www.popcenter.org](http://www.popcenter.org)
- NYSERDA. *How-to Guide to Effective Energy-Efficient Street Lighting for Municipal Elected/Appointed Officials*. Albany, New York: New York State Energy Research and Development Authority, 2002a.
- NYSERDA. *How-to Guide to Effective Energy-Efficient Street Lighting for Municipal Planners and Engineers*. Albany, New York: New York State Energy Research and Development Authority, 2002b.
- Pease, K. "A Review of Street Lighting Evaluations," in *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*. *Crime Prevention Studies*, Vol. 10, ed. Kate Painter and Nick Tilley. Monsey, New York: Criminal Justice Press, 1999. [www.popcenter.org](http://www.popcenter.org)



- Ratcliffe, J. *Video Surveillance of Public Places, Response Guides Series No. 4. Problem-Oriented Guides for Police Series.* Washington, D.C.: U.S. Department of Justice Office of Community Oriented Policing Services, 2007.
- Sacramento Police Department. "New Helvetia and River Oaks Project: Combating Gangs and Drugs with Partnerships in Housing Projects." Submission for the Herman Goldstein Award for Excellence in Problem-Oriented Policing, 1996. [www.popcenter.org](http://www.popcenter.org)
- Tien, J., V. O'Donnell, A. Barnett, and P. Mirchandani. *Street Lighting Projects: National Evaluation Program. Phase 1 Report.* Washington, D.C.: U.S. Department of Justice, National Institute of Law Enforcement and Criminal Justice, 1979.
- Weisburd, D., L. Wyckoff, J. Ready, J. Eck, J. Hinkle, and F. Gajewski. "Does Crime Just Move Around the Corner? A Controlled Study of the Spatial Displacement and Diffusion of Crime Control Benefits." *Criminology* 44(3) (2006): 549-591
- Welsh, B. and D. Farrington. *Improved Street Lighting and Crime Prevention.* Stockholm: Swedish National Council for Crime Prevention, 2007.



## About the Author

### *Ronald V. Clarke*

Ronald Clarke is University Professor at Rutgers University and Associate Director of the Center for Problem-Oriented Policing. He was previously head of the British Government's Criminological Research Department, where he had a significant role in the development of situational crime prevention and the British Crime Survey. Dr. Clarke is the founding editor of *Crime Prevention Studies*, and his publications include *Designing out Crime* (HMSO, 1980), *The Reasoning Criminal* (Springer-Verlag, 1986), *Situational Crime Prevention: Successful Case Studies* (Harrow and Heston, 1997), *Superhighway Robbery: Preventing E-Commerce Crime* (Willan Publishing, 2003), *Become a Problem Solving Crime Analyst* (U.S. Department of Justice, 2005) and *Outsmarting the Terrorists* (Praeger, 2006). He was formerly chair of the selection committee for the annual Herman Goldstein Award for Excellence in Problem-Oriented Policing.





## Other Problem-Oriented Guides for Police

### Problem-Specific Guides series:

1. **Assaults in and Around Bars.** Michael S. Scott. 2001.  
ISBN: 1-932582-00-2
2. **Street Prostitution.** Michael S. Scott. 2001.  
ISBN: 1-932582-01-0
3. **Speeding in Residential Areas.** Michael S. Scott. 2001.  
ISBN: 1-932582-02-9
4. **Drug Dealing in Privately Owned Apartment Complexes.** Rana Sampson. 2001. ISBN: 1-932582-03-7
5. **False Burglar Alarms.** Rana Sampson. 2001.  
ISBN: 1-932582-04-5
6. **Disorderly Youth in Public Places.** Michael S. Scott. 2001.  
ISBN: 1-932582-05-3
7. **Loud Car Stereos.** Michael S. Scott. 2001. ISBN: 1-932582-06-1
8. **Robbery at Automated Teller Machines.** Michael S. Scott. 2001.  
ISBN: 1-932582-07-X
9. **Graffiti.** Deborah Lamm Weisel. 2002. ISBN: 1-932582-08-8
10. **Thefts of and From Cars in Parking Facilities.** Ronald V. Clarke.  
2002. ISBN: 1-932582-09-6
11. **Shoplifting.** Ronald V. Clarke. 2002. ISBN: 1-932582-10-X
12. **Bullying in Schools.** Rana Sampson. 2002.  
ISBN: 1-932582-11-8
13. **Panhandling.** Michael S. Scott. 2002. ISBN: 1-932582-12-6
14. **Rave Parties.** Michael S. Scott. 2002. ISBN: 1-932582-13-4
15. **Burglary of Retail Establishments.** Ronald V. Clarke. 2002.  
ISBN: 1-932582-14-2
16. **Clandestine Drug Labs.** Michael S. Scott. 2002.  
ISBN: 1-932582-15-0
17. **Acquaintance Rape of College Students.** Rana Sampson. 2002.  
ISBN: 1-932582-16-9
18. **Burglary of Single-Family Houses.** Deborah Lamm Weisel. 2002.  
ISBN: 1-932582-17-7
19. **Misuse and Abuse of 911.** Rana Sampson. 2002.  
ISBN: 1-932582-18-5



20. **Financial Crimes Against the Elderly.** Kelly Dedel Johnson. 2003. ISBN: 1-932582-22-3
21. **Check and Card Fraud.** Graeme R. Newman. 2003. ISBN: 1-932582-27-4
22. **Stalking.** The National Center for Victims of Crime. 2004. ISBN: 1-932582-30-4
23. **Gun Violence Among Serious Young Offenders.** Anthony A. Braga. 2004. ISBN: 1-932582-31-2
24. **Prescription Fraud.** Julie Wartell and Nancy G. La Vigne. 2004. ISBN: 1-932582-33-9
25. **Identity Theft.** Graeme R. Newman. 2004. ISBN: 1-932582-35-3
26. **Crimes Against Tourists.** Ronald W. Glesnor and Kenneth J. Peak. 2004. ISBN: 1-932582-36-3
27. **Underage Drinking.** Kelly Dedel Johnson. 2004. ISBN: 1-932582-39-8
28. **Street Racing.** Kenneth J. Peak and Ronald W. Glesnor. 2004. ISBN: 1-932582-42-8
29. **Cruising.** Kenneth J. Peak and Ronald W. Glesnor. 2004. ISBN: 1-932582-43-6
30. **Disorder at Budget Motels.** Karin Schmerler. 2005. ISBN: 1-932582-41-X
31. **Drug Dealing in Open-Air Markets.** Alex Harocopos and Mike Hough. 2005. ISBN: 1-932582-45-2
32. **Bomb Threats in Schools.** Graeme R. Newman. 2005. ISBN: 1-932582-46-0
33. **Illicit Sexual Activity in Public Places.** Kelly Dedel Johnson. 2005. ISBN: 1-932582-47-9
34. **Robbery of Taxi Drivers.** Martha J. Smith. 2005. ISBN: 1-932582-50-9
35. **School Vandalism and Break-Ins.** Kelly Dedel Johnson. 2005. ISBN: 1-9325802-51-7
36. **Drunk Driving.** Michael S. Scott, Nina J. Emerson, Louis B. Antonacci, and Joel B. Plant. 2006. ISBN: 1-932582-57-6
37. **Juvenile Runaways.** Kelly Dedel. 2006. ISBN: 1932582-56-8



- 38. The Exploitation of Trafficked Women.** Graeme R. Newman. 2006. ISBN: 1-932582-59-2
- 39. Student Party Riots.** Tamara D. Madensen and John E. Eck. 2006. ISBN: 1-932582-60-6
- 40. People with Mental Illness.** Gary Cordner. 2006. ISBN: 1-932582-63-0
- 41. Child Pornography on the Internet.** Richard Wortley and Stephen Smallbone. 2006. ISBN: 1-932582-65-7
- 42. Witness Intimidation.** Kelly Dedel. 2006. ISBN: 1-932582-67-3
- 43. Burglary at Single-Family House Construction Sites.** Rachel Boba and Roberto Santos. 2006. ISBN: 1-932582-00-2
- 44. Disorder at Day Laborer Sites.** Rob Guerette. 2007. ISBN: 1-932582-72-X
- 45. Domestic Violence.** Rana Sampson. 2007. ISBN: 1-932582-74-6
- 46. Thefts of and from Cars on Residential Streets and Driveways.** Todd Keister. 2007. ISBN: 1-932582-76-2
- 47. Drive-By Shootings.** Kelly Dedel. 2007. ISBN: 1-932582-77-0
- 48. Bank Robbery.** Deborah Lamm Weisel. 2007. ISBN: 1-932582-78-9
- 49. Robbery of Convenience Stores.** Alicia Altizio and Diana York. 2007. ISBN: 1-932582-79-7
- 50. Traffic Congestion Around Schools.** Nancy G. La Vigne. 2007. ISBN: 1-932582-82-7
- 51. Pedestrian Injuries and Fatalities.** Justin A. Heinonen and John E. Eck. 2007. ISBN: 1-932582-83-5
- 52. Bicycle Theft.** Shane D. Johnson, Aiden Sidebottom, and Adam Thorpe. 2008. ISBN: 1-932582-87-8
- 53. Abandoned Vehicles.** Michael G. Maxfield. 2008. ISBN: 1-932582-88-6
- 54. Spectator Violence in Stadiums.** Tamara D. Madensen and John E. Eck. 2008. ISBN: 1-932582-89-4



