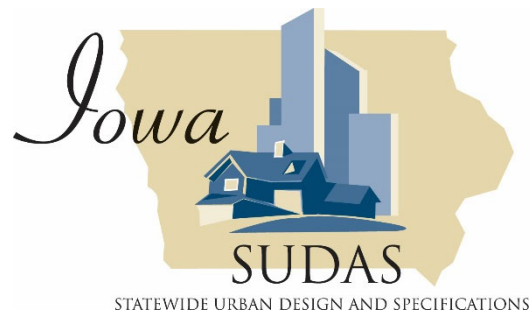


SUDAS and Iowa Public Works Service Bureau Updates

2021 Municipal Streets Seminar
November 2, 2021

Paul D. Wiegand, P.E.



PWSB
Public Works Service Bureau

Complete Streets Study

- Iowa DOT initiative
 - Establish a complete streets policy for the DOT
 - Be as consistent as possible with SUDAS except for some tiered elements
- Review and update SUDAS Design Sections
- Chapters 5, 12, and 13



Complete Streets Study

- Chapter 5 – Roadway Design
 - Expand discussion of design speed using new FHWA guidance
 - Add information about prioritizing safety over LOS
 - Add discussion about narrow lanes and when they are appropriate
 - Expand traffic calming information



Complete Streets Study

- Chapter 12 – Sidewalks & Bicycle Facilities
 - Add new section on pedestrian safety at uncontrolled and stop controlled intersections
 - Update information on shared use paths
 - Update information on bicycle boulevard boxes
 - Update information dealing with handling bicycles at roundabouts
 - Add information about pedestrian hybrid beacons (PHBs) and rectangular rapid flashing beacons (RRFBs)



Complete Streets Study

- Chapter 13 – Traffic Control
 - Update information dealing with pedestrian safety and signal operation
 - Expand the discussion on accessible pedestrian signals (APS)



Traffic Signal Summary - Design

- Section 13A-1 - Traffic Signal General Information
 - Updated references and removed outdated information
- Section 13A-2 - Traffic Control Signal Needs Study
 - Simplified MUTCD references and deleted text that was copied directly from the manual
 - Added references to new documents



Traffic Signal Summary - Design (con't)

- Section 13A-3 - Traffic Signal Features
 - Deleted listings of section titles for chapters within the MUTCD and simply included the chapter hyperlink
 - Expanded listings for potential items designers need to verify with agencies to ensure inclusion in the design plans
 - Update signal design criteria for types of equipment that may be required by agencies



Traffic Signal Summary - Design (con't)

- Section 13A-4 - Traffic Signal Design Considerations
 - Updated references and information on impacts of geometrics to traffic signal design
 - Updated references to system design considerations
 - Updated references to traffic signal operations on automated communication methods



Traffic Signal Summary - Design (con't)

- Section 13A-5 - Traffic Signal Specification Information
 - Deleted specific listings of information that is contained in Spec Section 8010, including the duplicated figures
 - Updated list of cabinet and controller options to include products currently available
 - Expanded list of items that may need to be included in project's supplemental specifications



Traffic Signal Summary - Spec Sect 8010

- Added submittal of fiber optic wiring diagrams
- Revised the payment of temporary traffic signal to pay 80% at installation and 20% upon removal (rather than 50/50).
- Added a bid item and execution language for removal of poles and pole foundations
- Updated products to include additional materials and equipment



Traffic Signal Summary - Spec Sect 8010 (con't)

- Added process for post installation testing of fiber optic cables
- Provided for advance notice of signal turn on
- Updated figures to reflect new equipment and processes and to ease construction difficulties in steel placement, ground rod placement, and conduit location in the foundation, in addition to other info
- Added bicycle detector loop detail



Section 7010 - PCC Pavement

2.01 MATERIALS

H. Bars: Comply with Iowa DOT Section 4151 for metallic tie bars and dowel bars or Iowa DOT Section 4156 for glass fiber reinforced polymer dowel bars. Meet the tie bars requirements for bar mats. All metallic bars must be epoxy coated.



