

City of Tacoma Design Manual and Low Impact Development Updates

Transportation Commission
October 21, 2015



Regulatory Drivers

- August 2013 Ecology issued a new NPDES permit to Tacoma
- NPDES Permit requirement (S5.C5) to make Low Impact Development (LID) the preferred and commonly-used approach to site development
- Permit requires code, policy and regulation changes to be in effect January 7, 2016



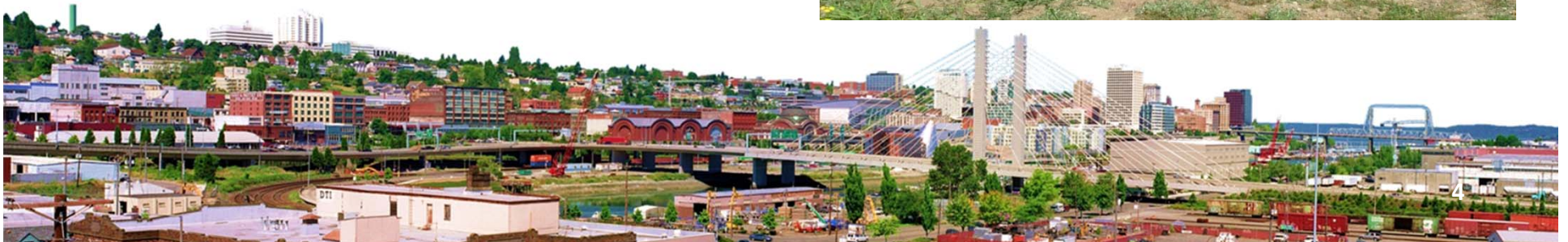
LID Code Update

- Per the NPDES Stormwater Permit (S5.C5)
- Revisions shall be designed to minimize:
 - impervious surfaces;
 - native vegetation loss; and
 - stormwater runoff in all types of development situations



Tacoma's Proposed Approach

- Remove barriers to LID implementation
- Develop guidance
- Create incentives
- Provide equivalent SWMM
- Lead by example



Documents to Review for LID Update

- Comprehensive Plan
- Tacoma Municipal Code
- Stormwater Management Manual
- City of Tacoma Standard Drawings
- Design Manual



Joint Effort

- Environmental Services
 - Office of Environmental Policy and Sustainability
 - Science and Engineering
- Public Works
 - Engineering
- Legal
- Tacoma Water
- Planning and Development Services
- Standards Committee



Tacoma's Process

- Reviewing all development codes, regulatory and guidance documents
- Partnering with planning department using existing process for code adoption
- Using Standards Committee existing process to update Public Works Design Manual
- Creating internal work groups
- Public outreach



City of Tacoma Right-of-Way Design Manual

- What is the Design Manual?

The Design Manual outlines the requirements and regulations for public infrastructure improvements within the right-of-ways (ROW) of the City of Tacoma (City). These requirements apply to both City projects and private development within the ROW.

- The Design Manual was last published in 2004. It needed to be updated to:
 - address current City policies and requirements; and
 - comply with Washington State Department of Ecology (Ecology) NPDES Stormwater Permit requirements