**Response Guides series:**

1. **The Benefits and Consequences of Police Crackdowns.** Michael S. Scott. 2003. ISBN: 1-932582-24-X
2. **Closing Streets and Alleys to Reduce Crime: Should You Go Down This Road?** Ronald V. Clarke. 2004. ISBN: 1-932582-41-X
3. **Shifting and Sharing Responsibility for Public Safety Problems.** Michael S. Scott and Herman Goldstein. 2005. ISBN: 1-932582-55-X
4. **Video Surveillance of Public Places.** Jerry Ratcliffe. 2006. ISBN: 1-932582-58-4
5. **Crime Prevention Publicity Campaigns.** Emmanuel Barthe. 2006. ISBN: 1-932582-66-5
6. **Sting Operations.** Graeme R. Newman with assistance of Kelly Socia. 2007. ISBN: 1-932582-84-3
7. **Asset Forfeiture.** John L. Worall. 2008. ISBN: 1-932582-90-8
8. **Improving Street Lighting to Reduce Crime in Residential Areas.** Ronald V. Clarke. 2008. ISBN: 1-932582-91-6
9. **Dealing With Crime and Disorder in Urban Parks.** Jim Hilborn. 2009. ISBN: 1-932582-92-4

**Problem-Solving Tools series:**

1. **Assessing Responses to Problems: An Introductory Guide for Police Problem-Solvers.** John E. Eck. 2002. ISBN: 1-932582-19-3
2. **Researching a Problem.** Ronald V. Clarke and Phyllis A. Schultz. 2005. ISBN: 1-932582-48-7
3. **Using Offender Interviews to Inform Police Problem-Solving.** Scott H. Decker. 2005. ISBN: 1-932582-49-5
4. **Analyzing Repeat Victimization.** Deborah Lamm Weisel. 2005. ISBN: 1-932582-54-1
5. **Partnering with Businesses to Address Public Safety Problems.** Sharon Chamard. 2006. ISBN: 1-932582-62-2



6. **Understanding Risky Facilities.** Ronald V. Clarke and John E. Eck. 2007. ISBN: 1-932582-75-4
7. **Implementing Responses to Problems.** Rick Brown and Michael S. Scott. 2007. ISBN: 1-932582-80-0
8. **Using Crime Prevention Through Environmental Design in Problem-Solving.** Diane Zahm. 2007. ISBN: 1-932582-81-9
9. **Enhancing the Problem-Solving Capacity of Crime Analysis Units.** Matthew B. White. 2008. ISBN: 1-932582-85-1

### **Special Publications:**

**Crime Analysis for Problem Solvers in 60 Small Steps,**  
Ronald V. Clarke and John Eck, 2005.  
ISBN:1-932582-52-5

**Policing Terrorism: An Executive's Guide,**  
Graeme R. Newman and Ronald V. Clarke, 2008

### **Upcoming Problem-Oriented Guides for Police**

#### **Problem-Specific Guides**

Child Abuse and Neglect in the Home  
Transient Encampments  
Street Robbery  
Stolen Goods Markets  
Thefts from Cafés and Bars  
Aggressive Driving  
Theft of Scrap Metal

#### **Problem-Solving Tools**

Displacement

#### **Response Guides**

Assigning Police Officers to Schools

#### Special Publications

Effective Policing and Crime Prevention: A Problem-Oriented  
Guide for Mayors, City Managers, and County Executives  
Intelligence Analysis and Problem-Solving



For more information about the *Problem-Oriented Guides for Police* series and other COPS Office publications, call the COPS Office Response Center at 800.421.6770, via e-mail at [askCOPSRC@usdoj.gov](mailto:askCOPSRC@usdoj.gov), or visit COPS Online at [www.cops.usdoj.gov](http://www.cops.usdoj.gov).

## **Center for Problem-Oriented Policing**

### **Got a Problem? We've got answers!**

Log onto the Center for Problem-Oriented Policing web site at [www.popcenter.org](http://www.popcenter.org) for a wealth of information to help you deal more effectively with crime and disorder in your community, including:

- Recommended readings in problem-oriented policing and situational crime prevention
- A complete listing of other POP Guides
- A listing of forthcoming POP Guides.

Designed for police and those who work with them to address community problems, [www.popcenter.org](http://www.popcenter.org) is a great resource for problem-oriented policing.

Sponsored by the U.S. Department of Justice Office of Community Oriented Policing Services (the COPS Office).



*Improving Street Lighting to Reduce Crime in Residential Areas* reviews the use of street lighting to help reduce crime in residential areas, discusses the factors to examine when considering upgrading or improving street lighting, and recommends steps to take when implementing a street lighting improvement plan.

FOR MORE INFORMATION:  
U.S. Department of Justice  
Office of Community  
Oriented Policing Services  
1100 Vermont Avenue, N.W.  
Washington, DC 20530



To obtain details on COPS Office programs, call the  
COPS Office Response Center at 800.421.6770

Visit COPS Online at [www.cops.usdoj.gov](http://www.cops.usdoj.gov)

December 2008  
e120816179  
ISBN:1-932582-91-6

## Improved Street Lighting and Crime Prevention

### **A Systematic Review**

*Report prepared for*  
The Swedish National Council for  
Crime Prevention

**Brå – a centre of knowledge on crime and measures to combat crime**

The Swedish National Council for Crime Prevention (Brottsförebyggande rådet – Brå) works to reduce crime and improve levels of safety in society by producing data and disseminating knowledge on crime and crime prevention work and the justice system's responses to crime.

Production:

Swedish Council for Crime Prevention, Information and publications,  
Box 1386, 111 93 Stockholm. Telephone +46(0)8 401 87 00,  
fax +46(0)8 411 90 75, e-mail [info@bra.se](mailto:info@bra.se)  
The National Council on the internet: [www.bra.se](http://www.bra.se)

Authors: Brandon C. Welsh and David P. Farrington

Cover Illustration: Helena Halvarsson

Cover Design: Anna Gunneström

ISBN 978-91-85664-78-8

Printing: Edita Västerås 2007

© 2007 Brottsförebyggande rådet

# Contents

<b>Foreword</b>	<b>5</b>
<b>Summary</b>	<b>7</b>
<b>Acknowledgements</b>	<b>9</b>
<b>Introduction</b>	<b>10</b>
<b>Background</b>	<b>12</b>
<b>Research methods</b>	<b>14</b>
Criteria for Inclusion of Evaluation Studies	14
Search Strategies	15
<b>Results</b>	<b>17</b>
Pooled Effects	19
American Studies	21
British Studies	23
<b>Conclusions and Directions for Policy and Research</b>	<b>25</b>
<b>Appendix</b>	<b>29</b>
Literature Reviews Consulted	29
<b>References</b>	<b>31</b>



# Foreword

Darkness, particularly in built up areas, can create a feeling of personal insecurity - which is a problem in itself, even if the risk for personal victimisation is actually small. Concern for being attacked outdoors after dark prevents some people from using public spaces, and thus has a negative effect on their quality of life. But darkness also creates a favourable environment for vandalism and theft, including bicycle thefts and thefts from vehicles, offences which are very common. The crime preventive effects of improved street lighting are therefore often discussed, and such measures are often also introduced as a means of combating crime.

There are never sufficient resources to conduct rigorous scientific evaluations of all the crime prevention measures employed in individual countries. Nor has an evaluation been conducted in Sweden of efforts employing dedicated lighting initiatives to prevent crime. For this reason, the Swedish National Council for Crime Prevention (Brå) has commissioned two distinguished researchers to carry out an international review of the research published in this field.

This report presents a systematic meta-analysis of the effects of improved outdoor lighting that has been conducted by Professor David P. Farrington of Cambridge University (United Kingdom) and Associate Professor Brandon C. Welsh of the University of Massachusetts Lowell (United States), who have also written the report. The study follows a rigorous method for the conduct of systematic meta-analyses. The analysis combines the results from a number of evaluations that are considered to satisfy a list of empirical criteria for measuring effects as reliably as possible. The analysis then uses the results from these previous evaluations to calculate and produce an overview of the effects that improved lighting does and does not produce. Thus the objective is to systematically evaluate the results from a number of studies from different countries in order to produce a more reliable picture of the opportunities and limitations associated with lighting initiatives in relation to crime prevention efforts. Studies of this kind are also valuable when assessing which circumstances contribute to a certain measure producing a positive effect.