Section 7010 - PCC Pavement (con't)

3.01 EQUIPMENT

C. Concrete Placement Equipment:

2. Vibrators for Machine Paving:

- h. Mount the longitudinal axis of the vibrator body approximately parallel to the direction of paving. Tilt the trailing end of each vibrator downward to an approximate **a** slope of ~~15~~ **10 to 30** degrees below horizontal.



Section 7011 - PCC Overlays

3.02 CONSTRUCTION

J. Saw Joints

1. **General:** Submit a plan for the Engineer's approval, which includes the following items.
 - a. Method(s) for assuring adequate sawcut depth in areas of variable concrete overlay thickness.
 - b. Anticipated production rate of concrete overlay placement.
 - c. Estimated number of saws necessary to prevent random cracking.
 - d. Appropriate corrective actions should random cracking occur.
 - e. Seal all joints unless directed otherwise.



Section 7040 - Pavement Rehabilitation

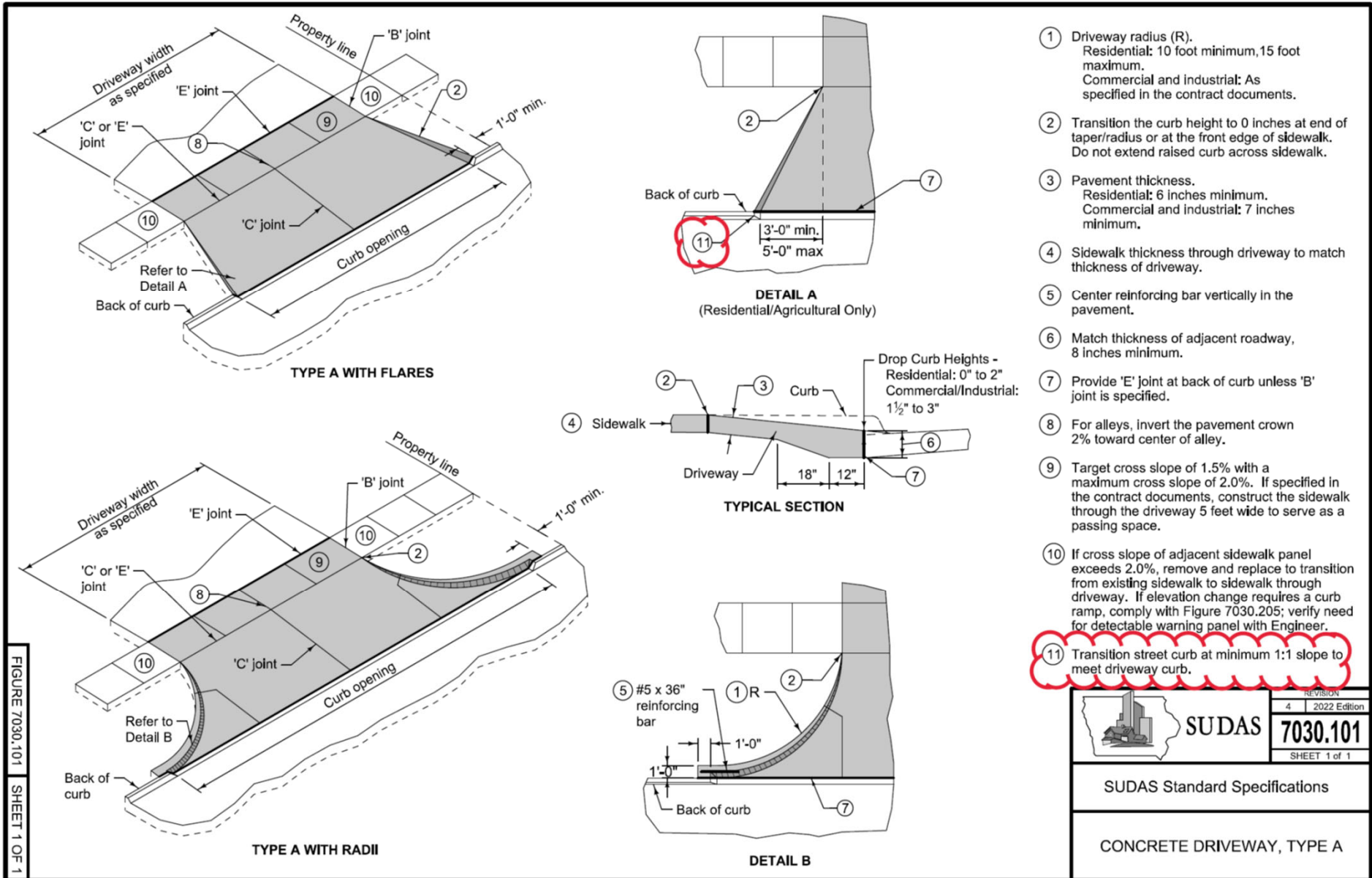
3.03 PARTIAL DEPTH PATCHING

B. PCC Patch Placement:

5. Apply joint filler material to expansion joints. At the interface between the patch and the slab, apply sand-cement grout to fill and seal the edge. Position the grout so 1 inch is over the surrounding pavement and 3 inches are over the patch.




Driveway Curb



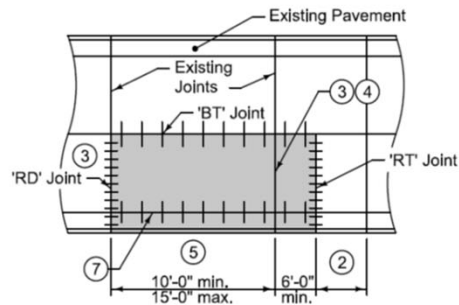
- ① Driveway radius (R).
Residential: 10 foot minimum, 15 foot maximum.