Chapter 1 – Introductions and General Requirements

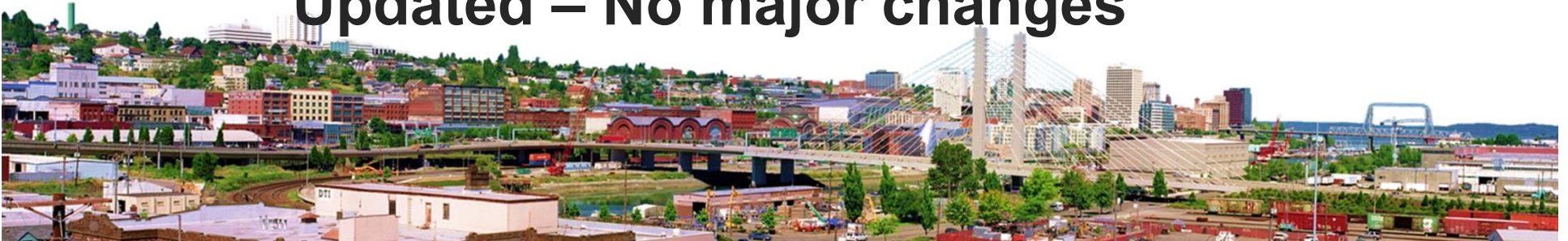
Updated – No major changes

Chapter 2 – ROW/Site Permitting and Local Improvement Districts

New permitting process and permit types

Chapter 3 – Site Development Permit and Right-of-Way Plan Format

Updated – No major changes



Chapter 4 – Street Design

- Updated the geometric design references and cross-sections
- *Street Typologies* introduced
- Clarified information about access to/from the street system
- Mobility (pedestrian) facilities updated
- Traffic calming guidance
- Incorporated Green Stormwater Infrastructure



Chapter 4 – Street Design

Geometric Design

- Updated references to design guidelines documents and policies
- Clarified ambiguities
- Continued reliance on AASHTO Policy (“Green Book”)
- Revised information on straight grades and grade breaks
- Provides details about roadway cross-sections



Chapter 4 – Street Design

Street Typologies

The City strives to create a transportation system that promotes Complete Streets, transportation choices, and environmental sustainability; serves and supports economic development; and equitably and efficiently serves all neighborhoods of the City.

- Prompts readers/designers to consider:
 - Roadway classification (e.g., arterial, mode designations, etc.)
 - Roadway characteristics (e.g., speed limit, transit elements, etc.)
 - Applicable specifically adopted design guidelines



Chapter 4 – Street Design

Access Management

- Some of the criteria to be considered:
 - Roadway classification and land development regulations
 - Traffic volumes, type of traffic, crash history
 - Drainage requirements and utilities
 - Availability of alternative or shared connections

Posted Speed Limit (per TMC Title 11)	Functional Classification (Transportation Element of the Comprehensive Plan)	Access Spacing* (centerline to centerline)
35 or 40 miles per hour	All	600 feet
≤ 30 miles per hour	Principal or Collector Arterial	300 feet
	Minor or Unclassified Arterial	150 feet
	Local Street	50 feet

* The spacing standards are for full access. Restricted access (right-in, right-out), shall be half the amount shown in the table above provided that a physical median restricts left turns. No reduction shall be made on local streets, and no reduction shall be made when measuring from highway ramps or existing or planned traffic signals or roundabouts.



Chapter 4 – Street Design

Mobility Facilities

- Specific guidance on widths for sidewalk, amenity zone, and buffers based on road type, land use area
- Guidance concerning planting area and street trees
- Curb ramps and crosswalks are addressed in Chapters 12 and 8



Chapter 4 – Street Design

Traffic Calming

- Some of the criteria to be considered:
 - Traffic conditions, multi-modal provisions
 - Neighborhood involvement
 - User expectation, meeting multiple objectives
 - Accommodation of emergency vehicles
 - Effective, maintainable
- Treatments may include or be provided in conjunction with Low Impact Development stormwater features



Chapter 4 – Street Design

Green Stormwater Infrastructure

■ Permeable Pavement

- Subgrade Preparation
- Permeable Ballast Base Course
- *In Progress - Wearing Surfaces*

www.cityoftacoma.org/permeablepavement

■ Bioretention

- ROW Transitions
- Standard Details



Chapter 5 – Stormwater and Wastewater Sewer Design

- Stormwater
 - Updated pipe types and some analysis requirements
- Wastewater:
 - Terminology – wastewater versus sanitary, updated pipe types, additional guidance for grinder pump