In this case, the research review builds upon a relatively small number of evaluations and only examines evaluations that have been conducted in the United States and United Kingdom. A number of questions concerning the potential crime preventive effects of lighting initiatives in a country like Sweden thus remain unanswered. But the study does offer the most accessible overview to date of the use of improved outdoor lighting in order to prevent crime and improve public safety.

Stockholm, October 2007

*Jan Andersson*  
Director-General



# Summary

Evaluation research to measure the impact of improved street lighting on crime appears to have come to a standstill. This six-year update of the first systematic review on the subject (Farrington and Welsh, 2002a), which included only the highest quality evaluation studies, did not find one new evaluation that measured the effect of lighting on crime. This lack of new studies does not, however, detract from the existing knowledge base on the crime prevention effects of improved street lighting, which is the focus of this report.

There are two main theories of why improved street lighting may cause a reduction in crime. The first suggests that improved lighting leads to increased surveillance of potential offenders (both by improving visibility and by increasing the number of people on the street) and hence to increased deterrence of potential offenders. The second suggests that improved lighting signals community investment in the area and that the area is improving, leading to increased community pride, community cohesiveness, and informal social control. The first theory predicts decreases in crime especially during the hours of darkness, while the second theory predicts decreases in crime during both daytime and nighttime.

Studies were included in this systematic review if improved lighting was the main intervention, if there was an outcome measure of crime, if there was at least one experimental area and one comparable control area, if there were before and after measures of crime, and if the total number of crimes in each area before the intervention was at least 20. (Any study with less than 20 crimes before would have insufficient statistical power to detect changes in crime.)

Four search strategies were employed to locate studies meeting the criteria for inclusion: searches of electronic bibliographic databases, searches of literature reviews on the effectiveness of improved lighting on crime, searches of bibliographies of lighting reports, and contacts with leading researchers. Thirteen studies met the inclusion criteria, eight from America and five from Britain.

Results were mixed for the eight American evaluation studies. Four studies found that improved street lighting was effective in reducing crime, while the other four found no effect. Why the studies produced different results was not obvious, although there was a tendency for effective studies to measure both daytime and nighttime crimes and for ineffective studies to measure only nighttime crimes. However, all except one of these American evaluations date from the 1970s. A meta-analysis found that the eight studies showed that improved lighting led to a non-significant 7% decrease in crime in experimental areas compared with comparable control areas.

Five more recent British evaluation studies showed that improved lighting led to decreases in crime. Their results showed that improved lighting led to a significant 29 per cent decrease in crime in experimental areas compared with comparable control areas. Furthermore, in two studies, the financial savings from reduced crimes greatly exceeded the financial costs of the improved street lighting. A meta-analysis found that the 13 studies, taken together, showed that improved lighting led to a significant 21 per cent decrease in crime in experimental areas compared with comparable control areas.

Since these studies did not find that nighttime crimes decreased more than daytime crimes, a theory of street lighting focusing on its role in increasing community pride and informal social control may be more plausible than a theory focusing on increased surveillance and increased deterrence. The results did not contradict the hypothesis that improved street lighting was most effective in reducing crime in stable homogeneous communities.

It is recommended that future research should be designed to test the main theories of the effects of improved lighting more explicitly, and should measure crime using police records, victim surveys, and self-reports of offending. Levels of illumination, as well as crime rates, should be measured before and after the intervention in experimental and comparable control areas. Future research should ideally include experimental, adjacent, and non-adjacent control areas, in order to test hypotheses about displacement and diffusion of benefits. Attempts should be made to investigate how the effects of improved lighting vary according to characteristics of areas and how far there are different effects on different kinds of crimes.

It is concluded that improved street lighting should be included as one element of a situational crime reduction program. It is an inclusive intervention benefiting the whole of a neighborhood and leads to an increase in perceived public safety. Improved street lighting is associated with greater use of public space and neighborhood streets by law-abiding citizens. Especially if well targeted to a high-crime area, improved street lighting can be a feasible, inexpensive, and effective method of reducing crime.

# Acknowledgements

The research reported here was made possible by a grant from the National Council for Crime Prevention in Sweden to the second author at the University of Massachusetts Lowell. We are extremely grateful to Jan Andersson, Director General of the Council, for his longstanding commitment to evidence-based crime prevention and his interest in our on-going research on the effects of improved street lighting on crime.

We benefited from excellent research assistance by Katherine Harrington at the University of Massachusetts Lowell. We would also like to thank the following individuals for assistance in trying to locate new evaluation studies: Professor Ross Homel (Griffith University), Professor Kenna Quinet (Indiana University), Dr. Kate Painter (University of Cambridge), and Deborah Friedman (University of Massachusetts Lowell).

May 2007

*David P. Farrington*

*Brandon C. Welsh*

# Introduction

Improved street lighting serves many purposes, one of them being the prevention of crime. While street lighting improvements may not often be implemented with the expressed aim of preventing crime – pedestrian safety and traffic safety may be viewed as more important aims – and the notion of lighting streets to deter lurking criminals may be too simplistic, its relevance to the prevention of crime has been suggested in urban *centers*, residential areas, and other places frequented by criminals and potential victims.

Explanations of the way street lighting improvements could prevent crime can be grouped into two main perspectives:

1. As a situational crime prevention measure that focuses on reducing opportunity and increasing perceived risk through modification of the physical environment (Clarke, 1995), such as Crime Prevention Through Environmental Design (Jeffery, 1977).
2. As a method of strengthening informal social control and community cohesion through more effective street use (Angel, 1968; Jacobs, 1961) and investment in neighborhood conditions (Taub et al., 1984; Taylor and Gottfredson, 1986).

The situational approach to crime prevention suggests that crime can be prevented by environmental measures, which directly affect offenders' perceptions of increased risks and decreased rewards. This approach is also supported by theories, which emphasize natural, informal surveillance as a key to crime prevention. For example, Jacobs (1961) drew attention to the role of good visibility combined with natural surveillance as a deterrent to crime. She emphasized the association between levels of crime and public street use, suggesting that less crime would be committed in areas with an abundance of potential witnesses.

Other theoretical perspectives have emphasized the importance of investment to improve neighborhood conditions as a means of strengthening community confidence, cohesion, and social control (Kelling and Coles, 1996; Skogan, 1990; Wilson and Kelling, 1982). As a highly visible sign of positive investment, improved street lighting might reduce crime if it physically improved the environment and signalled to residents that efforts were being made to invest in and improve their neighborhood. In turn, this might lead them to have a more positive image of the area and to have increased community pride, optimism, and cohesion. It should be noted that this theoretical perspective predicts a reduction in both daytime and nighttime crime. Consequently, attempts to measure the effects of improved lighting should not concentrate purely on nighttime crime.

The relationship among visibility, social surveillance, and criminal opportunities is a consistently strong theme to emerge from the literature. A core assumption of both opportunity and informal social control models of prevention is that criminal opportunities and risks are influenced by environmental conditions in interaction with resident and offender characteristics. Street lighting is a tangible alteration of the built environment, but it does not constitute a physical barrier to crime. However, it can act as a catalyst to stimulate crime reduction through a change in the perceptions, attitudes, and behavior of residents and potential offenders.

It is also feasible that improved street lighting could, in certain circumstances, increase opportunities for crime. It may bring greater numbers of potential victims and potential offenders into the same physical space. Increased visibility of potential victims may allow better judgments of their vulnerability and attractiveness (e.g., in terms of valuables). Increased social activity outside the home may increase the number of unoccupied homes available for burglary. Increased illumination may make it easier to commit crimes and to escape.

The effects of improved street lighting are likely to vary in different conditions. In particular, they are likely to be greater if the existing lighting is poor and if the improvement in lighting is considerable. They may vary according to characteristics of the area or the residents, the design of the area, the design of the lighting, and the places that are illuminated. For example, improved lighting may increase community confidence only in relatively stable homogeneous communities, not in areas with a heterogeneous population mix and high residential mobility. The effects of improved lighting may also interact with other environmental improvements, such as closed circuit television (CCTV) cameras or security patrols.