Commercial and Industrial: As specified in the contract documents.
- ② Transition the curb height to 0 inches at end of taper/radius or at the front edge of sidewalk. Do not extend raised curb across sidewalk.
- ③ Pavement thickness.
Residential: 6 inches minimum.
Commercial and industrial: 7 inches minimum.
- ④ Sidewalk thickness through driveway to match thickness of driveway.
- ⑤ Center reinforcing bar vertically in the pavement.
- ⑥ Match thickness of adjacent roadway, 8 inches minimum.
- ⑦ Provide 'E' joint at back of curb unless 'B' joint is specified.
- ⑧ For alleys, invert the pavement crown 2% toward center of alley.
- ⑨ Target cross slope of 1.5% with a maximum cross slope of 2.0%. If specified in the contract documents, construct the sidewalk through the driveway 5 feet wide to serve as a passing space.
- ⑩ If cross slope of adjacent sidewalk panel exceeds 2.0%, remove and replace to transition from existing sidewalk to sidewalk through driveway. If elevation change requires a curb ramp, comply with Figure 7030.205; verify need for detectable warning panel with Engineer.
- ⑪ Transition street curb at minimum 1:1 slope to meet driveway curb.

FIGURE 7030.101 SHEET 1 OF 1

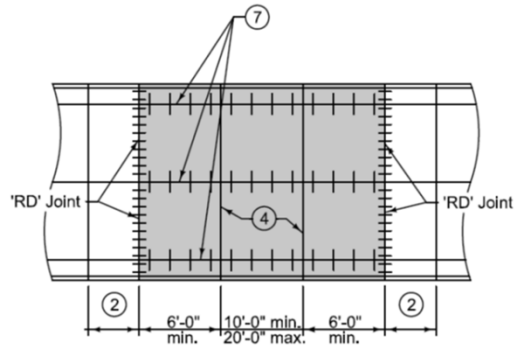
	REVISION 4 2022 Edition
	SUDAS 7030.101 SHEET 1 of 1
SUDAS Standard Specifications	
CONCRETE DRIVEWAY, TYPE A	

Jointing for PCC Patches (current)