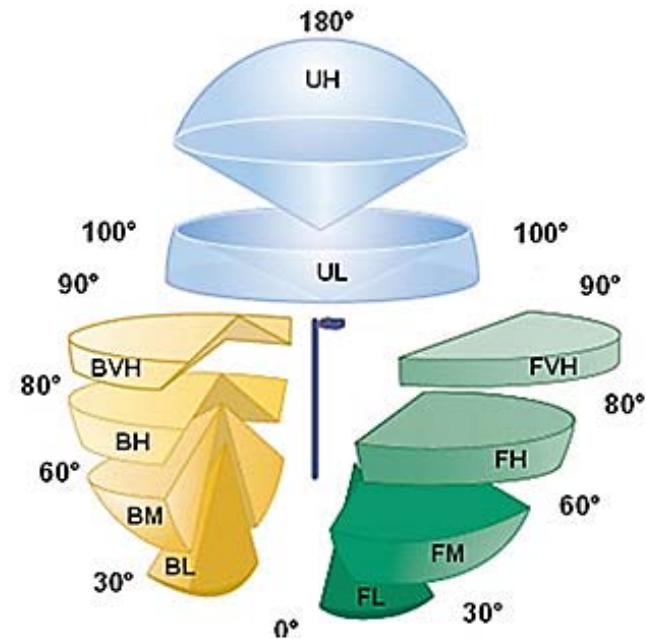
Chapter 6 – Illumination

- Provides clear direction and guidance for designers, engineers, and contractors
 - Streetlighting used to be designed entirely in-house
- Reflects a transition to lifecycle cost thinking
 - LED lights are both energy- and maintenance-efficient
 - Specifies more secure poles and equipment
 - Standardizes equipment to reduce inventory costs
 - Reduces light waste (light pollution)
 - ◆ Introduces BUG ratings and lighting zones



Chapter 6 – Illumination

Zone	Examples	BUG Rating
LZ-0	Nature/wilderness areas	N/A in Tacoma
LZ-1	Low-density residential	B1-U0-G1
LZ-2	Medium density, major streets, commercial areas	B2-U1-G2
LZ-3	Business districts, major public facilities/transit areas	B3-U1-G3
LZ-4	Theater and Dome Districts	B3-U1-G3



Chapter 7 – Traffic Signalization

- Provides clear direction and guidance for designers, engineers, and contractors
- Reflects a transition to lifecycle cost thinking
 - Ensures ease of maintenance and use
 - ◆ Mast arms instead of span wires
 - ◆ Enhanced detection equipment instead of loop wire
 - ❖ Bikes accounted for per RCW 47.36.025
 - ◆ Standardizes equipment to reduce inventory costs
 - Specifies more secure poles and equipment



Chapter 7 – Traffic Signalization

- Provides signal-related accessibility guidance
 - Pedestrian Facilities Chapter covers specific ADA-related requirements
 - Traffic Signalization Chapter covers Tacoma-specific equipment/situations within bounds of ADA/MUTCD
- Specifies:
 - basic emergency/transit preemption;
 - controller/cabinet and communications; and
 - warning beacons and RRFBs



Chapter 8 – Channelization and Signing

- Includes Definitions of Common Terms
- Design Project Expectations
- Design Coordination and Guidance
- Plans Preparation Requirements
- Construction Requirements
- Formally Adopted Set of Standard Plans



Chapter 8 – Channelization and Signing

- City specific information on types, placement, and installation of traffic signs
- Available and consistent information will ensure proper implementation and maintenance by City staff and contractors
- Guidance for crosswalk markings/treatments



Chapter 8 – Channelization and Signing

Roadway Traffic	Average Daily Traffic (2-way total) ≤ 9,000			Average Daily Traffic (2-way total) > 9,000 to 12,000			Average Daily Traffic (2-way total) > 12,000 to 15,000			Average Daily Traffic (2-way total) > 15,000		
	Speed Limit (in MPH) ≤ 30	35	40	≤ 30	35	40	≤ 30	35	40	≤ 30	35	40
Total Lanes												
Two	C	C	P	C	C	P	C	C	N	C	P	N
Three	C	C	P	C	P	P	P	P	N	P	N	N
Four or more (with raised median*)	C	C	P	C	P	N	P	P	N	N	N	N
Four or more (without raised median)	C	P	N	P	P	N	N	N	N	N	N	N



Chapter 9 – Construction Related Permits and Easements

- Reorganized chapter to incorporate relevant information into other chapters
- Incorporated new and updated policies and procedures