The main aim of this report is to present the results of an updated systematic review on the effects of improved street lighting on crime. Six years have elapsed since we completed the first systematic review on the subject (Farrington and Welsh, 2002a; see also Farrington and Welsh, 2002b; Welsh and Farrington, 2004). This report is divided into five chapters. The second chapter provides some background on the use of improved street lighting to prevent crime. The third chapter, on research methods, reports on the criteria for inclusion of lighting studies in this review and the methods used to search for new evaluation studies. The fourth chapter reports on the key features of the studies that were included and the results of a meta-analysis. The final chapter provides some concluding comments and explores implications for policy and research.

# Background

Contemporary interest in the effect of improved street lighting on crime began in the U.S. during the dramatic rise in crime in the 1960s. Many towns and cities embarked upon major street lighting programs as a means of reducing crime, and initial results were encouraging (Wright et al., 1974). This proliferation of projects led to a detailed review of the effects of street lighting on crime by Tien et al. (1979), as part of the National Evaluation Program of Law Enforcement Assistance Agency (LEAA) funding. Their report described how the 103 street lighting projects originally identified were eventually reduced to a final sample of only 15 that were considered by the review team to contain sufficiently rigorous evaluative information. With regard to the impact of street lighting on crime, Tien et al. (1979) found that the results were mixed and generally inconclusive. However, each project was considered to be seriously flawed because of such problems as: weak project designs; misuse or complete absence of sound analytic techniques; inadequate measures of street lighting; poor measures of crime (all were based on police records); and insufficient appreciation of the impact of lighting on different types of crime.

The review by Tien et al. (1979) should have led to attempts to evaluate the effects of improved street lighting using more adequate designs and alternative measures of crime, such as victim surveys, self-reports, or systematic observation. It should also have stimulated efforts to determine in what circumstances improved street lighting might lead to reductions in crime. Unfortunately, it was interpreted as showing that street lighting had no effect on crime and effectively ended research on the topic in the U.S.

In the U.K., very little research was carried out on street lighting and crime until the late 1980s (Fleming and Burrows, 1986). There was a resurgence of interest between 1988 and 1990, when three small-scale street lighting projects were implemented and evaluated in different areas of London (Painter, 1994). In each location crime, disorder, and fear of crime declined and pedestrian street use increased dramatically after the lighting improvements.

In contrast to these generally positive results, a major British Home Office-funded evaluation in Wandsworth (Atkins et al., 1991) concluded that improved street lighting had no effect on crime, and a Home Office review, published simultaneously, also asserted that “better lighting by itself has very little effect on crime” (Ramsay and Newton, 1991:24). However, as further evidence has accumulated, there have been more signs that improved street lighting could have an effect in reducing crime. In a recent narrative review by Pease (1999, p. 68), he considered that “the capacity of street lighting to influence crime

has now been satisfactorily settled.” He also recommended that the debate should be moved from the sterile “does it work or doesn’t it?” to the more productive “how can I flexibly and imaginatively incorporate lighting in crime reduction strategy and tactics?” (p. 72).

# Research methods

As noted above, this report presents a systematic review of the effects of improved street lighting on crime and follows closely the methodology of this review technique. Systematic reviews use rigorous methods for locating, appraising, and synthesizing evidence from prior evaluation studies, and they are reported with the same level of detail that characterizes high quality reports of original research. According to Johnson et al. (2000, p. 35), systematic reviews “essentially take an epidemiological look at the methodology and results sections of a specific population of studies to reach a research-based consensus on a given study topic.” They have explicit objectives, explicit criteria for including or excluding studies, extensive searches for eligible evaluation studies from all over the world, careful extraction and coding of key features of studies, and a structured and detailed report of the methods and conclusions of the review. All of this contributes greatly to the ease of their interpretation and replication by other researchers. It is beyond the scope of this report to discuss all of the features of systematic reviews, but interested readers should consult key volumes on the topic (see Farrington and Welsh, 2001; Petticrew and Roberts, 2006; Welsh and Farrington, 2006).

## Criteria for Inclusion of Evaluation Studies

In selecting evaluations for inclusion in this review, the following criteria were used:

1. Improved street lighting (or improved lighting) was the focus of the intervention. For evaluations involving one or more other interventions, only those evaluations in which improved lighting was the main intervention were included. The determination of what was the main intervention was based on the author identifying it as such or, if the author did not do this, the importance the report gave to improved lighting relative to the other interventions.
2. There was an outcome measure of crime. The most relevant crime outcomes were violent and property crimes.
3. The evaluation design was of high methodological quality, with the minimum design involving before-and-after measures of crime in experimental and comparable control areas.
4. The total number of crimes in each area before the intervention was at least 20. The main measure of effect size was based on changes in numbers of crimes between the before and after time periods. It was considered that a measure of change based on an  $N$  below 20 was po-

tentially misleading. Also, any study with less than 20 crimes before would have insufficient statistical power to detect changes in crime. The criterion of 20 is probably too low, but we were reluctant to exclude studies unless their numbers were clearly inadequate.

## Search Strategies

In order to locate studies meeting the above criteria, four search strategies were employed:

1. Searches of electronic bibliographic databases (see below).
2. Searches of reviews of the literature on the effects of improved lighting on crime. Two new reviews were identified and assessed: Beyer et al. (2005) and Cozens et al. (2003). (Appendix 1 lists all of the literature reviews that we consulted for our first systematic review on improved street lighting and the present update.)
3. Searches of bibliographies of evaluation reports of improved lighting studies.
4. Contacts with leading researchers (see Acknowledgments). Both published and unpublished reports were considered in these searches. Furthermore, the searches were international in scope and were not limited to the English language. These searches were completed in March 2007 and reflect material published or reported over a six-year period, between January 2001 and December 2006.

The following ten electronic bibliographic databases were searched:

- Criminal Justice Abstracts
- National Criminal Justice Reference Service (NCJRS) Abstracts
- Sociological Abstracts
- Educational Resources Information Clearinghouse (ERIC)
- Government Publications Office Monthly Catalogue (GPO Monthly)
- Psychology Information (PsychInfo)
- Dissertation Abstracts
- Social, Psychological, Educational, and Criminological Trials Register (C2-SPECTR)
- Google Scholar
- Medline

These electronic databases were selected on the basis of the most comprehensive coverage of criminological, criminal justice, and social and behavioral science literatures. They are also among the top databas-

es recommended by the Campbell Collaboration Crime and Justice Group. Three databases, Social Science Abstracts (SocialSciAbs), Public Affairs Information Service (PAIS) International, and the Australian Criminology Database (CINCH), which were used in the initial systematic review, were not used here because they were no longer available to the researchers. In their place, two new electronic databases were searched: Google Scholar and Medline.

The following terms were used to search the ten databases noted above: street lighting, lighting, illumination, and natural surveillance. When applicable, "crime" was then added to each of these terms (e.g., street lighting and crime) to narrow the search parameters.

These search strategies did not result in the collection of one new evaluation of improved street lighting that met our inclusion criteria. Two new evaluations of improved street lighting were identified and analyzed (Tseng et al., 2004; Willis et al., 2005). In each case they did not meet our inclusion criteria and hence were excluded. The evaluation by Tseng et al. (2004) was excluded because there was no control area. The evaluation by Willis et al. (2005) was excluded because crime was not measured; instead, residents' attitudes and values about improved lighting were measured.

Prior to the commencement of the search strategies reported here, we received an evaluation report on the effects of improved street lighting on crime that we had previously been unsuccessful in obtaining. The scheme took place in Cleveland, U.K., and is reported in a published paper by Vamplew (1991). The evaluation did not meet the inclusion criteria and so was excluded. This was because there was no control area and no measure of crime.

Previous search strategies (up to December 2000) produced 13 improved street lighting evaluations that met the inclusion criteria. The results reported here are based on these 13 high quality evaluations, but with new analyses.

# Results

To assess the effectiveness of improved street lighting in reducing crime, meta-analytic techniques were used. A meta-analysis is essentially a statistical summary of comparable effect sizes reported in each evaluation. In order to carry out a meta-analysis, a comparable measure of effect size and an estimate of its variance are needed in each program evaluation (Lipsey and Wilson, 2001; Wilson, 2001). In the case of street lighting evaluations, the measure of effect size had to be based on the number of crimes in the experimental and control areas before and after the intervention. This is because this was the only information that was regularly provided in these evaluations. Here, the odds ratio is used as the measure of effect size. For example, in the Atlanta improved street lighting evaluation (Atlanta Regional Commission, 1974; see below), the odds of a crime after given a crime before in the control area were 431/234 or 1.842. The odds of a crime after given a crime before in the experimental area were 151/114 or 1.325. The odds ratio, therefore, was 1.842/1.325 or 1.39, which was substantial but not statistically significant.