GUTTERLINE JOINTING

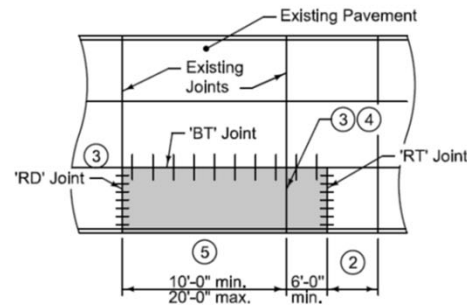


ONE PANEL WIDTH PATCH

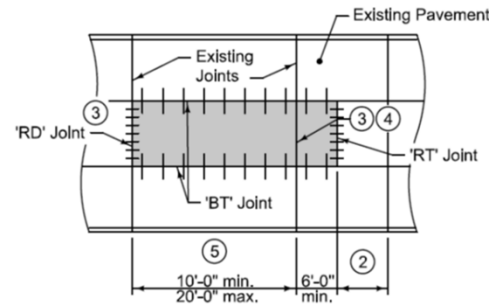


FULL ROADWAY WIDTH PATCH

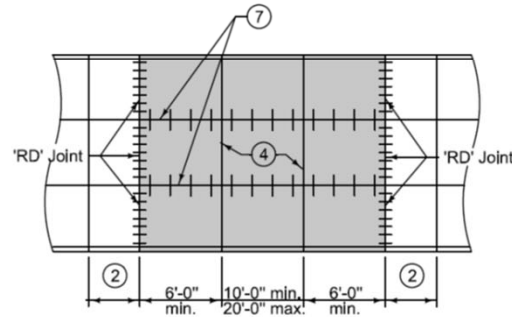
THIRD POINT JOINTING ①



OUTSIDE PANEL PATCH



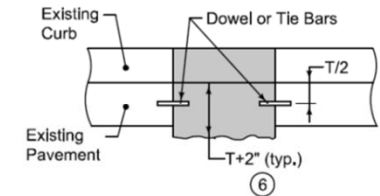
CENTER PANEL PATCH




FULL ROADWAY WIDTH PATCH

- ① Patches on roadways with quarter point jointing will be similar to third point jointing details.
- ② Minimum distance between existing joint and patch is 6 feet. If distance is less than 6 feet, extend patch to existing joint.
- ③ Match existing joint type and locations.
- ④ 'C' joint unless 'CD' joint is specified.
- ⑤ If existing joint spacing is greater than 20 feet, add a 'CT' joint at mid-panel.
- ⑥ If subgrade or subbase material is required below patch, bring material to a level 2 inches below bottom of existing pavement.
- ⑦ BT, KT, or L joint depending on pavement thickness and pouring sequence

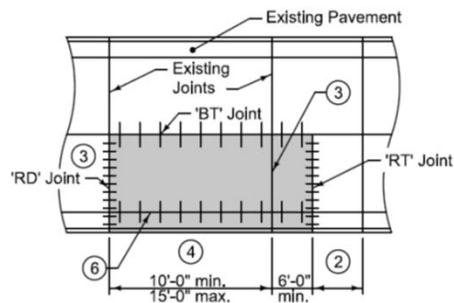
LONGITUDINAL SECTION THRU PCC PATCH



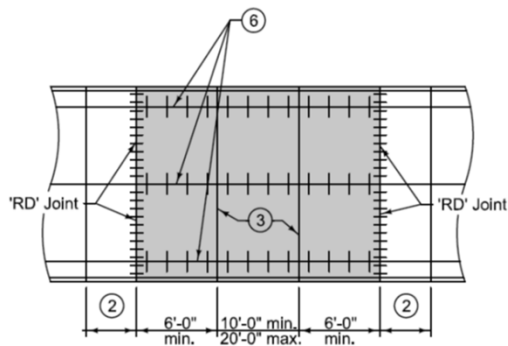
	REVISION 4 2021 Edition
	SUDAS 7040.102
	SHEET 1 of 1
SUDAS Standard Specifications	
FULL DEPTH PATCHES GREATER THAN 15' LONG	

Jointing for PCC Patches (revised)

