

2011 HOUSE TRANSPORTATION

HB 1042

2011 HOUSE STANDING COMMITTEE MINUTES

House Transportation Committee Fort Totten Room, State Capitol

HB 1042
01/07/2011
#12654

☐ Conference Committee

Committee Clerk Signature

Jeannette Cook

Explanation or reason for introduction of bill/resolution:

The intent of this bill is to clarify that not only do locals have the ability to create their own overweight system, but also to collect fees associated with violations of that system.

Minutes:

Attachments #1, 2, and 3

Chairman Ruby opened the hearing on HB 1042.

Brady Larson, Legislative Council Staff, served for the interim on the Public Safety and Transportation Committee and introduced the HB 1042.

Brady Larson: This bill, HB 1042, comes out of the Public Safety and Transportation Committee, and it affects extraordinary road use fees which are related to overweight vehicles.

Brady Larson provided clarification about overweight vehicle fees. See attachment #1.

Chairman Ruby: Would this only be applied because of actual substantial damage?

Brady Larson: No, this will be assessed to all overweight fee violations.

Chairman Ruby: Is this already being assessed to all the vehicles, like a normal ticket?

Brady Larson: There are two types of fees: the regular enforcement fee (like a traffic ticket) and the extraordinary road use fee is in addition to the normal traffic citation. The purpose of the two fees is different. The extraordinary road use fee is more to compensate for the damage caused to the roadway. It is not a fine, like the enforcement fee is considered.

Chairman Ruby: How often is this actually assessed? I have known people who have paid this fee but not necessarily been prosecuted by the North Dakota State's Attorney.

Brady Larson: I have some information from the 2009 biennium. This is overweight vehicle enforcement actions by the highway patrol. There were about 1,665 extraordinary road use fee cases. That generated approximately \$1,000,000.

Chairman Ruby: At this time, does this all go to the State Distribution Fund or the State Highway Fund?

Brady Larson: The State Highway Fund

Representative Weisz: How many of the 1,665 were on county roads?

Chairman Ruby: Do you have that breakdown that you could provide to the committee?

Brady Larson: Yes, I can provide the breakdown. I just have the breakdown of the funding amount. For the extraordinary road use fee enforcement actions for the highway patrol, of the one million dollars, \$850,000 was on state and federal highways. Approximately \$150,000 was on county roads. I visited with the HP. They stated that they do not do much enforcement on county roads. They will only go into a county to work their roadways, if they are requested formally by the county commission.

Vice Chairman Weiler: In the 07-09 biennium, you said that there was about \$150,000 that was assessed on roads other than state and federal roads. Can we assume that it will be \$150,000 or greater this biennium?

Brady Larson: That argument could be made. In the interim committee process the argument was also made that if you allow counties to retain these extraordinary road use fees, they are more likely to develop an overweight vehicle program on their own. Therefore, the highway patrol would not be doing as much enforcement action on behalf of the counties on the county roads. You are correct in saying that if you were to apply this to the 2007-2009 highway patrol enforcement actions, it would be \$150,000 deduction from the State Highway Fund.

Chairman Ruby: Is it because it is not an effect on the general fund that it shows no effect on the fiscal note, or is it just a reduction to the State Highway Fund? It should show some effect to the State Highway Fund. Whether the county implements something or not, it already shows that \$150,000 would have gone somewhere other than the State Highway fund, if this was in place before.

Brady Larson: That is correct.

Representative Onstad: In response to some of the questions, the sheriff's department does not place a lot of emphasis on stopping trucks on county roads for the simple reason that they will not collect any fees. The damage has been done to the county road and the township road, but all the damages and the fees go to the state. They have basically backed off on that. They allow the highway patrol to set up temporary sites for water trucks and oil trucks that are overloaded. They do that on the highway system, when they know that is has gone on on the county road. They (HP) have made the statement to me that they will go out and enforce a few fees, but they are not going to spend their time setting up sites and stopping trucks on county roads because they are not collecting any fees.

Chairman Ruby: The intent should be to enforce it to save the roads, not for the revenue.