The odds ratio (OR) has a very simple and meaningful interpretation. It indicates the proportional change in crime in the control area compared with the experimental area. In this example, the OR of 1.39 indicates that crime increased by 39% in the control area compared with the experimental area. An OR of 1.39 could also indicate that crime decreased by 28% in the experimental area compared with the control area, since the change in the experimental area compared with the control area is the inverse of the OR, or 1/1.39 here. The OR is calculated from the following table:

	<b>Before</b>	<b>After</b>
Experimental	a	b
Control	c	d

Where a, b, c, d are numbers of crimes

$$OR = ad/bc$$

The variance of OR is calculated from the variance of LOR (the natural logarithm of OR). The usual calculation of this is as follows:

$$V(LOR) = 1/a + 1/b + 1/c + 1/d$$

In order to produce a summary effect size in a meta-analysis, each effect size is weighted according to the inverse of the variance. This was another reason for choosing the OR, which has a known variance (Fleiss, 1981, pp. 61–67).

The estimate of the variance is based on the assumption that total numbers of crimes (a, b, c, d) have a Poisson distribution. Thirty years of mathematical models of criminal careers have been dominated by the assumption that crimes can be accurately modeled by a Poisson process (Piquero et al., 2003). However, the large number of changing extraneous factors that influence the number of crimes may cause overdispersion; that is, where the variance of the number of crimes VAR exceeds the number of crimes N.

$$D = \text{VAR}/N$$

specifies the overdispersion factor. Where there is overdispersion, V(LOR) should be multiplied by D. Farrington et al. (2007) estimated VAR from monthly numbers of crimes and found the following equation:

$$D = .0008 \times N + 1.2$$

D increased linearly with N and was correlated .77 with N. The mean number of crimes in an area in the lighting studies was about 445, suggesting that the mean value of D was about 1.56. However, this is an overestimate because the monthly variance is inflated by seasonal variations, which do not apply to N and VAR. Nevertheless, in order to obtain a conservative estimate, V(LOR) calculated from the usual formula above was multiplied by D (estimated from the above equation) in all cases. This adjustment corrects for overdispersion within studies but not for heterogeneity between studies. (For a more detailed discussion of the variance in this case, see Farrington and Welsh, 2004.)

Each of the included evaluations was rated on their effectiveness in reducing crime. Each evaluation was assigned to one of the following four categories: desirable effect (marked decrease in crime), undesirable effect (marked increase in crime), null effect (evidence of no effect on crime), or uncertain effect (unclear evidence of an effect on crime).

Also important to this review were the issues of displacement and diffusion of benefits. Displacement is often defined as the unintended increase in targeted crimes in other locations following from the introduction of a crime reduction scheme. (For a discussion of “benign” or desirable effects of displacement, see Barr and Pease, 1990.) Repetto (1976) identified five different forms of displacement: temporal (change in time), tactical (change in method), target (change in victim), territorial (change in place), and functional (change in type of crime). Diffusion of benefits is defined as the unintended decrease in crimes following from a crime reduction scheme, or the “complete reverse” of displacement (Clarke and Weisburd, 1994).

In order to investigate these topics, the minimum design should involve one experimental area, one adjacent area, and one non-adjacent comparable control area. If crime decreased in the experimental area, increased in the adjacent area, and stayed constant in the control area, this might be evidence of displacement. If crime decreased in the experimental and adjacent areas and stayed constant or increased in the control area, this might be evidence of diffusion of benefits. Only two of the included evaluations (Portland and Stoke-on-Trent) had both adjacent and non-adjacent but comparable control areas. Two others (Harrisburg and Fort Worth) had an adjacent control area and the remainder of the city as another (non-comparable) control area.

## Pooled Effects

From the 13 evaluations, it was concluded that improved street lighting had a significant desirable effect on crime, with a weighted mean odds ratio of 1.27 (95 per cent confidence interval 1.09–1.45), which was highly significant ( $p = .002$ ). This means that crimes increased by 27 per cent after improved lighting in control areas compared with experimental areas, or conversely crimes decreased by 21 per cent in experimental areas compared with control areas.

Because the 13 effect sizes were significantly heterogeneous ( $Q = 37.13$ , 12 df,  $p = .0002$ ), a random effects model was used here. Fixed effects models were used when the heterogeneity was not significant. The fixed and random effects models, and the other models used by Jones (2005), all produced very similar weighted mean effect sizes.

Interestingly, both night time and daytime crimes were measured in all five British studies and four of the eight U.S. studies. The nine night/day studies also showed a significant desirable effect of improved lighting on crime (OR = 1.43, CI = 1.19–1.71,  $p < .0001$ ).

Table 1 summarizes the results of all 13 studies. This shows the odds ratio for total crime in each study plus its 95% confidence interval and statistical significance. It can be seen that only three studies (Portland, New Orleans, and Indianapolis) had odds ratios less than 1, meaning that improved street lighting was followed by an increase in crime, and in no case was this increase significant. The other 10 studies had odds ratios greater than 1, meaning that improved street lighting was followed by a decrease in crime, and in six cases this decrease was significant (or nearly so). Therefore, the hypothesis that more lighting causes more crime can be firmly rejected.

Table 1. Meta-Analysis of Improved Street Lighting Evaluations.

	<b>Odds Ratio</b>	<b>Confidence Interval</b>	<b>P Value</b>
<b>American N Studies</b>			
Portland	0.94	0.75 – 1.18	n.s.
Kansas City	1.24	0.90 – 1.71	n.s.
Harrisburg	1.02	0.72 – 1.46	n.s.
New Orleans	0.99	0.83 – 1.18	n.s.
<b>American ND Studies</b>			
Atlanta	1.39	0.99 – 1.94	.055
Milwaukee	1.37	1.01 – 1.86	.044
Fort Worth	1.38	0.92 – 2.07	n.s.
Indianapolis	0.75	0.45 – 1.25	n.s.
<b>British ND Studies</b>			
Dover	1.14	0.58 – 2.22	n.s.
Bristol	1.35	1.16 – 1.56	.0001
Birmingham	3.82	2.15 – 6.80	.0001
Dudley	1.44	1.10 – 1.87	.008
Stoke-on-Trent	1.71	1.10 – 2.67	.017
<b>Summary Results</b>			
4 US N Studies	1.01	0.90 – 1.14	n.s.
4 US ND Studies	1.28	1.06 – 1.53	.010
5 UK ND Studies*	1.62	1.22 – 2.15	.0008
8 US Studies	1.08	0.98 – 1.20	n.s.
9 ND Studies*	1.43	1.19 – 1.71	.0001
9 Violence*	1.10	0.91 – 1.34	n.s.
11 Property*	1.20	1.02 – 1.41	.024
All 13 Studies*	1.27	1.09 – 1.47	.002

Notes: N = only night crimes measured; ND = night and day crimes measured; \* = random effects model used (fixed effects model used in other cases).

## American Studies

Of the 13 improved street lighting evaluations in this review, eight were carried out in the United States. For the most part, residential neighborhoods were the setting for the intervention. Only four of the eight evaluations specified the degree of improvement in the lighting: by seven times in Milwaukee, four times in Atlanta, three times in Fort Worth, and two times in Portland (Table 2). However, the description of the lighting in other cases (e.g., “high intensity street lighting” in Harrisburg and New Orleans) suggests that there was a marked improvement in the degree of illumination. Only in Indianapolis was the improved street lighting confounded with another concurrent intervention, and it was sometimes possible to disentangle this.

The control area was often adjacent to the experimental area. Hence, similar decreases in crime in experimental and control areas could reflect diffusion of benefits rather than no effects of improved lighting. In most cases, the reports noted that the control area was similar to the experimental area in sociodemographic factors or crime rates. However, none of the evaluations attempted to control for prior noncomparability of experimental and control areas. Only one evaluation (Portland) included an adjacent area and a comparable non-adjacent control area.

The outcome measure of crime was always based on police records before and after the improved street lighting. The Indianapolis evaluation was based on calls for service to the police, many of which did not clearly involve crimes (e.g., calls for “disturbance”). Only the Atlanta and Milwaukee studies provided total, nighttime, and daytime crimes. The Portland, Kansas City, Harrisburg, and New Orleans studies measured only nighttime crimes, and the Fort Worth and Indianapolis studies reported only total crimes.

As shown in Table 2, improved street lighting was considered to have a desirable effect on crime in four evaluations: Atlanta, Milwaukee, Fort Worth, and Kansas City. In all four cases, the odds ratio was 1.24 or greater. In the other four evaluations, the improved street lighting was considered to have a null effect on crime. The results of the meta-analysis of the eight American studies confirm these conclusions. The average effect size was an odds ratio of 1.08, which was not significant. Overall, crime increased by 8 per cent in control areas compared with experimental areas, or conversely crime decreased by 7 per cent in experimental areas compared with control areas.