GUTTERLINE JOINTING

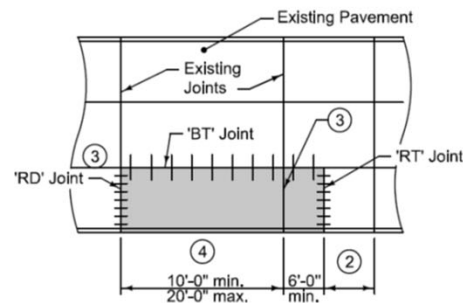


ONE PANEL WIDTH PATCH

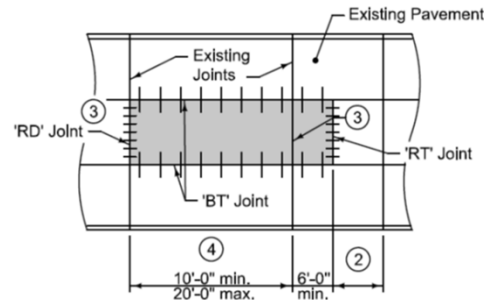


FULL ROADWAY WIDTH PATCH

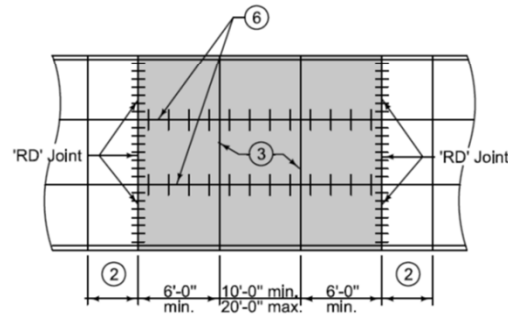
THIRD POINT JOINTING ①



OUTSIDE PANEL PATCH



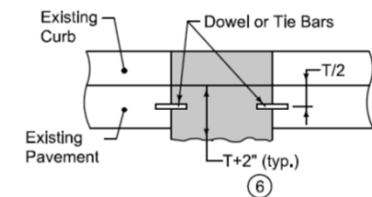
CENTER PANEL PATCH




FULL ROADWAY WIDTH PATCH

- ① Patches on roadways with quarter point jointing will be similar to third point jointing details.
- ② Minimum distance between existing joint and patch is 6 feet. If distance is less than 6 feet, extend patch to existing joint.
- ③ Match existing joint type and locations. If specified, replace existing 'C' joints with 'CD' joints.
- ④ If existing joint spacing is greater than 20 feet, add a 'CT' joint at mid-panel.
- ⑤ If subgrade or subbase material is required below patch, bring material to a level 2 inches below bottom of existing pavement.
- ⑥ BT, KT, or L joint depending on pavement thickness and pouring sequence

LONGITUDINAL SECTION THRU PCC PATCH

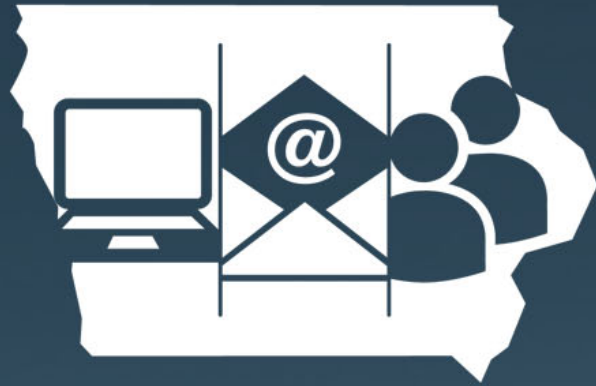


	REVISION
	5 2022 Edition
SUDAS	7040.102
SHEET 1 of 1	
SUDAS Standard Specifications	
FULL DEPTH PATCHES GREATER THAN 15' LONG	

Section 8040 - Traffic Signs

- New Section
 - For project work or just sign installations
 - Follows MUTCD
 - Materials specs from Iowa DOT
 - Certified Traffic Technician required





PWSB

Public Works Service Bureau

Communicate to Innovate





PWSB
Public Works Service Bureau

Communicate to Innovate

Providing valuable resources for public works staff

Connect with colleagues

Learn new techniques

Improve work efficiencies

Infrastructure is the lifeblood of all Iowa cities, no matter their size. Public works staff everywhere are on the front lines facing the challenge of building and maintaining that infrastructure—they don't have the option of leaving a sewer line clogged, letting the water run from a broken water main, leaving the snow unplowed, or taking time off during an unprecedented storm. We can help with that challenge!