Chairman Ruby called for any supporting testimony for HB 1042.

Aaron Birst, Association of Counties: Testimony provided, see attachment #2. On the back of my testimony page (see attachment #3) you see the current extraordinary overweight bond and charge. If you get a permit, you can run overweight. If you get stopped, and are found to be overweight, depending on how much the truck weighs, you will be charged the extraordinary road use fee. There were some understandings that those extraordinary road use fees would go to the jurisdiction that implemented the overweight permitting system. There was an attorney general's opinion that clarified that it still all needs to go to the state. Since that time, the discussion for this bill came up, and that is where the association of counties became involved. The counties are varied on whether or not they have a fully function overweight permit system. The primary example is the 17 western counties that have had for 20 years, their own permitting system that mimics state law, but allows an oil truck, for example, to call one person who runs a permitting process for all 17 counties. A number of other counties have created a similar structure, but on a single county basis. (Cass Co., Richland Co.) A number of the other counties have not created that type of structure and do rely on the highway patrol because the scales are extremely expensive. Many counties do not have the funds to address this problem, so they would ask the highway patrol to help out. Anytime you start going and blurring the lines of jurisdiction it gets confusing. I want to keep the bill as simple as possible. It basically just clarifies that fee collected will go to the jurisdiction for the road that has been "overused" and has had damage. I agree that generally, the dollar amounts are not huge. For example, the seventeen western producing counties charge the permit to allow overweight operation. That program generated about \$1,000,000 for seventeen counties that they split depending on where the use was. A million dollars split seventeen ways is not a huge amount. The locals want the ability to do this because it will allow them to create their own permitting structure which allows them to control where the traffic will go. Therefore, when an overweight truck wants to come through, they can sell them a \$20 permit and tell them they can only use Hwy 23, no other county roads. That is the real key to this. When you look at the 3912 code, the legislature has always been clear that locality had the ability to create this program, but it was unclear who was collecting the money. The attorney general's opinion made this clear, and the counties wanted to keep that money.

Chairman Ruby: We had a bill yesterday that made it easier to go from one place to another by making one call. Is this going to be like this or will the company have to call every county that they are going to drive through?

Aaron Birst,: Under the way that it operates right now, the locality issues the permit for their roads. Then the state highway patrol would issue permits for the state roads, and the county will issue for the county road. The bill that you heard yesterday takes multiple states and tries to simplify the process which is helpful. That is what the seventeen counties have done. I think that there is a mechanism to create that, working with the state, counties, townships, and cities. Until we get to that point, we want the locality to share the revenue that comes from the use of their roads. There are reasons to create a larger system, but we are not there yet. Until we are there, this is what we are suggesting.

Representative Gruchalla: Say an overloaded truck comes into the state, and drives down a state highway or interstate and then onto a county road to a township road and gets

stopped on a township road. I'm assuming that a deputy will stop him and weigh him. Is there a mechanism to distribute the fees between the townships, counties, and the state? Will the county be able to assess fees for the interstate or a state road?

Aaron Birst: Currently that does not exist. This bill does not address that. This bill focuses on where they are stopped. That is the ultimate jurisdiction. You are correct, that vehicle has moved across multiple jurisdictions. How do you assess that? It becomes too burdensome to try to figure out how to redistribute that. In our experience we feel that the more active that the locals are on overweights, it is better, even for the state because it keeps the heavy loads from ever getting out onto the interstate, for example. I think that the state has some buy-in even if they are not receiving the money.

Representative Gruchalla: Is there going to be a mad scramble, if a truck goes across three or four counties to go out and catch that guy in your county?

Aaron Birst,: What really happens when someone gets pulled over, law enforcement has the discretion to tell the person to go and get a permit if they are overweight. Very rarely do these violations get tried, where a judge has to make a determination of the weight, because the statute allows them to be settled. In the cases with the DMI trucks, they had about \$20,000 fines in overweight. They agreed to forfeit \$10,000 of it and settled.