New Chapter – Water Plans

- Process to work with Tacoma Water for extensions and upgrades



New Chapter – Tree and Vegetation Management

- Clear definition of “regulated” trees and activities
- Consolidation of existing TMC, permitting processes and other codified documents
- Adoption of the Urban Forest Manual for requirements and recommendations
- New vegetation standard plans



New Chapter – Pedestrian Facilities

- This is a new chapter that incorporates ROW elements that affect accessibility
- The City strives to make the ROW useable for everyone
- Includes elements such as sidewalks, curb ramps, accessible pedestrian signals, crosswalks, and maintaining pedestrian access during construction



New Chapter – Shared-Use Paths

- Outlines design requirements for off-street paths
- Provides guidelines on width, slope, clearance, signage, buffers, etc. of paths
- Reference relevant City guideline documents: Tacoma Waterfront Design Guidelines; **Master Mobility Plan**; **Pedestrian and Bicycle Design Guidelines**
- Reference to other relevant national standards and design guidance documents: **AASHTO**; **PROWAG**; **ADA Standards for Accessible Design**; etc.



LID Code Updates

- Changes to TMC Titles 2, 10, 12 and 13
- Update definitions to match NPDES Permit
- Updates to comply and be consistent with NPDES Permit language
- Removing Barriers to LID
- Clarifying where LID facilities can be used to comply with landscape requirements
- Incentivizing LID TMC 12.08.560



LID Code Updates

- Changes to TMC Title 2
 - Updating definitions, allowing green roofs
- Changes to TMC Titles 10
 - Removing barriers to pervious pavement
- Changes to TMC Titles 12
 - Revisions for compliance with 2013-2018 NPDES permit
 - Incentivizing LID
- Changes to TMC Title 13
 - Updating definitions
 - Clarifying that green stormwater features could be part of landscaping

• Removing barriers to pervious pavement and LID



LID Standard Details

- Bioretention
- Pervious roads
- Rain gardens
- Infiltration facilities
- Dispersion facilities
- Soil quality and depth (BMP L613)
- Modification of existing details to allow for LID



Next Steps

- Draft Design Manual is available for public comment at http://www.cityoftacoma.org/government/city_departments/environmentalservices/education_and_involvement/.
- Additional Design Manual comments can be submitted to swmupdates@cityoftacoma.org until Thursday October 22
- Council adoption of Design Manual, TMC 10 and 12 in November
- Additional outreach and training
- Design Manual, Code changes and SWMM effective by January 7, 2016



Questions or Comments

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UWT/Hood Street Regional Water Quality Facility