The Iowa Public Works Service Bureau (PWSB) provides resources for public works staff from cities of all sizes to connect with one another in order to improve work efficiency, learn new techniques, and maximize available resources. Our goal is "Communicate to Innovate!"

What do we provide?

- Invaluable tools and resources for public works departments that provide essential services
- Efficient use of public resources to maintain infrastructure, which is critical to long-term sustainability
- Specific data about what is working for other cities in Iowa to help you make informed decisions and develop policies
- In-depth understanding of the workings of public works departments, which leads to stable and sustainable communities
- Better communication among public works staff across cities in Iowa, which results in improved efficiency in operating and maintaining our infrastructure



Why join the PWSB?

- Connect with your fellow public works colleagues
- Raise questions and get responses from public works colleagues across the state who have experienced similar situations
- Evaluate how other cities within your population range compare to yours (i.e., How does your street maintenance cost per mile compare with cities of similar size?)
- Compare your city's public works policies with other comparably sized cities (i.e., snowplowing policies, sidewalk inspection policies)
- Post job opportunities directly with Iowa's public works groups

What is the PWSB?

The Iowa Highway Research Board has awarded a two-year grant to the Statewide Urban Design and Specifications (SUDAS) program at Iowa State University to establish the Iowa Public Works Service Bureau (PWSB).

The newly established PWSB is Phase 2 of the overall PWSB project. The goal of this phase is to demonstrate to the Iowa Legislature and municipal leadership across Iowa the value of providing our public works staff a platform by which they can "communicate to innovate."

The Phase 1 of the project was a feasibility study to determine the interest in having a public works service bureau. During the feasibility study, a questionnaire was sent to all Iowa cities with populations of 250 people or more. The questionnaire asked if cities would use a system that provided contact information for the state's public works staff, asset management information, sample ordinances and policies, better communications with the Iowa DOT, and job descriptions and pay levels for public works staff. Over 80% of the respondents indicated they would use this system.

The PWSB is here to serve the public works community. With years of experience and a vast knowledge of public works needs, our staff can answer your questions and help you connect with your colleagues.

Visit [IowaPWSB.org](https://www.IowaPWSB.org) to learn more and to join the Iowa Public Works Service Bureau.

Whether your city is small or large, we encourage you to join the PWSB!



← Scan the code

<https://www.IowaPWSB.org/member-registration/>

IOWA STATE UNIVERSITY
Institute for Transportation

[IowaPWSB.org](https://www.IowaPWSB.org) | 515-294-2869



PWSB

Iowa Public Works Service Bureau



PWSB / MEMBERSHIP

PWSB membership carries no direct cost and is open to any city public works employees within the State of Iowa.



WHAT'S NEW

WE ARE!

The Public Works Service Bureau (PWSB) is a brand new resource for public works staff from cities of all sizes to connect with each other to improve work efficiencies, learn new techniques, and maximize available resources. Our goal is "communicate to innovate!" To learn more about the PWSB, click [here](#).

FIRST VISIT?

Is this your first visit to our site? Check out our handy roadmap to help guide you through the site. Click [here](#).

WHY SHOULD I REGISTER?

- First and foremost, we value your privacy! Only registered users can access the information you share with us.
- We can help you connect with your fellow public works colleagues with contact information for other registered cities.
- Ever wonder how another city within your population range compares to yours? We can help with that! (i.e. How does your

SUBSCRIBE TO OUR LIST

Join our list to be notified about updates.

Subscribe for PWSB updates

DIRECT CONTACTS

DIRECTOR

Paul Wiegand

pwiegand@iastate.edu

515-294-7082



PWSB
Iowa Public Works Service Bureau



HOME | MEMBER REGISTRATION

Create an Account

Please note: certain forms of web browser security extensions and antivirus software might cause difficulty with the registration process. If you experience a phenomenon such as the browser resetting to the registration page after you click "Create Account," you might need to use a different browser or your home computer or laptop. We recommend using the latest versions of Google Chrome, Microsoft Edge, or Mozilla Firefox for your best experience on our site. If you have questions or difficulties with registration, please click [here](#) to contact us.