Chairman Ruby: Some of the discussion was about local officials not enforcing because they don't get the benefit from the ticket. If you look at \$150,000 spread across seventeen counties, it is about as minuscule as nothing. Where is the big incentive? It still should be to keep the roads from being damaged.

Aaron Birst: Correct, even if this bill passes there will be counties that just don't have the resources to be active in it. From an overall state policy, I think that there should be some sort of effort to make sure that these trucks get permitted. There should be more than just this bill, I would say.

Larry Severson, a farmer from Mayville and township supervisor from Roseville Township and Trail County, and president of North Dakota Township Association: I support this legislation. We believe it will afford the counties the ability to increase their enforcement activities and protect their resources.

Dale Marks, Stutsman County Commissioner: I think that all the reasons to pass this bill have been talked about. Stutsman County has been talking about this very concept for about four years. We were desperate to find ways to fund road repair. We found out that the fees would have to go to the state, so it has been put on the back burner. But, the overall goal is to protect our roads. That is why I would hope you would bring this bill out with a Do Pass.

Chairman Ruby: By passing this, does it make it more helpful to have the money to further the enforcement costs? Because it won't be substantial enough to pay for the roads.

Dale Marks: No, it won't repair the roads, but it will help pay for the program, the scales, the deputy, the vehicle, and whatever we use. The overall goal is to protect the roads.

There was not further support on HB 1042.

There was no opposition to HB 1042.

Neutral testimony:

Carlee McLeod, Deputy State Treasurer: Our office has no interest in the substance of this bill. However, I want to bring your attention to a Senate bill that we have on this exact same section that is an agency bill. SB 2102 passed out of Senate Transportation this morning. That bill changes the language of line 15-16 on page 1. In line 15 we changed the word "remitted" to "deposited". In line 16 we changed the first "to" to "with". It is a change that is important to our office because remitted means that the checks would be written to the state treasurer, and they would come into our office without us knowing where they are from and what we are supposed to do with them. When these fees started coming in more frequently after the attorney general's opinion, this year we worked with the highway patrol to make sure that we had the communication and a way to handle that. Highway patrol has been processing these and depositing them with our office the way that all other state agencies handle their deposits. So, SB 2102 is a bill that we need in and of itself. If this bill passes, it will be absolutely crucial that 2102 passes, or that the change is made in this bill, because if counties are allowed to keep that money, and yet checks are coming to us, we will not have the information to process it.

Chairman Ruby: Is that all that SB2102 did?

Carlee McLeod: Yes, that is all that bill did.

Chairman Ruby: So, we could make that change on here as an amendment. Then if this one passes the Senate before we hear the other one, we could just get rid of that one too.

Carlee McLeod: Yes, we were hesitant suggest that you include this and kill the other, because, if this bill does not pass, we still need that change.

Chairman Ruby: It doesn't change this bill in any substantial way. If no one has any objections, we will just make that an amendment.

The hearing was closed on HB 1042.

Chairman Ruby: The suggestion is that line 15 change the word "remitted" to "deposited". On line 16 the first "to" would be changed to "with".

Representative R. Kelsch moved the amendment.

Representative Gruchalla seconded the motion.

A voice vote was taken on the amendment. MOTION CARRIED.

Chairman Ruby: Committee, do you want to take this up, or would you like to hold it?

Representative Weisz: I would like to hold it.

Chairman Ruby: We will hold it.

2011 HOUSE STANDING COMMITTEE MINUTES

House Transportation Committee Fort Totten Room, State Capitol

HB 1042
02/03/2011
Job #13991

☐ Conference Committee

Committee Clerk Signature

Jeanette Cook

Minutes:

Chairman Ruby reviewed HB 1042.