TACOMA MUNICIPAL CODE 10.22 AND 11.05 PROPOSED REVISIONS 10/21/15) DRAFT

Code	Title	Street	From	To	Proposed Action	Detailed Description	Alignment with TMP
10.22.020	Definitions	n/a	n/a	n/a	Define City Engineer, use similar language as	"City Engineer" means the City Engineer or his or her authorized representative.	
11.05.135	Unlawful to park or stand unlicensed vehicle.	n/a	n/a	n/a	revise language	Says can't park on planting strip unless licensed. Remove planting strip language.	
11.05.250	City Manager regulates and designates on-street parking restrictions.	n/a	n/a	n/a	modify authority	parking restrictions - change authority from City Manager to City Traffic Engineer, since state law vests this authority here.	
11.05.140	Taxicabs – Prohibited parking areas.				delete?	is this needed / used?	
11.05.200	Parking of commercial vehicles in residential neighborhood prohibited.	n/a	n/a	n/a	modify		
11.05.220	Parking of commercial trailers prohibited.				delete or modify.	Authority should be CTE instead of TE. And, clarify mechanism. Barricade Permit?	
11.05.150	One-way streets designated.	A Street	8th	9th	designate one-way	Change to match existing condition.	
11.05.150	One-way streets designated.	Court A	8th	13th	modify	Change to match existing condition. existing language: Court A from South 7th Street to South 12th Street and South 13th Street to South 15th Street,	
11.05.150	One-way streets designated.	Court C	9th	11th	modify	Change to match existing condition. existing language: Court C from South 11th Street to South 13th Street, northbound only, and South 9th Street to	
11.05.150	One-way streets designated.	Court C	150' south of 11th	13th	modify	Change to match existing condition.	
11.05.150	One-way streets designated.	Oakes	N 31st	N 32nd	add one-way designation?	Change to match existing condition.	
11.05.150	One-way streets designated.	East 25th	East D	East G	add one-way designation?	pending study to support Amtrak / etc. Freighthouse improvements	
11.05.150	One-way streets designated.	St. Helens	Market	9th	remove one-way designation	Change to match existing condition. Bikes allowed two-way	
11.05.240	School zones designated.				modify authority	school zone designation - change authority from City Manger to City Traffic Engineer, per authorities already defined in state law.	
11.05.460	Blind pedestrians – Vehicles to stop.	n/a	n/a	n/a	delete	Duplicates RCW 70.84.040. Moreover, motorists must stop for all pedestrians, and this code is redundant.	
11.05.470	Blind pedestrians - use of white canes	n/a	n/a	n/a	delete	Duplicates existing state law.	
11.05.490	Arterial streets designated.	Day Island Bridge Road	27th St W	West City Limits	remove arterial classification		
11.05.490	Arterial streets designated.	E 56th St	Portland	Pipeline Rd	remove arterial classification		
11.05.490	Arterial streets designated.	Jefferson	Market	17th	modify arterial classification	change "from Pacific Avenue to Tacoma Avenue South" to "from South 21st Street to Tacoma Avenue South"	
11.05.490	Arterial streets designated.	Mildred	North 51st	North 54th	remove arterial classification		
11.05.490	Arterial streets designated.	N 11th St	N 12th St	N M St	remove arterial classification		
11.05.490	Arterial streets designated.	N 12th St	N Steele St	N Anderson St	remove arterial classification		
11.05.490	Arterial streets designated.	N 37th St	Shirley	Vassault	modify arterial classification	change arterial classification from Shirley to Vassault to Pearl to Vassault	
11.05.490	Arterial streets designated.	N Anderson	N 12th St	N 15th St	remove arterial classification		

TACOMA MUNICIPAL CODE 10.22 AND 11.05 PROPOSED REVISIONS 10/21/15)

Code	Title	Street	From	To	Proposed Action	Detailed Description	Alignment with TMP
11.05.490	Arterial streets designated.	S 17th St	Commerce	Market	add arterial classification	already principal from Pacific to Commerce. Add minor arterial classification from Commerce to Market	
11.05.490	Arterial streets designated.	S 19th St	Seashore	West City Limits / 91st	remove arterial classification		
11.05.490	Arterial streets designated.	S 21st St	Jefferson	Tacoma	modify arterial classification	principal from "A Street to Jefferson Avenue" to "from A Street to Tacoma Avenue"	
11.05.490	Arterial streets designated.	Tacoma Avenue	19th	21st			
11.05.490	Arterial streets designated.	S 30th St	Pacific	G / Delin	remove arterial classification		
11.05.492	Transit streets designated.	n/a	n/a	n/a	delete	DELETE? OR REFER TO COMP PLAN? OR, FIND REFERENCES TO TRANSIT STREETS, and CHANGE FROM TMC TO COMP PLAN?	
11.05.494	Pedestrian streets in centers.	n/a	n/a	n/a	delete		
11.05.500	Yield right-of-way intersections designated.	n/a	n/a	n/a		Consider removing this section of code. Authority to post in WAC 308-330-265	
11.05.500	Yield right-of-way intersections designated.		n/a	n/a		locations where traffic circles had yield signs, but signs were removed.	
11.05.500	Yield right-of-way intersections designated.	4th and Tacoma	n/a	n/a		Stop sign on one approach, yield on another.	
11.05.500	Yield right-of-way intersections designated.	S 4th St / Broadway	n/a	n/a	removed from yield control list		
11.05.500	Yield right-of-way intersections designated.	South 50th / South D	n/a	n/a	add to code (existing condition)		
11.05.500	Yield right-of-way intersections designated.	South 50th / South South Fawcett	n/a	n/a	add to code (existing condition)		
11.05.500	Yield right-of-way intersections designated.	South 50th / South G	n/a	n/a	add to code (existing condition)		
11.05.520	Thirty miles per hour limit – Streets designated.	11th	A Street	St. Paul	delete	Currently posted 25 mph.	
11.05.520	Thirty miles per hour limit – Streets designated.	11th	St. Paul	Marine View approx.	add	Currently in 35 mph section. With E-W bridge removals, 30 mph more appropriate.	
11.05.520	Thirty miles per hour limit – Streets designated.	Jefferson			modify	New connection. Change from Jefferson Avenue from South 17th Street to Center Street to "...from Broadway to Center Street"	
11.05.530	Thirty-five miles per hour limit – Streets designated.	Port of Tacoma Road			add (change from 40 MPH)	Port of Tacoma Road from East 11th Street to South City Limits.	
11.05.540	Forty miles per hour limit – Streets designated.	Port of Tacoma Road			delete (change to 35 MPH)	Port of Tacoma Road from East 11th Street to South City Limits.	