EMAIL

PASSWORD

CONFIRM PASSWORD

FIRST NAME

LAST NAME

By creating an account you are agreeing to the [Privacy Policy](#).

Create Account

CONTACT INFORMATION

Please enter the worker's contact information as specified below. YOU MAY RETURN TO ADD AS MANY OF YOUR WORKERS AS YOU WISH. The fields with a red (*) are required, but any additional fields you enter will help our Bureau in its mission.

FIRST NAME *

LAST NAME *

TITLE *

ORGANIZATION *

ADDRESS

ADDRESS LINE 1

ADDRESS LINE 2

CITY *

STATE *

ZIP CODE

PHONE--OFFICE *

PHONE--CELL

NUMBER OF EMPLOYEES

EMAIL *

CITY/DEPARTMENT WEBSITE URL

Submit Form

INFRASTRUCTURE SURVEY—SIDEWALKS AND SHARED PATHS

Thank you for taking the time to complete our survey! Please be as thorough as you can, but **any information you provide is optional and voluntary**. The input you can provide about your community helps us better serve all Iowa public works departments.

CITY

FISCAL YEAR

SIDEWALKS

Please enter as much information as you can. **Simply type in the number you wish to input--the up/down arrows at the right are optional.**

SIDEWALKS MAINTENANCE BUDGET

MILES OF SIDEWALKS

SHARED USE PATHS

Please fill out what, if any, information you have about shared use paths in your community.

SHARED USE--GRANULAR MAINTENANCE BUDGET

SHARED USE--MILES OF GRANULAR SURFACE

SHARED USE--PAVED MAINTENANCE BUDGET






SHARED USE--MILES OF PAVED SURFACE

Submit Form

Favorite Candy

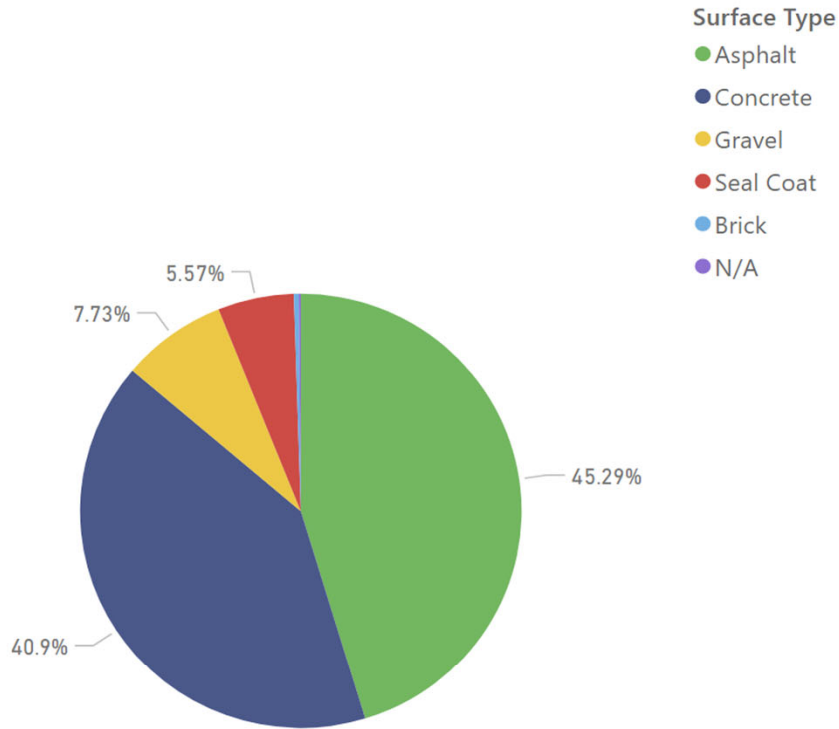
[Home](#) » [Private: Forums](#) » [Private: Sugar Check](#) » Favorite Candy