Chairman Ruby: We held this bill to look at some weight limit issues. We have decided not to make any suggestions to the bill

Representative Weisz: I had some conversations with some counties, and they realize that they have some problems with how to deal with the 105-5's and other things. We are working on some stuff. I think it has the desired effect of actually getting their attention, which is useful. If indeed they are going to retain these weight fees, I think they do need to look at complying with where the state is on weights instead of assuming that everything is 80,000 pounds. They need to look at their roads and manage them. They need to look at 105-5. If some need to be six ton or five ton, they can do that. Nothing prohibits them now from doing 5-7 tons. The idea of having 80,000 pound limits, which really mucks up the works on the state systems, I think has to change. If they want the ability to do this, and it is a real issue where they roll in on these counties, now they get (inaudible-one word) because they are legal on our state highways at 95,000 or 96,000. Now they are 16,000 pounds over, but they have the axle configurations for much greater. Unfortunately in some counties it is a cash cow.

Chairman Ruby: Are there any amendments?

Representative R. Kelsch: We had amended it and then just held it. (The amendments were reviewed.)

Representative Owens moved a DO PASS as amended on HB 1042.
Representative R. Kelsch seconded the motion.

A roll call vote was taken. Aye 13 Nay 1 Absent 0
The motion carried.

Representative Onstad will carry HB 1042.

FISCAL NOTE

Requested by Legislative Council
12/15/2010

Bill/Resolution No.: HB 1042

1A. State fiscal effect: *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2009-2011 Biennium		2011-2013 Biennium		2013-2015 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1B. County, city, and school district fiscal effect: *Identify the fiscal effect on the appropriate political subdivision.*

2009-2011 Biennium			2011-2013 Biennium			2013-2015 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2A. Bill and fiscal impact summary: *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

HB1042 provides for extraordinary road use fees for violations occurring off of an interstate or state highway to be placed in the general fund of the county where the violation occurred. Fees for violations on interstate or state highways would continue to be placed in the State Highway Fund.

B. Fiscal impact sections: *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

It is not possible to fully determine the fiscal impacts that would occur as a result of this legislation. We know that this legislation will result in a loss of revenue to the State Highway Fund and a corresponding increase in revenues to the county's general funds. However, because we have not been able to determine the extent of violations that are occurring off of the state or interstate highways, we cannot fully determine the impact that this legislation may have.

Additionally, while we have no way at this time to assess the impact this legislation may have on future enforcement of extraordinary road use laws, it is possible that county enforcement may increase. If so, counties would see an increase in revenues, although we cannot determine the dollar value of the impact at this time.

While we cannot determine the full fiscal impact that would occur as a result of this legislation, we do know that the current collections statewide of civil fees for extraordinary road use violations generates only about \$500,000 per year. This constitutes the fees for all assessed violations statewide, both on and off interstate and state highways.

3. State fiscal effect detail: *For information shown under state fiscal effect in 1A, please:*

A. Revenues: *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

As noted in part B, this legislation would have an impact on revenues to the State Highway Fund and the county's general funds; however we cannot determine the amount of such impact at this time.

B. Expenditures: *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

- C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation is also included in the executive budget or relates to a continuing appropriation.*

Name:	Shannon L. Sauer	Agency:	NDDOT
Phone Number:	328-4375	Date Prepared:	01/04/2011

11.0023.02001
Title.03000

Adopted by the Transportation Committee

February 3, 2011

VR
2/3/11

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1042

Page 1, line 15, overstrike "remitted"

Page 1, line 16, overstrike the first "to" and insert immediately thereafter "deposited with"

Renumber accordingly

Date: 1-7-11

Roll Call Vote #: _____

2011 HOUSE STANDING COMMITTEE ROLL CALL VOTES

BILL/RESOLUTION NO. 11042

House TRANSPORTATION Committee _____

☐ Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken ☐ Do Pass ☐ Do Not Pass ☐ Amended ☒ Adopt Amendment

☐ Rerefer to Appropriations ☐ Reconsider

Motion Made By R. Kelsch Seconded By E. Gruchalla

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby			Representative Delmore		
Vice Chairman Weiler			Representative Gruchalla		
Representative Frantsvog			Representative Hogan		
Representative Heller			Representative Onstad		
Representative R. Kelsch					
Representative Louser					
Representative Owens					
Representative Sukut					
Representative Vigasaa					
Representative Weisz					