The key dimension on which the eight effect sizes differed seemed to be whether they were based on data for both night and day (Atlanta, Milwaukee, Fort Worth, and Indianapolis) or for night only (the other four studies). For the four night/day studies, the average effect size was a significant odds ratio of 1.28 (CI = 1.06 – 1.53,  $p = .010$ ), meaning that crime increased by 28 per cent in control areas

Table 2. American Street Lighting Evaluations.

<b>Author, Publication Date, Location</b>	<b>Context of Intervention and Increase in Lighting</b>	<b>Other Interventions</b>	<b>Outcome Measure</b>	<b>Follow-up Period</b>	<b>Results and Diffusion/ Displacement</b>
Atlanta Regional Commission (1974), Atlanta, GA	City center; 4x	None	Crime (robbery, assault, and burglary)	12 months	Desirable effect; no displacement
DIFL (1974), Milwaukee, WI	Residential and commercial area; 7x	None	Crime (property and person categories)	12 months	Desirable effect; some displacement
Inskeep and Goff (1974), Portland, OR	Residential neighborhood (high crime); 2x	None	Crime (robbery, assault, and burglary)	6 or 11 months	Null effect; displacement and diffusion did not occur
Wright et al. (1974), Kansas City, MO	Residential and commercial areas; n.a.	None	Crime (violent and property offenses)	12 months	Desirable effect (for violence); some displacement
Harrisburg Police Department (1976), Harrisburg, PA	Residential neighborhood; n.a.	None	Crime (violent and property offenses)	12 months	Null effect; no displacement
Sternhell (1977), New Orleans, LA	Residential and commercial areas; n.a.	None	Crime (burglary, vehicle theft, and assault)	29 months	Null effect; no displacement
Lewis and Sullivan (1979), Fort Worth, TX	Residential neighborhood; 3x	None	Crime (total)	12 months	Desirable effect; possible displacement
Quinet and Nunn (1998), Indianapolis, IN	Residential neighborhood; n.a.	Police initiatives	Calls for service (violent and property crime)	7 to 10 months	Null effect; no displacement

Notes: DIFL = Department of Intergovernmental Fiscal Liaison; 4x = 4 times increase in lighting, and so forth; n.a. = not available.

compared with experimental areas, or decreased by 22 per cent in experimental areas compared with control areas. For the four night only studies, the odds ratio was 1.01 (n.s.), indicating no effect on crime. Therefore, the eight American studies could be divided into two blocks of four, one block showing that crime reduced after improved street lighting and the other block showing that it did not. Surprisingly, evidence of a reduction in crime was only obtained when both daytime and nighttime crimes were measured, although this feature may be a proxy for some other aspect of the different evaluation studies.

Unfortunately, all the American evaluations (except the Indianapolis one) are now rather dated, since they were all carried out in the 1970s. More recent American evaluations of the effect of improved street lighting need to be conducted. We now turn to the British evaluations, which were all published in the 1990s.

## British Studies

The five British street lighting studies were carried out in a variety of settings, including a parking garage and a market, as well as residential neighborhoods (see Table 3). Three of the evaluations specified the degree of improvement in lighting: by five times in Stoke-on-Trent and by two times in Bristol (approximately) and Dudley. Control areas were usually located close to experimental areas. The outcome measure of crime was based on police records for three studies and on victim surveys in the other two cases (in Dudley and Stoke-on-Trent). Uniquely, the Dudley project also evaluated the impact of improved street lighting using self-reported delinquency surveys of young people. This project also included self-reports of victimization of young people and measures of fear of crime (Painter and Farrington, 2001a).

As shown in Table 3, improved street lighting was considered to be effective in reducing crime in four studies (Bristol, Birmingham, Dudley, and Stoke-on-Trent). In the fifth study (Dover), the improved lighting was confounded with other improvements, including fencing to restrict access to the parking garage and the construction of an office near the main entrance. On the basis of police records, Poyner (1991) concluded that the intervention had reduced thefts *of* vehicles but not theft *from* vehicles.

Results of the meta-analysis of the five British studies confirm these conclusions. Total crimes reduced significantly after improved lighting in Bristol, Birmingham, Dudley, and Stoke-on-Trent. When the odds ratios from the five studies were combined, crimes increased by 62 per cent after improved street lighting in control areas compared with experimental areas, or conversely crimes decreased by 38 per

Table 3. British Street Lighting Evaluations.

<b>Author, Publication Date, Location</b>	<b>Context of Intervention and Increase in Lighting</b>	<b>Other Interventions</b>	<b>Outcome Measure</b>	<b>Follow-up Period</b>	<b>Results and Diffusion/ Displacement</b>
Poyner (1991), Dover	Parking garage (in town center); n.a.	Fencing, office constructed	Crime (total and theft of and from vehicles)	24 months	Desirable effect (for theft of vehicles); no displacement
Shaftoe (1994), Bristol	Residential neighborhood; 2x	None	Crime (total)	12 months	Desirable effect; not measured
Poyner and Webb (1997), Birmingham	City center market; n.a.	None	Thefts	12 months (6 months in each of 2 years)	Desirable effect; no displacement and some diffusion
Painter and Farrington (1997), Dudley	Local authority housing estate; 2x	None	Crime (total and types of offenses)	12 months	Desirable effect; no displacement
Painter and Farrington (1999), Stoke-on-Trent	Local authority housing estate; 5x	None	Crime (total and types of offenses)	12 months	Desirable effect; diffusion, no displacement

Notes: 4x = 4 times increase in lighting, and so forth; n.a. = not available.

cent in experimental areas compared with control areas (OR = 1.62, CI = 1.22 – 2.15, p = .0008).

In conclusion, these more recent British studies agree in showing that improved lighting reduces crime. They did not find that nighttime crimes decreased more than daytime crimes, suggesting that a “community pride” theory may be more applicable than a “deterrence/surveillance” theory.

Finally, the effects on different types of offenses were investigated. Violent crimes were measured in nine evaluations, and property crimes were measured in 11 evaluations. Table 1 shows that improved lighting was followed by a significant reduction in property crimes (OR = 1.20, CI = 1.02 – 1.41, p = .024) but not in violent crimes (OR = 1.10, CI = 0.91 – 1.34, n.s.).

# Conclusions and Directions for Policy and Research

Evaluation research to measure the impact of improved street lighting on crime appears to have come to a standstill. This six-year update of the first systematic review on the subject (Farrington and Welsh, 2002a) did not find one new evaluation that measured the effect of lighting on crime. This lack of new studies does not, however, detract from the existing knowledge base on the crime prevention effects of improved street lighting.

Eight American evaluation studies met the inclusion criteria, and their results were mixed. Four studies found that improved street lighting was effective in reducing crime, while the other four found that it was not effective. Why the studies produced different results was not obvious, although there was a tendency for effective studies to measure both daytime and nighttime crimes and for ineffective studies to measure only nighttime crimes. However, all except one of these American evaluations date from the 1970s.

Five more recent British evaluation studies showed that improved lighting led to decreases in crime. Furthermore, in two studies (Dudley and Stoke-on-Trent), the financial savings from reduced crimes greatly exceeded the financial costs of the improved street lighting (Painter and Farrington, 2001b). Since these studies did not find that nighttime crimes decreased more than daytime crimes, a theory of street lighting focusing on its role in increasing community pride and informal social control may be more plausible than a theory focusing on increased surveillance and increased deterrence. The results did not contradict the hypothesis that improved street lighting was most effective in reducing crime in stable homogeneous communities.

While lack of systematic information on residential mobility made it difficult to draw clear conclusions about whether improved street lighting was more effective in reducing crime in stable homogeneous communities than in unstable heterogeneous communities, not one of the ten studies that could be included in this analysis clearly contradicted this hypothesis, and four studies (Dudley, Stoke-on-Trent, Harrisburg, and Fort Worth) were clearly concordant with it (the three studies that could not be included in this analysis were Indianapolis, Dover, and Birmingham; for more details, see Farrington and Welsh, 2002a).

An alternative hypothesis is that increased community pride comes first, causing improved street lighting on the one hand and reduced crime on the other, with no causal effect of improved lighting on crime. It is difficult to exclude this hypothesis on the basis of most

published evaluation reports. However, it can be excluded in the two evaluations (Dudley and Stoke-on-Trent) in which one of us (Farrington) was involved.

In Dudley, there had been no marked changes on the experimental estate for many years. The tenants on this and other local authority housing estates had complained about the poor lighting for some time, and this was why the local authority decided to improve the lighting on the experimental estate. The improvement in lighting was very obvious, and tenants thought that their quality of life had been improved (Painter and Farrington, 1997). This stimulated the Tenants' Association on the experimental estate to obtain £10 million (approximately \$20 million) from the Department of the Environment for a program of neighborhood improvements in the next few years. The improvement in lighting on the experimental estate also stimulated the Tenants' Association on the control estate to petition the local authority to improve their lighting.