Viewing 1 - 5 of 5 replies

Author	Posts	Favorite Subscribe
July 9, 2021 at 2:47 pm EDIT CLOSE STICK (TO FRONT) MERGE TRASH SPAM REPLY #3589		
 Sarah Okerlund <i>Moderator</i>	I am just curious what everyone's favorite candy is...	
July 9, 2021 at 2:48 pm EDIT MOVE SPLIT TRASH SPAM REPLY #3590		
 Sarah Okerlund <i>Moderator</i>	Dark Chocolate – almost any kind	
July 9, 2021 at 2:50 pm EDIT MOVE SPLIT TRASH SPAM REPLY #3591		
 Beth Richards <i>Administrator</i>	Twix!	
August 16, 2021 at 9:14 pm EDIT MOVE SPLIT TRASH SPAM REPLY #5000		
 Ronald Knoche <i>Moderator</i>	Sour Patch Kids!	
August 24, 2021 at 11:21 am EDIT MOVE SPLIT TRASH SPAM REPLY #5095		
 Paul Wiegand <i>Administrator</i>	Chocolate Stars	

Website Development: Reports

Mileage by SURFACE



Population Range	sphalt	Brick	Concrete	Gravel	N/A
	50		8	10	0
1,001-2,000	1042	14	443	173	0
10,001-25,000	980	13	1726	108	4
100 or fewer	135		41	139	0
101-250	452		59	257	0
2,001-5,000	1341	9	934	196	0
25,001-99,000	1954	14	2910	174	13
251-500	689	0	109	213	0
5,001-10,000	1178	7	1114	141	1
501-1,000	1080	3	258	221	0
99,000 or greater	1028	20	1364	63	13
Total	9929	80	8966	1695	31

- Population Range
- (Blank)
 - 1,001-2,000
 - 10,001-25,000
 - 100 or fewer
 - 101-250
 - 2,001-5,000
 - 25,001-99,000
 - 251-500
 - 5,001-10,000
 - 501-1,000
 - 99,000 or greater

City	Asphalt	Brick	Concrete	Gravel	N/A	Seal Coat	Total
Ackley	22		1	1	0	0	24
Ackworth	1						1
Adair	3	1	3	3		4	14
Adel	9	3	28	3		0	43
Afton	6		1	2	0	5	14
Agency	7		0	1		0	8
Ainsworth	0		0	1		4	5
Akron	13		3	2	0		18
Albert City	6		0	0		3	9
Albia	20	0	17	4	0	1	42
Albion	7			1			8
Alburnett	1		4	1		0	6
Total	9929	80	8966	1695	31	1222	21923

Coming Soon...

- Job board
- City public works policies
 - Snow plowing
 - Tree maintenance
 - Sidewalk ADA compliance
 - Emergency management activities

Permanent Funding

Proposed 312.3E Iowa public works service bureau support fund *(legislative action for Road Use Tax allocation)*

- Prior to the allocation to the cities under section 312.3, subsection 2a, the department is authorized to set aside each year one-eighth (0.125) of one percent from the street construction fund for deposit in a fund to be known as the Iowa public works service bureau support fund. The Iowa public works service bureau support fund shall be used by the department solely for the purpose of supporting the Iowa public works service bureau. Unobligated funds remaining in the Iowa public works service bureau support fund on June 30 of the fiscal year shall revert to the street construction fund. On or before January 31 of each year, the Iowa public works service bureau shall file a report with the governor, state transportation commission, chief clerk of the house of representatives, and secretary of the senate showing the activity accomplished under this section.



Cost

- Initial annual budget = \$265,000
- Cost per person = 10.6¢
- For a city of 500 people = \$53/ year
 - Equates to the material costs (80 lb bags of pre-mix concrete) for a single 4' X 4' square of sidewalk
 - 56.3% of cities are under 500 people

Benefit/Cost Savings

- Street Fund (DOT FY22) = \$322,000,000
- Statewide city population (2020) = 2,581,000
- 1% savings = \$3,220,000
 - Additional \$1.25/person available for direct use
- Cost of IPWSB = 10.6¢/ person
- B/C = \$1.25/\$0.106 = 12:1

Questions?

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 - pwiegand@iastate.edu
- Beth Richards
 - brich@iastate.edu
- Paul Lundgren
 - paulland@iastate.edu