Total (Yes) 13 No _____

Absent 1

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

*Voice
vote
on
amendment*

Date: 2-3-11Roll Call Vote #: 1

2011 HOUSE STANDING COMMITTEE ROLL CALL VOTES

BILL/RESOLUTION NO. 1042House TRANSPORTATION Committee☐ Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken ☒ Do Pass ☐ Do Not Pass ☒ Amended ☐ Adopt Amendment☐ Rerefer to Appropriations ☐ ReconsiderMotion Made By Owens Seconded By R. A. Kelsch

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby	X		Representative Delmore	X	
Vice Chairman Weiler	X		Representative Gruchalla	X	
Representative Frantsvog	X		Representative Hogan	X	
Representative Heller	X		Representative Onstad	X	
Representative R. Kelsch	X				
Representative Louser	X				
Representative Owens	X				
Representative Sukut	X				
Representative Vigasaa	X				
Representative Weisz		X			

Total (Yes) 13 No 1Absent 0Floor Assignment Onstad

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1042: Transportation Committee (Rep. Ruby, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (13 YEAS, 1 NAYS, 0 ABSENT AND NOT VOTING). HB 1042 was placed on the Sixth order on the calendar.

Page 1, line 15, overstrike "remitted"

Page 1, line 16, overstrike the first "to" and insert immediately thereafter "deposited with"

Renumber accordingly

2011 TESTIMONY

HB 1042

ALLOCATION OF EXTRAORDINARY ROAD USE FEES

1

House Bill No. 1042 is from the Public Safety and Transportation Committee

Chapter 39-12 provides for three types of fees for overweight vehicles:

- Permit fees (amount varies based on load)
- Enforcement fees (\$20 or \$100)
- Extraordinary road use fees (amount varies based on how much overweight a vehicle is)

This bill draft only impacts the extraordinary road use fees.

Extraordinary Road Use Fees

- Overweight vehicle is impounded by law enforcement
- Civil complaint filed by local State's Attorney
- Fee can be paid voluntarily or else the complaint is heard in district court
- Impounded overweight vehicle can be sold at public sale if fee is not paid
- Example of fee amounts
 - 5,000 pounds overweight - \$220
 - 18,000 pounds overweight - \$2,700

House Bill No. 1042 provides for a change in the allocation of extraordinary road use fees

- Overweight violation on state or federal highway - fee continues to go to State Highway Fund
- Overweight violation on other roadway (such as county road) - fee goes to the appropriate county general fund
- Section regarding the sale of impounded vehicles is also changed to be consistent in the allocation of sale funds based on where the overweight vehicle violation occurred

Testimony to the
HOUSE TRANSPORTATION

Prepared January 7, 2011 by the North Dakota Association of Counties
Aaron Birst, Legal Counsel

CONCERNING HOUSE BILL 1042

Chairman Ruby and members of the committee, the North Dakota Association of Counties is here today to strongly support HB 1042 which was the result of the transportation and public safety interim committee.

In enacting NDCC § 39-12-02, the legislature specifically granted the highway patrol and local authorities the ability to create special road permits which would allow individuals to operate vehicles on the highway which would otherwise exceeds size and weight restrictions. The entity that issues the permit is based upon what jurisdiction's highway was used. In other words, a city would have the authority to issue an overweight permit for city road, a county would have the authority to issue an overweight permit for county roads and the highway patrol would have the authority to issue an overweight permit for State roads.

NDCC § 39-12-02(3) list the charges allowed for the permits which varies depending on a number of factors such as whether it is a single trip or whether it is a yearly permit. Just for example, a single trip permit would be a \$20 fee.

If a vehicle does not have a permit, and gets stopped, they could be subject to having their vehicle weighed. If their vehicle is overweight, NDCC § 39-12-08 provides the individual must be assessed a \$100 penalty. Additionally, law enforcement has the right to impound the overweight vehicle pursuant to NDCC § 39-12-11. However, NDCC § 39-12-16 allows for a cash bond to be posted in lieu of seizing the vehicle.