Transportation Commission Meetings Thru December 2015

<p>August 19, 2015</p>	<p><i>Planning Commission Public Hearing (open until 8/26)</i> South Tacoma Way Multimodal Project Comprehensive Plan Annual Amendments & TMP Update Potential Agenda Topics</p>	
<p>September 16, 2015</p>	<p>Joint Meeting Planning Commission - Review Public Comment Mayor's Transportation Package (Mello) Centers of Local Importance (Diekmann) Elections <u>reports:</u> -Ordinances--MTO, UDC, LID (Diekmann) -6-YR TIP (Diekmann) -Traffic Wrap -PLT Open House (9/15) -State Transportation Package -FTA awards ST/COT \$2M to evaluate TOD and neighborhood improvements to support TOD for TLINK expansion. -Public Scoping Meeting on Thursday, Sept. 17, 5:30 p.m. at the Asia Pacific Cultural Center (4851 S. Tacoma Way). -Downtown on the Go bike ride with City Council September 23 at 5:30 -Letter to Kristina sent from Mayor -Parking Day Sep 18th, maps online</p>	
<p>October 21, 2015</p>	<p>Design Manual / Title 10 Low Impact Development Changes (Jim Parvey) Ordinance Changes – MOT, UDC, LID– detail (Diekmann) <u>reports:</u> Port ER/ITS Update WTSC Traffic Safety Conference</p>	<p>Need PW traffic to talk about design manual?</p>
<p>November 18, 2015</p>	<p>6 YR Transportation Improvement Program Puyallup Tribe of Indians Projects & Improvements Pierce Transit – Pacific Avenue Corridor City of Tacoma – Pacific Avenue Corridor SR-167</p>	
<p>December 16, 2015</p>	<p>2015 Accomplishments 2016 Work Plan TMP Performance Tracking Port ER/ITS Update <u>reports:</u> Target Zero Partners Meeting</p>	
<p>Potential/Continuing Topics</p>	<p>6 YR Program Annual Adoption TMP Modifications Bicycle Friendly Communities Award/Status (review fall 2016) Prairie Line Trail</p>	

Tacoma Mall Subarea Plan
TMP Work Plan Items
11th Street Green Infrastructure Project
MLK Link Light Rail Expansion Project
Transportation Guidelines in Subarea Plans and EIS
WSDOT Projects & Improvements
Amtrak Relocation Development
Pierce Transit Projects & Improvements
Sound Transit Projects & Improvements
Port of Tacoma Land Use and Transportation Plan
Schuster Parkway Bridge Rehabilitation & Corridor Multi-Use Trail
Low Impact Design (LID) Projects
Parklets
UWT Master Plan
Point Defiance Roundabout
TMP Performance Tracking
South 21 st Street & Pacific Avenue U-Turn
South 21 st / Brewery District Transportation Update
South Tacoma Way Corridor Multimodal Improvement Project
TIB Grants (memo update)