In Dudley, it was clear that the improved lighting occurred first, led to increased community pride, and acted as a catalyst for further environmental improvements. A similar chain of events happened in Stoke-on-Trent. While we cannot be sure that the same causal ordering occurred in all other street lighting evaluations, it might be concluded that in at least some studies improved lighting caused increased community pride and decreased crime.

Future research should be designed to test the main theories of the effects of improved street lighting (i.e., community pride versus surveillance/deterrence) more explicitly. Surveys of youth in experimental and control areas could be carried out, to investigate their offending, their opinions of the area, their street use patterns, and factors that might inhibit them from offending (e.g., informal social control by older residents, increased surveillance after dark). Household surveys of adults could also be carried out, focusing on perceptions of improvements in the community, community pride, informal social control of young people, street use, and surveillance after dark.

Ideally, future research should measure crime using police records, victim surveys, and self-reports of offending. It is possible that one effect of improved street lighting may be to facilitate or encourage reporting of crimes to the police; for example, if victims get a better view of offenders. Therefore, police records may be misleading. Surveys of potential victims and potential offenders are necessary for testing key hypotheses about the effects of improved lighting.

Future research should ideally include several experimental areas and several comparable adjacent and control areas. Adjacent areas are needed to test hypotheses about displacement and diffusion of benefits. The comparability of experimental, adjacent, and control areas should be investigated. The use of several areas would make

it more possible to establish boundary conditions under which improved lighting had greater or lesser effects. The numbers of crimes recorded in each area in the before period should be sufficient to detect changes reliably. Ideally, large numbers of potential victims and potential offenders should be surveyed.

Crimes should be measured before and after the intervention in experimental, adjacent, and control areas. Ideally, a long time series of crimes should be studied to investigate pre-existing crime trends and also how far any effects of street lighting persist or wear off over time. Different types of crimes should be measured, and also crimes committed during daytime and the hours of darkness. The improvement in lighting in different areas should be carefully measured, including vertical and horizontal levels of illumination. Cost-benefit analyses of the impact of improved street lighting should be carried out (only 2 of the 13 studies conducted a cost-benefit analysis). Our previous work (Welsh and Farrington, 1999; 2000) has shown that situational crime prevention is an economically efficient strategy in preventing crime.

In testing hypotheses, it would be useful to investigate the effects of street lighting in conjunction with other crime prevention interventions. To the extent that community pride is important, this could be enhanced by other environmental improvements. To the extent that surveillance is important, this could be enhanced by other interventions, such as CCTV cameras. For example, one experimental area could have both improved street lighting and CCTV, a second could have only improved street lighting, and a third could have only CCTV. This kind of planned evaluation of interactions of crime prevention initiatives has rarely been attempted.

The policy implications of research on improved street lighting have been well articulated by Pease (1999). He pointed out that situational crime prevention involved the modification of environments so that crime needed more effort, more risk, and lower rewards. The first step in any crime reduction program required a careful analysis of situations and how they affected potential offenders and potential victims. The second step involved implementing crime reduction interventions. Whether improved street lighting was likely to be effective in reducing crime would depend on characteristics of situations and on other concurrent situational interventions. Efforts to reduce crime should take account of the fact that crime tends to be concentrated among certain people and in certain locations, rather than being evenly distributed throughout a community.

The British studies included in this review show that improved lighting can be effective in reducing crime in some circumstances. Exactly what are the optimal circumstances is not clear at present, and this needs to be established by future evaluation research. However, improved street lighting should be considered as a potential strategy

in any crime reduction program in coordination with other intervention strategies. Depending on the analysis of the crime problem, improved street lighting could often be implemented as a feasible, inexpensive, and effective method of reducing crime.

Street lighting has some advantages over other situational measures that have been associated with the creeping privatization of public space, the exclusion of sections of the population, and the move towards a “fortress” society (Bottoms, 1990). Street lighting benefits the whole neighborhood rather than particular individuals or households. It is not a physical barrier to crime, it has no adverse civil liberties implications, and it can increase public safety and effective use of neighborhood streets at night. In short, improved street lighting has few negative effects and clear benefits for law-abiding citizens.

# Appendix

## Literature Reviews Consulted

- Beyer, Fiona R., Philip Pond, and Katharine Ker (2005). Street Lighting for Preventing Road Traffic Injuries. Unpublished Cochrane Collaboration Review. Newcastle-upon-Tyne, UK: Centre for Health Services Research, University of Newcastle.
- Cozens, Paul M., Richard H. Neale, Jeremy Whitaker, David Hillier, and Max Graham (2003). A critical review of street lighting, crime and the fear of crime in the British city. *Crime Prevention and Community Safety*, 5(2), 7–24.
- Eck, John E. (1997). Preventing crime at places. In Lawrence W. Sherman, Denise C. Gottfredson, Doris L. MacKenzie, John E. Eck, Peter Reuter, and Shawn D. Bushway, *Preventing Crime: What Works, What Doesn't, What's Promising* (Chapter 7). Washington, DC: National Institute of Justice, U.S. Department of Justice.
- Eck, John E. (2002). Preventing crime at places. In Lawrence W. Sherman, David P. Farrington, Brandon C. Welsh, and Doris L. MacKenzie (Eds.), *Evidence-Based Crime Prevention* (pp. 241–294). New York: Routledge.
- Fleming, Roy, and John N. Burrows (1986). The case for lighting as a means of preventing crime. *Home Office Research Bulletin*, 22: 14–17.
- Painter, Kate (1996). Street lighting, crime and fear of crime: A summary of research. In Trevor H. Bennett (Ed.), *Preventing Crime and Disorder: Targeting Strategies and Responsibilities* (pp. 313–351). Cambridge, UK: Institute of Criminology, University of Cambridge.
- Pease, Ken (1999). A review of street lighting evaluations: Crime reduction effects. In Kate Painter and Nick Tilley (Eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*. *Crime Prevention Studies*, Vol. 10 (pp. 47–76). Monsey, NY: Criminal Justice Press.
- Poyner, Barry (1993). What works in crime prevention: An overview of evaluations. In Ronald V. Clarke (Ed.), *Crime Prevention Studies*, Vol. 1 (pp. 7–34). Monsey, NY: Criminal Justice Press.
- Ramsay, Malcolm, and Rosemary Newton (1991). *The Effect of Better Street Lighting on Crime and Fear: A Review*. Crime Prevention Unit Paper, No. 29. London: Home Office.

Tien, James M., Vincent F. O'Donnell, Arnold Barnett, and Pitu B. Mirchandani (1979). *Street Lighting Projects: National Evaluation Program*. Washington, DC: National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice.

# References

- Angel, S. (1968). *Discouraging Crime Through City Planning*. Working Paper, No. 5. Berkeley, CA: University of California.
- Atkins, Stephen, Sohail Husain, and Angele Storey (1991). *The Influence of Street Lighting on Crime and Fear of Crime*. Crime Prevention Unit Paper, No. 28. London: Home Office.
- Atlanta Regional Commission (1974). *Street Light Project: Final Evaluation Report*. Atlanta, GA: Author.
- Barr, Robert, and Ken Pease (1990). Crime placement, displacement, and deflection. In Michael Tonry and Norval Morris (Eds.), *Crime and Justice: A Review of Research*, Vol. 12 (pp. 277–318). Chicago: University of Chicago Press.
- Beyer, Fiona R., Philip Pond, and Katharine Ker (2005). Street Lighting for Preventing Road Traffic Injuries. Unpublished Cochrane Collaboration Review. Newcastle-upon-Tyne, UK: Centre for Health Services Research, University of Newcastle.
- Bottoms, Anthony E. (1990). Crime prevention facing the 1990s. *Policing and Society*, 1, 3–22.
- Clarke, Ronald V. (1995). Situational crime prevention. In Michael Tonry and David P. Farrington (Eds.), *Building a Safer Society: Strategic Approaches to Crime Prevention* (pp. 91–150). Chicago: University of Chicago Press.
- Clarke, Ronald V., and David Weisburd (1994). Diffusion of crime control benefits: Observations on the reverse of displacement. In Ronald V. Clarke (Ed.), *Crime Prevention Studies*, Vol. 2 (pp. 165–183). Monsey, NY: Criminal Justice Press.
- Cozens, Paul M., Richard H. Neale, Jeremy Whitaker, David Hillier, and Max Graham (2003). A critical review of street lighting, crime and the fear of crime in the British city. *Crime Prevention and Community Safety*, 5(2), 7–24.
- Department of Intergovernmental Fiscal Liaison (1974). *Final Report - Milwaukee High Intensity Street Lighting Project*. Milwaukee, WI: Author.
- Farrington, David P., Martin Gill, Sam J. Waples, and Javier Argomaniz (2007). The effects of closed-circuit television on crime: Meta-analysis of an English national quasi-experimental multi-site evaluation. *Journal of Experimental Criminology* 3, 21–38.