The State's Attorney then has to file a civil complaint on behalf of **"the authority having jurisdiction of the road whereon the violation occurred"** against the owner or operator to forfeit the bond. If the case does not settle then it is scheduled for a trial.

In 2009, an Attorney General opinion (2009-L-19) was released which addressed some issues related to overweight truck regulations. The opinion raised some concerns on where the fines and/or fees should go when a vehicle violates the law. The ultimate conclusion was "a county may enact a weight restriction ordinance" but "it may not contain any provisions which would divert any revenue raised through enforcement of the ordinance from the state treasury to any county."

The intent of this bill is to clarify not only do the locals have the ability to create their own overweight system but also to collect the fees associated with violations of that system.

For the following reasons I ask that you support House Bill 1042. Thanks you.

1 to 1,000 pounds [45 to 453.59 kilograms] of excess weight = \$20
1,001 to 2,000 pounds [454.05 to 907.18 kilograms] of excess weight = \$40
2,001 to 3,000 pounds [907.64 to 1360.78 kilograms] of excess weight = \$60
3,001 to 4,000 pounds [1361.23 to 1814.37 kilograms] of excess weight = \$140
4,001 to 5,000 pounds [1814.82 to 2267.96 kilograms] of excess weight = \$220
5,001 to 6,000 pounds [2268.41 to 2721.55 kilograms] of excess weight = \$305
6,001 to 7,000 pounds [2722.01 to 3175.14 kilograms] of excess weight = \$380
7,001 to 8,000 pounds [3175.60 to 3628.74 kilograms] of excess weight = \$495
8,001 to 9,000 pounds [3629.19 to 4082.33 kilograms] of excess weight = \$575
9,001 to 10,000 pounds [4082.78 to 4535.92 kilograms] of excess weight = \$655
10,001 to 11,000 pounds [4536.37 to 4989.51 kilograms] of excess weight = \$1,100
11,001 to 12,000 pounds [4989.97 to 5443.10 kilograms] of excess weight = \$1,200
12,001 to 13,000 pounds [5443.56 to 5896.70 kilograms] of excess weight = \$1,300
13,001 to 14,000 pounds [5897.15 to 6350.29 kilograms] of excess weight = \$1,680
14,001 to 15,000 pounds [6350.74 to 6803.88 kilograms] of excess weight = \$1,800
15,001 to 16,000 pounds [6804.33 to 7257.47 kilograms] of excess weight = \$1,920
16,001 to 17,000 pounds [7257.93 to 7711.06 kilograms] of excess weight = \$2,550
17,001 to 18,000 pounds [7711.52 to 8164.66 kilograms] of excess weight = \$2,700
18,001 to 19,000 pounds [8165.11 to 8618.25 kilograms] of excess weight = \$2,850
19,001 to 20,000 pounds [8618.70 to 9071.84 kilograms] of excess weight = \$3,000
20,001 to 21,000 pounds [9072.29 to 9525.43 kilograms] of excess weight = \$4,200
21,001 to 22,000 pounds [9525.89 to 9979.02 kilograms] of excess weight = \$4,400
22,001 to 23,000 pounds [9979.48 to 10432.62 kilograms] of excess weight = \$4,600
23,001 to 24,000 pounds [10433.07 to 10886.21 kilograms] of excess weight = \$4,800
24,001 to 25,000 pounds [10886.66 to 11339.80 kilograms] of excess weight = \$5,000
25,001 to 26,000 pounds [11340.25 to 11793.40 kilograms] of excess weight = \$5,200
26,001 to 27,000 pounds [11793.86 to 12246.99 kilograms] of excess weight = \$5,400
27,001 to 28,000 pounds [12247.45 to 12700.59 kilograms] of excess weight = \$5,600
28,001 to 29,000 pounds [12701.04 to 13154.18 kilograms] of excess weight = \$5,800
29,001 to 30,000 pounds [13154.63 to 13607.77 kilograms] of excess weight = \$6,000
An additional charge of \$200 for every 1,000-pound (453.59-kilogram) increase over 30,000 pounds (13607.77 kilograms) consistent with the above formula.