- Farrington, David P., and Brandon C. Welsh (2002a). *Effects of Improved Street Lighting on Crime: A Systematic Review*. Home Office Research Study, No. 251. London: Home Office.
- Farrington, David P., and Brandon C. Welsh (2002b). Improved street lighting and crime prevention. *Justice Quarterly*, 19, 313–342.
- Farrington, David P., and Brandon C. Welsh (Eds.). (2001). What Works in Preventing Crime? Systematic Reviews of Experimental and Quasi-Experimental Research. *Annals of the American Academy of Political and Social Science*, 578.
- Farrington, David P., and Brandon C. Welsh (2004). Measuring the effects of improved street lighting on crime: A reply to Dr Marchant. *British Journal of Criminology*, 44, 448–467.
- Fleiss, Joseph L. (1981). *Statistical Methods for Rates and Proportions*. Second ed. New York: Wiley.
- Fleming, Roy, and John N. Burrows (1986). The case for lighting as a means of preventing crime. *Home Office Research Bulletin*, 22: 14–17.
- Harrisburg Police Department (1976). *Final Evaluation Report of the “High Intensity Street Lighting Program.”* Harrisburg, PA: Planning and Research Section, Staff and Technical Services Division, Harrisburg Police Department.
- Inskip, Norman R., and Clinton Goff (1974). *A Preliminary Evaluation of the Portland Lighting Project*. Salem, OR: Oregon Law Enforcement Council.
- Jacobs, Jane (1961). *The Death and Life of Great American Cities*. New York: Random House.
- Jeffery, C. Ray (1977). *Crime Prevention Through Environmental Design*. Second ed. Beverly Hills, CA: Sage.
- Johnson, Byron R., Spencer De Li, David B. Larson, and Michael McCullough (2000). A systematic review of the religiosity and delinquency literature: A research note. *Journal of Contemporary Criminal Justice*, 16, 32–52.
- Jones, Hayley E. (2005). Measuring Effect Size in Area-Based Crime Prevention Research. Unpublished M.Phil. thesis. Cambridge, UK: Statistical Laboratory, University of Cambridge.
- Kelling, George L., and Catherine M. Coles (1996). *Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities*. New York: Simon and Schuster.

- Lewis, Edward B., and Tommy T. Sullivan (1979). Combating crime and citizen attitudes: A case study of the corresponding reality. *Journal of Criminal Justice*, 7, 71–79.
- Lipsey, Mark W., and David B. Wilson (2001). *Practical Meta-Analysis*. Thousand Oaks, CA: Sage.
- Painter, Kate (1994). The impact of street lighting on crime, fear, and pedestrian street use. *Security Journal*, 5, 116–124.
- Painter, Kate, and David P. Farrington (1997). The crime reducing effect of improved street lighting: The Dudley project. In Ronald V. Clarke (Ed.), *Situational Crime Prevention: Successful Case Studies* (pp. 209–226). Second ed. Guilderland, NY: Harrow and Heston.
- Painter, Kate, and David P. Farrington (1999). Street lighting and crime: Diffusion of benefits in the Stoke-on-Trent project. In Kate Painter and Nick Tilley (Eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention. Crime Prevention Studies*, Vol. 10 (pp. 77–122). Monsey, NY: Criminal Justice Press.
- Painter, Kate, and David P. Farrington (2001a). Evaluating situational crime prevention using a young people's survey. *British Journal of Criminology*, 41, 266–284.
- Painter, Kate, and David P. Farrington (2001b). The financial benefits of improved street lighting, based on crime reduction. *Lighting Research and Technology*, 33, 3–12.
- Pease, Ken (1999). A review of street lighting evaluations: Crime reduction effects. In Kate Painter and Nick Tilley (Eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*, Vol. 10 (pp. 47–76). Monsey, NY: Criminal Justice Press.
- Petticrew, Mark, and Helen Roberts (2006). *Systematic Reviews in the Social Sciences: A Practical Guide*. Oxford, UK: Blackwell.
- Piquero, Alex R., David P. Farrington, and Alfred Blumstein (2003). The criminal career paradigm. In Michael Tonry (Ed.), *Crime and Justice: A Review of Research*, Vol. 30 (pp. 359–506). Chicago: University of Chicago Press.
- Poyner, Barry (1991). Situational crime prevention in two parking facilities. *Security Journal*, 2, 96–101.
- Poyner, Barry, and Barry Webb (1997). Reducing theft from shopping bags in city center markets. In Ronald V. Clarke (Ed.), *Situational Crime Prevention: Successful Case Studies* (pp. 83–89). Second ed. Guilderland, NY: Harrow and Heston.

- Quinet, Kenna D., and Samuel Nunn (1998). Illuminating crime: The impact of street lighting on calls for police service. *Evaluation Review*, 22, 751–779.
- Ramsay, Malcolm, and Rosemary Newton (1991). *The Effect of Better Street Lighting on Crime and Fear: A Review*. Crime Prevention Unit Paper, No. 29. London: Home Office.
- Repetto, Thomas A. (1976). Crime prevention and the displacement phenomenon. *Crime and Delinquency*, 22, 166–177.
- Shaftoe, Henry (1994). Easton/Ashley, Bristol: Lighting improvements. In Steven Osborn (Ed.), *Housing Safe Communities: An Evaluation of Recent Initiatives* (pp. 72–77). London: Safe Neighbourhoods Unit.
- Skogan, Wesley G. (1990). *Disorder and Decline: Crime and the Spiral of Decay in American Neighborhoods*. New York: Free Press.
- Sternhell, Robert (1977). *The Limits of Lighting: The New Orleans Experiment in Crime Reduction*. Final Impact Evaluation Report. New Orleans, LA: Mayor's Criminal Justice Coordinating Council.
- Taub, Richard P., D. Garth Taylor, and Jan D. Dunham (1984). *Paths of Neighborhood Change: Race and Crime in Urban America*. Chicago: University of Chicago Press.
- Taylor, Ralph B., and Stephen Gottfredson (1986). Environmental design, crime and prevention: An examination of community dynamics. In Albert J. Reiss, Jr. and Michael Tonry (Eds.), *Communities and Crime* (pp. 387–416). Chicago: University of Chicago Press.
- Tien, James M., Vincent F. O'Donnell, Arnold Barnett, and Pitu B. Mirchandani (1979). *Street Lighting Projects: National Evaluation Program*. Phase 1 Report. Washington, DC: National Institute of Law Enforcement and Criminal Justice, U.S. Department of Justice.
- Tseng, Chun-Hao, Josann Duane, and Fabian Hadipriono (2004). Performance of campus parking garages in preventing crime. *Journal of Performance of Constructed Facilities*, 18(1), 21–28.
- Vamplew, Clive (1991). Switching off the fears. *Surveyor*, August 15, 16–17.
- Welsh, Brandon C., and David P. Farrington (1999). Value for money? A review of the costs and benefits of situational crime prevention. *British Journal of Criminology*, 39, 345–368.

- Welsh, Brandon C., and David P. Farrington (2000). Monetary costs and benefits of crime prevention programs. In Michael Tonry (Ed.), *Crime and Justice: A Review of Research*, Vol. 27 (pp. 305–361). Chicago: University of Chicago Press.
- Welsh, Brandon C., and David P. Farrington (2004). Surveillance for crime prevention in public space: Results and policy choices in Britain and America. *Criminology & Public Policy*, 3, 497–526.
- Welsh, Brandon C., and David P. Farrington (Eds.). (2006). *Preventing Crime: What Works for Children, Offenders, Victims, and Places*. New York: Springer.
- Willis, Kenneth G., Niel A. Powe, and Guy D. Garrod (2005). Estimating the value of improved street lighting: A factor analytical discrete choice approach. *Urban Studies*, 42, 2289–2303.
- Wilson, David B. (2001). Meta-analytic methods for criminology. *Annals of the American Academy of Political and Social Science*, 578, 71–89.
- Wilson, James Q., and George L. Kelling (1982). Broken windows: The police and neighborhood safety. *Atlantic Monthly*, March, 29–38.
- Wright, Roger, Martin Heilweil, Paula Pelletier, and Karen Dickinson (1974). *The Impact of Street Lighting on Crime*. Ann Arbor, MI: University of Michigan.

